

Exercise report by the Paris Resilience Group

SEINE FLOODING EXERCISE ON 7, 8 AND 16 MARCH 2016

Report written by the Secretariat of the Banque de France Paris
Resilience Group

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The efficient management of operational risk by players in the financial sector logically falls within the scope of the objectives put in place by the Banque de France, as operator of the systemically important payment and settlement platforms TARGET2 and TARGET2-Securities and as the guardian of financial stability. In this latter capacity, the Banque de France is particularly concerned with operational problems that could adversely affect the operations of systemically important financial institutions and financial market infrastructures, creating knock-on effects that could undermine the financial ecosystem as a whole.

To ensure that France's financial system can withstand operational shocks affecting its critical functions, the Banque de France, along with the Fédération bancaire française (FBF - French Banking Federation), some 15 systemically important institutions (including banks and post-trade infrastructures) and government agencies have since 2006 conducted regular exercises to simulate serious operational crises within the framework of the Paris Resilience Group.

In March 2016, the Paris financial centre chose to test the effectiveness of key institutions' business continuity plans in the event of a major flooding of the river Seine, as part of the EU Sequana exercise organised by the Paris Préfecture de Police (Police Authority). The exercise once again demonstrated the strong resilience of Paris-based financial institutions as a group when facing potentially critical operational risks, such as a flooding of the Seine, together with their ability to ensure the continuity of essential services provided by our financial system. In particular, the exercise demonstrated the institutions' ability to coordinate the deployment of their business continuity plans, share information as needed via their own crisis units and those of the Paris Resilience Group, and build on the avenues for improvement identified during previous tests. The exercise was also a success in that it enabled new areas for improvement to be identified.

In June 2016, the pertinence of this test strategy was left in no doubt when the Seine burst its banks just a few weeks after the EU Sequana exercise had taken place. The events highlighted the efficient organisation behind the resilience of the Paris financial marketplace, with the Paris Resilience Group playing a pivotal role in terms of coordination, cooperation and communication to abate the operational crisis.

However, many challenges must still be met to safeguard the operational robustness of the Paris financial centre. Evolving threats, the rise of terrorist acts and cyber-attacks, and the growing interconnectedness of financial centres argue in favour of repeating the type of exercise successfully conducted in France on an international scale.

Denis Beau

*Director General, Financial Stability and Operations, Banque de France
Chairman, Paris Resilience Group*

Presentation of the Paris Resilience Group

A group created to address serious operational risks

The Paris financial centre created the Paris Resilience Group (*Groupe de Place Robustesse*) with the aim of increasing its ability to withstand the extreme operational risks to which it could be exposed.

Set up in 2005 at the initiative of the Banque de France, the Group aims to meet two objectives:

- **Resilience:** improve the French financial system's ability to cope with shocks affecting critical functions, such as payment systems, management of the system's liquidity and, more generally financing the real economy;

- **Consistency:** promote the overall consistency of measures implemented by each key institution in the financial marketplace in the case of operational events that significantly disrupt the functioning of the financial ecosystem.

These objectives are intended to ensure that Paris remains one of the financial centres recognised by international investors as the most robust in the event of a major operational crisis.

Chaired by the Director General, Financial Stability and Operations, of the Banque de France, the Paris Resilience Group comprises:

- credit institutions and similar establishments (BNP Paribas Group, Crédit Agricole Group, BPCE Group, La Banque Postale, Crédit Mutuel-CIC, Société Générale, Caisse des Dépôts et Consignations Group and HSBC France);
- market infrastructures (LCH SA, Euronext, Euroclear, STET, GIE cartes bancaires, ABE Clearing);
- the Senior Official for Defence and Security, Ministry of the Economy and Finance;
- the French Treasury;

- the French Banking Federation;

- the Banque de France;

- supervisory and regulatory authorities, including the *Autorité de contrôle prudentiel et de résolution* (ACPR, the French prudential supervisory authority) and the *Autorité des marchés financiers* (AMF, the French financial markets authority);

- the heads of each of the three financial centre crisis units (liquidity, cash, communication).

