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	Protecting Europe's Critical Energy and Transport Infrastructure

Delegations will find attached the declassified version of the above document.

The text of this document is identical to the previous version.

¹ Document declassified by the European Commission on 05 September 2017

RESTREINT UE



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THE EUROPEAN UNION**

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COVER NOTE

from: Secretary-General of the European Commission,
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 6 February 2007

to: Mr Javier SOLANA, Secretary-General/High Representative

Subject: Communication from the Commission to the Council and the European
Parliament
Protecting Europe's Critical Energy and Transport Infrastructure

Delegations will find attached Commission document SEC(2006) 1697 final.

Encl.: SEC(2006) 1697 final



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 2.2.2007
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RESTREINT UE

**COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE
EUROPEAN PARLIAMENT**

Protecting Europe's Critical Energy and Transport Infrastructure

{SEC(2006)1637}

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DECLASSIFIED

COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

Protecting Europe's Critical Energy and Transport Infrastructure

(Text with EEA relevance)

1. INTRODUCTION

The terrorist attacks in Madrid and London in 2004 and 2005, the flooding in Central Europe in August 2002 and the drought of summer 2003 show how energy and transport infrastructure, and the services they provide, need to be protected from different threats, such as natural hazards, terrorists and criminals.

The European Council in March and June 2004 asked the Commission, the Council of Ministers and the Member States to develop work to protect critical infrastructure (CI) as part of an overall effort to prevent, protect from, mitigate and remediate the effects of terrorism. Following the London bombings in July 2005, the Council of Ministers stressed once again the importance of protecting CI in the EU and asked the Commission to propose a European Programme for Critical Infrastructure Protection (EPCIP).

The Commission has been developing its response to this request since 2004, when it adopted a general communication on protecting CI. Following this, in November 2005, it produced a Green Paper to consult stakeholders directly on the content of the EPCIP. In December 2006, the Commission then proposed "the EPCIP package". This consisted of

- (1) a communication, including an action plan, which aims to improve the protection of all CI in the EU²; and
- (2) a proposal for a framework directive (hereafter the EPCIP directive) to establish a procedure for the identification of European Critical Infrastructure (ECI)³ and a common approach to assessing the needs for improving its protection.⁴

² Communication from the Commission on a European Programme for Critical Infrastructure Protection COM(2006)786 final

³ The definition of critical infrastructure in the proposal for a directive on ECI is, "Critical infrastructure includes those assets or parts thereof, which are essential for the maintenance of critical societal functions, including the supply chain, health, safety, security, economic or social well-being of people." ECI is defined in the same document as "critical infrastructure, the disruption or destruction of which would significantly affect two or more Member States, or a single Member State if the critical infrastructure is located in another Member State.

⁴ Proposal for a Directive of the Council on the identification and designation of European Critical Infrastructure and the assessment of the need to improve their protection. COM(2006)787 final

The Commission is now coming forward with this communication, which concentrates on two of the most important economic sectors: transport and energy.⁵ Both this communication and EPCIP work towards the same aims; in transport this means ensuring the transport of goods and people, and in energy ensuring energy supply to customers.

More precisely, this communication describes the first steps in implementing the EPCIP package in these sectors. This first step will focus on setting out criteria that could be used to identify ECI. Its content makes use of studies⁶ and extensive stakeholder consultations, details of these and an analysis of the different options considered are in the accompanying Impact Assessment.

2. THE EUROPEAN DIMENSION IN ENERGY AND TRANSPORT

Transboundary energy and transport infrastructure networks have played a fundamental role in EU efforts to promote integration and the Single Market. Trans-European Networks (TENs) in both sectors have been identified and their political and economic significance has been high. In addition, the removal of barriers to the free movement of people, goods, capital and services – resulting in more cross-border flows of energy, goods and passengers - has benefited all European citizens.

As market liberalisation continues and is encouraged as part of the “Growth and Jobs agenda” the significance of transboundary movements of energy and transport will increase meaning that the likelihood of the loss of or damage to infrastructure in one Member State having considerable effects on others will increase. In addition, a low level of protection in one Member State can potentially increase significantly infrastructure vulnerability in another; such weak links can be exploited by terrorists and criminals

Furthermore, as energy and transport companies are becoming increasingly international, the cost of complying with unnecessarily diverse protection requirements in differing Member States will divert capital from more productive investment.

The EU, therefore, has an important role to play and can build on some existing EU measures, particularly in the transport sector. It can also attempt to improve the protection of ECI outside its territory, and on which it depends, by working with its G8,⁷ Euromed and European Neighbourhood Policy partners through existing structures and policies, including the "Instrument for Stability".

⁵ An impact assessment to accompany this communication has been produced as a staff working document. This provides greater detail on the context, consultations and options considered for this communication.

⁶ Due to their sensitive nature, these documents are classified.

⁷ G8 St Petersburg plan of action on global energy security, Title V: Securing critical energy infrastructure

3. DEVELOPING CRITERIA

Community level protection measures may be needed where ECI is subject to a threat to which it is vulnerable, where the benefits of protection measures outweigh their costs and when they are best taken at European level. The basis of this is to know which infrastructure can be classified as ECI. For this criteria are needed.

It is important to note at the outset that Community-level protection measures, if finally required – and this communication does not judge this - are likely to focus on the parts of any infrastructure, that are most vulnerable and which could have transboundary impacts if disrupted or destroyed.

3.1. The type of criteria needed

EU-level criteria are needed to ensure that designations are consistent and comparable and transparency is maximised. They will minimise the chances of ECI being overlooked and ensure that Member States or companies can have confidence that their neighbours and competitors are subject to the same methodology and have not cut corners to avoid designation.

The only exception is where analysis shows that no criteria are necessary in a particular sub-sector because there is unlikely to be any ECI. This does not affect Member States' right to identify national CI in these areas using the criteria they deem suitable.

3.2. The approach taken

The Commission has drawn on a variety of sources for putting together criteria. This has included targeted, sector-specific meetings with experts nominated by Member States and relevant European industrial associations. Bilateral meetings have also taken place with particular stakeholders and stakeholder groups. The Commission has also financed two studies that have contributed to the process.

Overall the aim was to develop criteria that are simple, measurable and limit any grey areas by including a threshold above or below which something is ECI. During their development, where possible, the Commission has made use of existing, accepted thresholds.

As whether infrastructure is critical or not changes over time, reviews of the criteria and designations will therefore be needed periodically, particularly when interdependencies (see section 3.4) can be taken into account. This can also incorporate new data or factors that become apparent.

The approach taken is fully compatible with the sector-specific approach taken in the EPCIP directive, which describes phases for arriving at improved protection, including who is responsible for what. These are set out in annex I.

3.3. Assumptions from EPCIP

For the purpose of developing criteria in the transport and energy sectors the following assumptions are made, which are compatible with the EPCIP package:

- (1) threats from all hazards are considered;
- (2) for a piece of infrastructure to be identified as ECI, it has to, in general:
 - (a) involve more than one Member State (although more than one Member State does not have to suffer the impact);
 - (b) not have alternative means of providing the same service. If the service is maintained - in transport this equates to transporting goods and citizens between two places and in energy, it means ensuring uninterrupted supply – the impact is unlikely to be significant;⁸
- (3) for terrorist and criminal attacks, no attention is paid to their nature as the Commission does not have access to the threat information necessary to make such judgements;
- (4) a total failure of societal functions is unrealistic and society can respond to any event.

3.4. Assumptions underlying both transport and energy criteria

Certain assumptions have been made that underlie both sectors:

- Event duration - society can cope without particular pieces of infrastructure for a certain length of time under "normal" conditions, for example during industrial unrest, adverse weather conditions or scheduled closures for repairs. While the point at which the impacts of an event become critical will vary according to the sub-sector concerned, they will go beyond these "normal" conditions.
- Interdependencies - In transport and energy these are very important, e.g. railways and road transport depend on electricity, and all depend on telecommunications. However, they bring an added complexity that cannot be handled without first identifying ECI for each individual sector and no agreed methodologies for dealing with them exist. They are therefore not considered for the time being.
- TENs – These have been agreed by Member States and the European Parliament; however, their selection was not based on their criticality for the EU so they cannot automatically be ECI. They can be – and have been - used to provide thresholds for some criteria.
- Costs – The total cost and who pays will be dealt with in the future, if and when any protection measures are considered.

⁸ In both it also means that public health is adequately protected.