To address the risk of a major operational crisis that could disrupt the financial ecosystem, the Paris Resilience Group has established a crisis management system relying on a Coordination Unit. Made up of Paris Resilience Group members, this unit coordinates the parties involved and is overseen by the Banque de France.

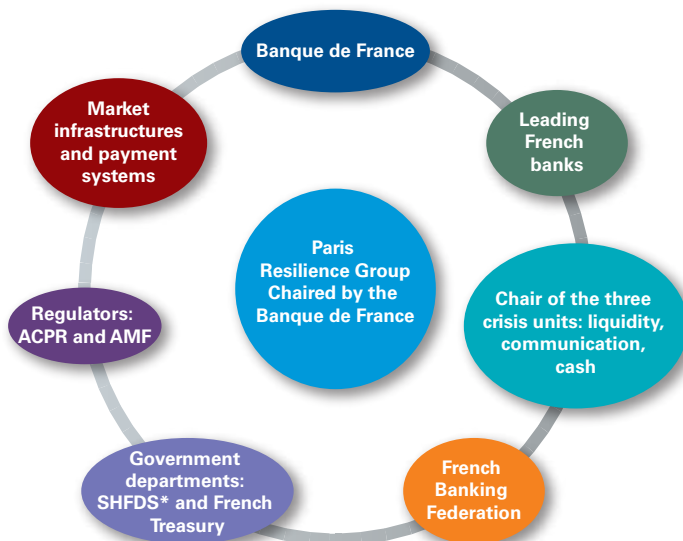
The financial centre also has a number of other units (liquidity, cash

and communication crisis units, see Appendix 2) which would be activated in the event of a crisis. These marketplace crisis units (CCPs) are independent of the Coordination Unit, but are expected to coordinate closely with it in the event of an operational crisis. The units are chaired by full members of the Coordination Unit, which enables information to be exchanged regularly.

The Group's work is structured around five operational targets

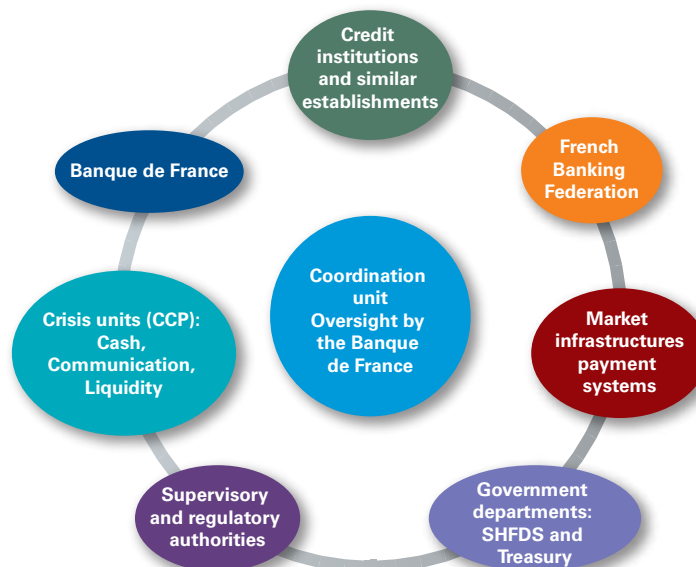
Arrangements to ensure the robustness of the Paris financial centre are based on several types of action, all guided by the same aims: to ensure the continuity of critical functions during an operational crisis, in order to support the economy and to prevent a systemic crisis from causing a lasting disruption in the financial system.

F1 Composition of the Paris Resilience Group



Note : SHFDS: Services du Haut Fonctionnaire de Défense et de Sécurité du Ministère de l'Économie et des Finances (Department of the Senior Official for Defence and Security, Ministry of the Economy and Finance).