3.5. Impacts covered

Certain potential impacts of an event are highly significant, but are not considered when developing sector-specific criteria because their thresholds do not vary between sectors. Public effects (e.g. casualties), public health consequences and environmental, economic, political and psychological impacts (including those related to iconic infrastructure⁹) fall into this category. These will be developed in the context of the EPCIP directive and integrated into future revisions of criteria.

However, in both sectors certain pieces of infrastructure are considered to be ECI because of the environmental and social damage they can cause if they are disrupted or destroyed. This concerns nuclear fuel-cycle facilities and hydro-electric power plants.

4. TRANSPORT CRITERIA

4.1. Air transport

4.1.1. Airports

Existing EU legislation on aviation security¹⁰ is unsuitable for identifying ECI as it covers between 700 and 800 airports, few of which are likely to have a significant European impact if closed for a significant length of time. It also focuses on preventing articles or people damaging aircraft or having the means to take control of one. As such it does not consider whether the airport is CI. In addition, it also concentrates on air-side operations.

The criteria are:

- airports that handle more than 10 million passengers per year; and
- do not have alternative airports available that can absorb more than 50 % of displaced passengers.

An airport can be considered to have alternatives if this 50 % is reached by considering all airports:

- (1) within a five hour travelling distance using another mode of transport; and
- (2) that currently handle more than five million passengers per year; and
- (3) they (all airports meeting (1) and (2)) have sufficient spare capacity.

⁹ Infrastructure of a symbolic nature

¹⁰ Regulation 2320/2002 of the European Parliament and of the Council on common rules in the field of civil aviation security, OJ L 355 of 30.12.2002, p. 1-22

The 10 million threshold corresponds to a large community airport under the TENs. The five million threshold corresponds to airports classified as “national” and “large community” under the TENs and is used because airports meeting this threshold should have the technical capacity (e.g. runways, customs, terminal size) to be realistic alternatives. 50 % assumes that some passengers will choose not to make their journey or will use other modes of transport.

Freight transport is not considered as sufficient alternative airports exist, which, in combination with alternative modes of transport can ensure that it arrives at its destination with minimum delay.

Hub airports are not considered as CI in themselves as transit passengers using them can probably travel via another hub to their destination. Slot co-ordinated airports are also not considered to be critical automatically as capacity constraints are usually not always in force, they are unrelated to the total capacity of the airport, and there may be alternatives.

4.1.2. *Air-Traffic Control*

Existing EU legislation on air-traffic control concentrates on safety rather than security and so is not concerned with protecting ECI.

Air traffic control (ATC) is the most important part of air-traffic management from the CI perspective as it ensures the synchronisation and separation of aircraft.

The criteria are:

- ATC which handle lower airspace¹¹ where there are no alternative airport or airports available outside the zone covered by the ATC that can absorb more than 50 % of passengers using airports with more than 10 million passengers in the zone. Airports are only considered as alternatives if they meet the same criteria as under 4.1.1.

ATCs covering only upper airspace are excluded as they cover en-route traffic which is re-routable. The lower-level airspace criteria are directly related to the airports served and hence the reasoning is the same as for the airports themselves, with the exception that as such ATCs normally control traffic going to more than one airport more airports are likely to be out of action and hence unavailable as alternatives.

In addition, the lower-level ATCs that have a critical European airport within their area are also automatically considered to be ECI as their being out of action will paralyse the airport in question. Finally, the Central Flow Management Unit of Eurocontrol is critical because of its key role in routing European air traffic.

¹¹ Lower and upper- level airspace are defined in Regulation 551/2004, Article 2, OJ L 96 of 31.03.2004

4.2. Maritime transport

4.2.1. Ports

The port security directive¹² will provide protection against terrorist threats for all ports that could potentially be identified as ECI; however, it does not meet all the requirements of the EPCIP directive. This is because it only considers the terrorist threat, rather than taking an all-hazards approach, and it does not take account of the fact that some ports – in terms of their infrastructure rather than their use as a conduit for terrorist activity – are more critical for the EU than others: a port handling smaller volumes is highly unlikely to be as critical for Europe as one handling larger volumes. Nevertheless, the measures taken under the port security directive will exempt ports from EPCIP's requirements for protection measures.

As a result, the criterion is:

– cargo volume handled is above 1.5 million tonnes per year.