F2 Organisation of the Paris Resilience Group in the event of a crisis



The measures put in place by the Group to meet these objectives include:

- **monitoring the operational threats** to which the Paris financial centre could be exposed (via the Threat Monitoring Unit) and assessment of their potential impacts on critical processes;
- **initiating and maintaining dialogue with the competent**

government agencies during periods of normal operation and at times of crisis;

- **developing crisis management tools to facilitate efficient communication** and fluid information flows between members;
- **at times of crisis, organising and overseeing the crisis management system** and sharing information to facilitate management of the crisis;

- **designing a test strategy** involving exercises simulating major operational crises.

Test strategy

The Group has adopted a test strategy with the aim of regularly assessing to what degree the Paris financial centre is prepared to face a major operational crisis. Five broad principles of operational crisis management have been identified and form the structural basis for the test scenarios.

The Paris Resilience Group has developed a multi-year strategy involving two types of exercise:

- annual tests to assess a specific area of the crisis management system;
- tests performed every three years to assess the crisis management system as a whole in a specific large-scale scenario.

Since 2008, the Group has arranged a series of exercises performed under various scenarios:

- 2008: widespread power outage;

Threat Monitoring Unit

At the beginning of 2011, the Paris Resilience Group decided to set up a Threat Monitoring Unit, tasked with identifying and measuring the operational risks to which the Paris financial centre could be exposed. The Resilience Group, basing its approach largely on the analyses prepared by the Threat Monitoring Unit, is preparing a common reference base of scenarios that will depict a broad range of crisis situations and assess their impact not just on financial institutions, but on the financial ecosystem as a whole.

The Group has put together a portfolio of eight threats, which is reviewed periodically:

Eight risk scenarios

River Seine flood	Cyber-attack	Terrorist attacks excluding NRBC	Industrial accident or NRBC attack	Transport strike	Pandemic	Failure of a critical service provider	Power outage
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Note : NRBC: Nuclear, radiological, biological or chemical attack.

F3 Five broad principles of operational crisis management



- 2009: A/H1N1 flu pandemic (in a real-life situation);
 - 2010: 100-year flood of the Seine;
 - 2011: an unannounced exercise requiring widespread mobilisation of the Resilience Group;
 - 2012: cyber-attack on internal financial trading platforms at the same time as a disruption in public transport;
 - 2014: cyber-attack targeting the financial sector;
 - 2015: simulation of coordinated attacks targeting the financial sector.
- The 2012 test simulating a cyber-attack on financial trading platforms at the same time as a disruption in public transport was the last large-scale exercise to assess the crisis response system as a whole. The 2016 test involving the flooding of the Seine, known as EU Sequana 2016, was therefore the second large-scale exercise conducted by the Paris Resilience Group as part of its multi-year test strategy.

1

Why conduct a test simulating a flooding of the Seine?

1.1 The risk is increasingly likely to materialise

The decision to conduct a test involving the flooding of the Seine was prompted by an OECD study published in January 2014, which highlighted the French capital's high exposure to flood risk and the devastating impacts that such an event could have. The study was a call to pay closer attention to this threat and prepare for it in operational terms.

Furthermore, other financial centres had recently suffered major flood events, such as hurricane Sandy in New York in 2012 and the flooding in Central Europe in 2013.

Apart from these factors, a 100-year flood scenario was also useful for other reasons:

- flooding is one of the risks identified as a critical operational threat to the Paris financial centre;

- the scenario affects different business sectors simultaneously on a wide scale: transport, electricity, telecommunications, etc.;

- it provides an opportunity to assess coordination and interaction between participants;

- it is a slow-moving scenario, i.e. longer-lasting than a sudden event such as a cyber-attack, as river flooding takes place in three phases (rising water levels, peak flood level, receding water levels), which can develop over two weeks or so (while the impacts can last for months or even years). The scenario therefore allows scope for actions to be planned and for a certain degree of anticipation.

At the beginning of 2014, the Paris Préfecture de Police informed the Paris Resilience Group that in 2016 it wished to conduct an exercise, under the name EU Sequana, to simulate a flooding of the Seine on the scale of

the 100-year flood of 1910. As a key player in the economy, the financial sector was called upon to take part.