1.5 million tonnes is taken as this represents those ports corresponding to the definition of “international seaports” in the TENS. It also represents a clear threshold that will avoid unfair competition.

Passenger traffic is not considered because, where transboundary movements are concerned, sufficient alternatives exist, whether it be other modes of transport, or the use of other ports.

4.2.2. Other maritime infrastructure

No criteria are suggested for navigation services (e.g. lighthouses and buoys) as they are not considered likely to have a serious transboundary impact in the event of failure.

4.3. Inland transport infrastructure

In the following, urban transport has not been considered, as it is not transboundary, and hence it will not meet this basic requirement for being ECI.

The remaining inland transport infrastructure – roads, rail and inland waterways – have two particular characteristics that justify a pragmatic approach different from that taken for air and maritime infrastructure:

- (1) the transboundary routes on which goods and passengers are transported are in the form of a physical network of infrastructure, rather than relying on fixed end points, such as airports or seaports. This physical network is generally dense, offering many alternative routes;¹³

¹² Directive 2005/65/EC of the European Parliament and of the Council on enhancing port security, OJ L 310 of 25.11.2005, p 28-39

¹³ This has been borne out by the effects of recent tunnel closures, such as the St. Gotthard and Mont Blanc tunnels.

- (2) the passengers or goods on these routes are largely interchangeable between transport modes. This increases the quantity of alternatives available.

Given the multiplicity of alternatives, criteria are not necessary for the time being. Nevertheless, given that there are still some uncertainties, the Commission will analyse how the criteria could be improved over the coming years. Taking a pragmatic approach and assuming that if there is ECI on the inland transport network, it is likely to be in the areas where there is high traffic flow and a limited number of alternatives, it will therefore undertake a more detailed analysis of the Alpine and Pyrenees crossings.

5. ENERGY CRITERIA

5.1. Electricity

5.1.1. Generation

As measures can always be taken to bring additional generation capacity on-stream or demand can be reduced, no generation plant is considered ECI from the perspective of power production. Therefore no criteria are suggested.

Nevertheless, for generation with potentially serious impacts unrelated to security of supply, criteria are needed. These are set out below.

5.1.1.1. Hydro-electric dams

If a hydro-electric dam is damaged or destroyed there is significant potential for downstream damage from the deposits and mass of water released; however, this potential is much less for those generation plants smaller than 10 MW, what is commonly called “small-hydro”.

As a result the criterion is:

- | |
|---|
| <ul style="list-style-type: none">– situated on a water course, upstream of a border with another Member State and with a generation capacity greater than 10 MW. |
|---|

5.1.1.2. Nuclear fuel-cycle facilities

Nuclear fuel-cycle facilities have the potential to cause significant transboundary damage through radioactive releases, although some have greater potential than others. While not all are directly related to energy generation, they are all included as they can all release radiation.

It therefore makes no sense to distinguish between different sizes of reactors, or different types of facilities, as they all have the potential to cause serious transboundary impacts, including widespread public alarm. This has already, in effect, been recognised as these facilities are generally subject to internationally-agreed protection measures.

As a result:

- all nuclear fuel-cycle facilities are ECI.

5.1.2. *Electricity transmission network*

Providing a continual supply of electricity to the consumer is more important than ensuring the continued availability of any particular component of the electricity network.¹⁴ In other words it is the functioning of the network as a whole that is important, rather than any one particular component for its own sake. That said, in order to maintain the functioning of the network, certain components are more important than others as they have a higher potential to cause significant impacts in the event of disruption or damage. As a result while transboundary electricity grids are inter-connected and there is always a possibility of cascading failures, the greatest impacts are likely to be felt if the high voltage part of the system is disrupted or destroyed.

Therefore the criterion is:

- the synchronous transmission network (≥ 220 kV) covering part of more than one Member State, and its supporting infrastructure (e.g. dispatching centre, substations).

The Commission will also develop work that will contribute to subsequent revisions that will allow these criteria to concentrate on the parts of the network that are the most important (for example, because of congestion) and to take into account network topology and variations in energy use patterns.

5.1.3. *Electricity distribution networks*

Electricity distribution networks are not considered as they are unlikely to be transboundary and have only very limited potential to cause serious transboundary impacts.