The financial sector is qualified as a vital business sector under French decree No. 2006-212 of 23 February 2006 and, as such, it plays a role in implementing the national security strategy. In the event of a major crisis, the financial sector takes part in a crisis management system overseen by the government.

The financial sector opted for a coordinated approach to the exercise via the Paris Resilience Group, which undertook preparatory work on behalf of the Paris-based institutions. The Banque de France coordinated working groups set up within the Paris Resilience Group for the purpose of the exercise, with the support of a service provider specialising in simulating crisis exercises.

The préfecture de Police opted to conduct the EU Sequana 2016

operation over a period of 11 days, from 7 March to 18 March 2016, with a break on Monday 14 March. Each business sector could choose on which days it wished to participate.

The Paris Resilience Group chose to participate in EU Sequana on 7 and 8 March for the flooding phase, and again on 16 March for the phase when flood waters were receding.

1.2 A realistic simulation of the phases involved in the flooding of the Seine

The three phases – (i) rising water levels, (ii) peak flooding and (iii) receding water levels – were simulated on the basis of maps produced by the DRIEE,¹ using water flows based on the 100-year flood of 1910. The various flood levels (with R1.0 being the peak) serve as trigger points at which action must be taken during the exercise. These levels correspond to projections based on water flows for the main rivers of the Ile-de-France region, the Seine, the Marne and the Oise:

The peak flood level (reference R1.0) used in the exercise is lower than the actual level recorded in 1910 (8.62m). This reflects the flood protection

T1 Les références des différents niveaux de crue

(% of the 1910 flow, water levels in metres)

Reference	Equivalent 1910 flow	Equivalent water level (Paris Austerlitz station)
R0.6	60	5.70
R0.8	80	6.90
R1.0	100	8.10

measures developed along the river since the last major flood (large lakes, walls and flood barriers), which have resulted in significantly lower water levels than those recorded in 1910 for identical water flows.

The three key phases of the simulation arranged by the Paris Préfecture de Police are as follows:

- Flooding of the Seine: this phase took place from 7 to 11 March 2016, during which time water levels gradually rose from level R0.6 – the trigger point for the first crisis measures to be taken by the Préfecture de Police (e.g. activation of the first level of the Neptune plan²) – to level R1.0, the peak of the flooding. The Paris Resilience Group took part in this phase on 7 and 8 March 2016, conducting an “alert” exercise on 7 March (when participants were made aware of and prepared for the crisis) followed by a crisis exercise on 8 March;

- Field exercises (deployment of military troops, activation of the Neptune plan to manage flooding risk, pumping of the Saint Denis canal, rescue operations, etc.) on the weekend of 12-13 March, during which water levels stabilised at level R1.0;

- End of flooding and a return to normal water levels: this phase took place from 15 to 18 March, with water levels receding from the R1.0 peak back to normal levels by the end of 18 March. The Paris Resilience Group’s role in this phase took the form of workshops to reflect on post-flooding issues (based on day 5

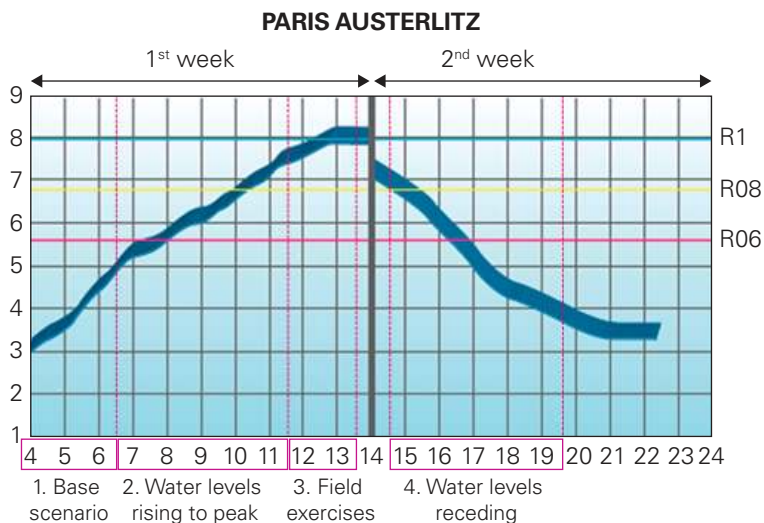
1 DRIEE: direction régionale et interdépartementale de l’Environnement et de l’Énergie d’Île-de-France (the Ile de France Region Department for the Environment and Energy)

2 The Neptune plan provides for the formation and assembly of a 10,000-strong combined military task force ready to be deployed as soon as flooding begins.

and day 30 after the flood), attended by representatives of the various business sectors to discuss the restoration of premises and branches, together with financial support for the business areas affected.

F4 Change in water levels during the EU Sequana exercise

(x-axis: March 2016, y-axis: water level in meters)



2

Preparation and deployment

2.1 The exercise enabled a number of ambitious objectives to be met

The Paris Resilience Group set a number of objectives for its role in the exercise:

- **Assess the resilience of the Paris financial centre in the event of a major crisis such as the flooding of the Seine, together with its ability to ensure the continuity of critical operations:** the financial sector must be able to continue to run essential operations regardless of the circumstances and to return to business as usual in a timely manner;
- **Build on lessons drawn from previous exercises:** test action plans established following previous exercises and implement them during the current exercise, particularly as regards the need for smoother coordination between the Coordination Unit and the Paris financial centre's crisis units (liquidity, cash, communication);
- **Strengthen coordination between financial institutions, particularly in terms of communication.** Although each banking institution must put in place its own business continuity plan (BCP), the Paris Resilience Group's initiatives seek to ensure that institutions coordinate their actions and share information so that they can take appropriate decisions together as a group. Institutions should also coordinate in the area of communication (via their communication crisis units), enabling the Paris Resilience Group to design shared communication material suitable for public disclosure.
- **Test interactions between the financial sector, government agencies and key network operators (telecoms, energy, transport and water):** the financial sector depends on other vital sectors to run its operations, in particular telecoms, energy and transport networks, which would also be disrupted in a flood scenario.

It is crucial for the financial sector to coordinate with these operators, as well as with the government agencies responsible for implementing the continuity plan (Préfecture, senior officials for defence and security at the various ministries, etc.).

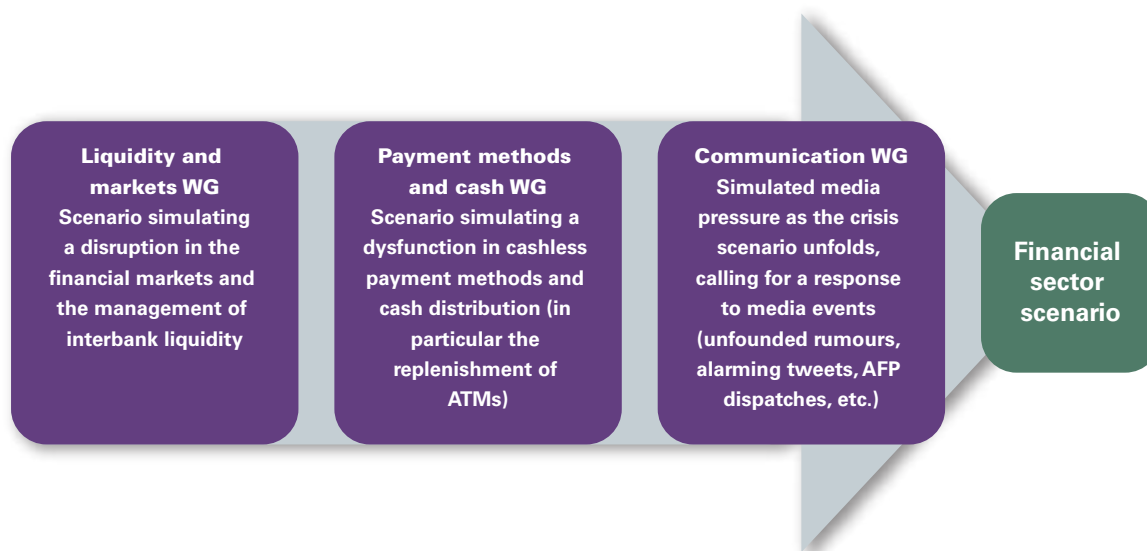
2.2 The Paris Resilience Group has drawn up a detailed scenario to meet the needs of the financial sector