5.2. **Gas**

There are around 70 cross-border transit points, around 20 of which consist of more than one pipeline. These pipelines have different maximum flow rates. Assuming these maximum flow rates are exploited, the effects of those with the greatest maximum flow rates being disrupted or destroyed are likely to be the most serious.

The criteria are therefore:

- transit pipelines (and associated storage and ancillary infrastructure) with a capacity of over 0.6 million normalised m³/h; and
- where there is a connection to another Member State.

¹⁴ The design of new infrastructure components can also increase the reliability of the network, for example by reducing the dependence on a particular component.

0.6 million normalised m³/h is chosen as it allows the smallest trans-boundary pipelines to be omitted. Where there is more than one pipeline at a transit point, the sum of the capacities will be used to determine whether the threshold is crossed.

The criteria's effect should be that pipelines situated in Member States that are the final consumer of the gas supplied by the pipeline – in other words, where none of the gas is in transit - will not be considered as ECI as any disruption to the pipeline in that country will not have a trans-boundary impact.

Alternatives are not considered because at periods of peak demand it is likely that very limited alternatives will be available, something that is compounded by gas being difficult to transport by other means. Storage facilities are considered as they make up part of the supply networks to which pipelines belong and are of particular importance at certain times of the year. Upstream activities, such as extraction, are not considered as they are too far removed from the end-consumer to have a serious impact and because many alternatives are available. Distribution networks are not considered either because they are unlikely to have a trans-boundary impact.

5.3. Oil

As for gas, transboundary pipelines are the most critical; the greater their size, the greater their potential impact.

The criteria are therefore:

- transit pipelines with a diameter of over 20"; and
- where there is a connection to another Member State; and
- where no alternative facilities exist that can substitute for the pipeline in question.

The effect of the criteria should be that pipelines situated in Member States that are the final consumer of the oil supplied by the pipeline – in other words, where none of the oil is in transit - will not be considered as ECI because any damage to the pipeline in that country will not have a trans-boundary impact.

A threshold is set for pipeline diameter rather than for maximum flow rate, because it is simple to calculate, even if the pipeline may not always operate at full capacity. 20" is chosen as it enables the smallest trans-boundary pipelines to be omitted.

Other activities, such as extraction and refining, are not considered as they are too far removed from the end-consumer to have a serious impact or many alternatives are available. Distribution networks are also not considered because they do not generally have trans-boundary impacts.

Alternative facilities are considered because oil can be transported more easily by other means of transport and similar quantities may be delivered to the same destination by alternative routes, particularly as the EU's 90 day storage requirements mean that there will be oil available.

6. NEXT STEPS

The Commission will aim to make an appropriate proposal shortly after the adoption of the EPCIP directive, so that work to identify and designate ECI can begin quickly. It will then be for Member States to undertake the necessary analyses of threat, risks and vulnerability, providing a general summary to the Commission, which can then consider whether EU-level protection measures are necessary.

The Commission will also:

- monitor the development of new types of infrastructure, such as the Galileo system;
- look to improve the criteria, to ensure that the ECI can be identified in the best way possible, continuing to respect the subsidiarity and proportionality principles. This will include integrating cross-cutting criteria identified through the EPCIP framework as and when they become available;
- through the EPCIP funding arrangements, provide grants for EPCIP-related projects in the areas of transport and energy;
- bring together experts from the private and public sectors to discuss best practice in CI protection measures in the energy and transport sectors;
- examine how a rapid reaction mechanism could be devised for restoring the services provided by infrastructure following an event;
- continue, working to promote improvements in the protection of ECI in non-EU countries by working with G8, Euromed and European Neighbourhood Policy partners through existing structures and policies, including the "Instrument for Stability".

The Commission will update stakeholders on its work through its website: http://ec.europa.eu/dgs/energy_transport/security/infrastructure/index_en.htm.

Annex I

Step	Action	Who
1	draw up criteria that can be used to identify ECI	Commission, Member States & other stakeholders, where relevant
2	use these criteria to identify ECI	Member States, Commission
3	assess the threats to this ECI from all-hazards	Commission, Member States & ECI owners /operators
4	assess the vulnerability of this ECI to these threats	As 3 above
5	identify protection measures, if necessary, to address these vulnerabilities	Commission, Member States & other stakeholders, where relevant

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