The Paris Préfecture de Police established an overarching scenario for the exercise ("**core scenario**") including details of the context, the exercise phases, and the impacts of each flood level (R0.6, R0.8, etc.).

Based on this core scenario, the Paris Resilience Group designed a specific scenario for the financial sector ("**detailed scenario**").

The Group carried out preparatory work for seven months, setting up

F5 Organisation of financial sector working groups (WG)



three working groups in charge of preparing detailed scenarios for specific themes (liquidity, cash and communication), comprising experts from various institutions in the Paris Resilience Group.

2.3 The exercise as conducted by the financial sector on 7 and 8 March

On 7 March an “alert” phase was carried out and the initial measures to be taken were prepared.

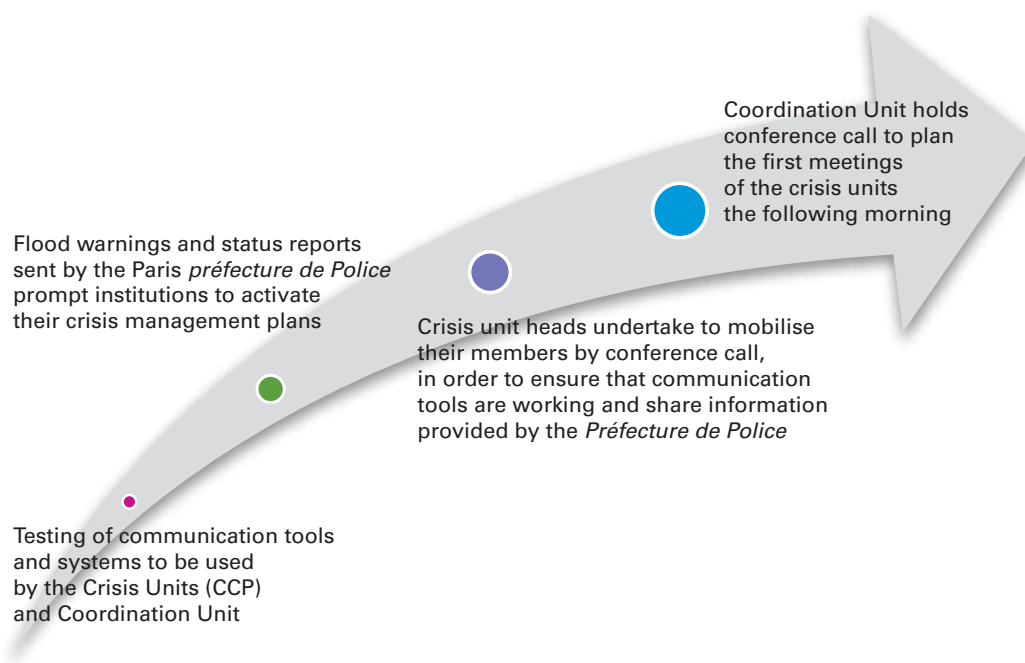
- This provided an opportunity to test the communication tools and systems to be used by the crisis units (CCP) and Coordination Unit, and to anticipate the need for coordination between these units.

- Flood warnings and status reports issued by the Paris Préfecture de Police were sent to participants in the exercise. The information in these documents on water levels and the impacts recorded enabled the teams to start preparing their crisis management procedures.

- Following the warnings issued early in the afternoon, the crisis unit heads undertook to mobilise their members during a conference call, in order to check that communication tools were working and share information provided by the préfecture de Police.

- The Coordination Unit also held a conference call to plan the first meetings of the crisis units for the following morning.

F6 7 March: "alert" phase and preparation of initial action



On 8 March the focus was on four key areas in a bid to meet a number of objectives:

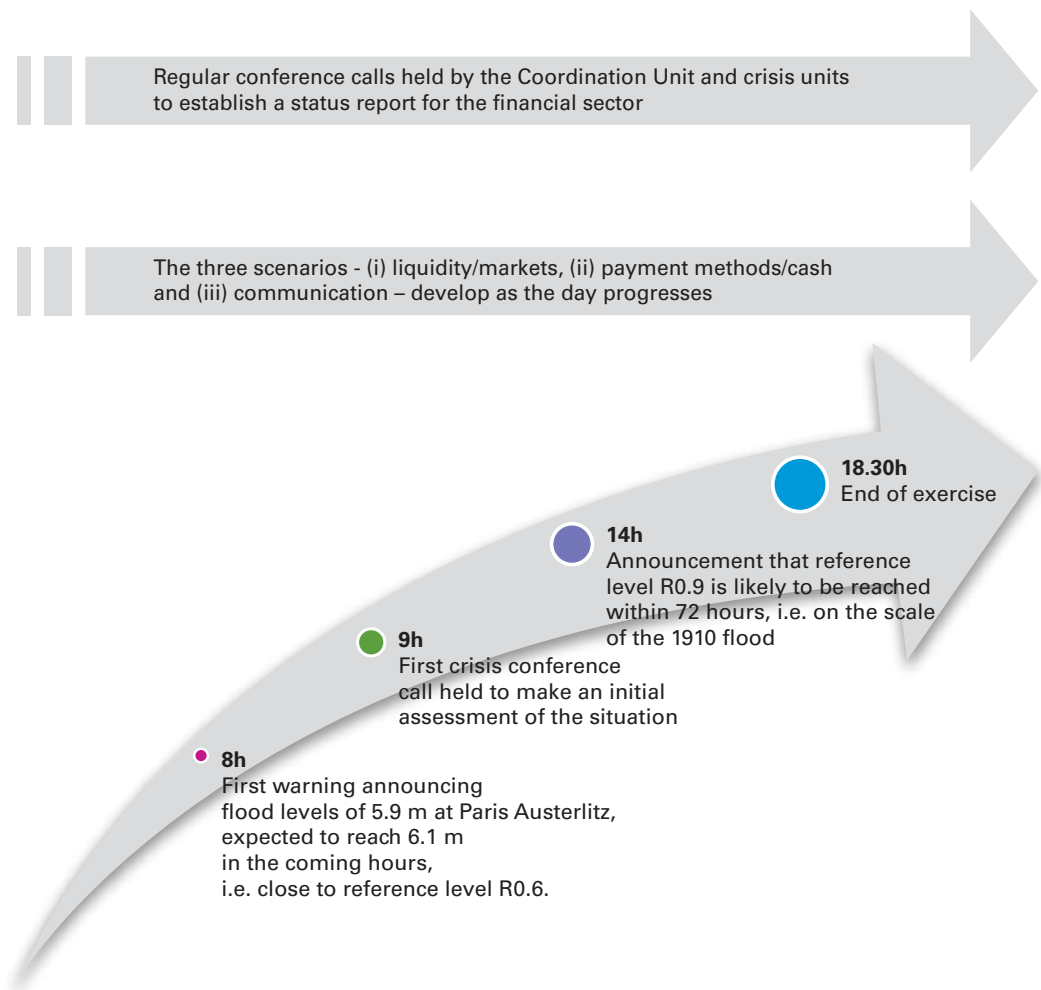
- Banking system liquidity and the functioning of the financial markets:** prevent flood effects from significantly disrupting the functioning of the banking system;
- Cash and payment methods:** keep cashless means of payment operating smoothly and check the financial sector's ability to continue replenishing cash distribution channels in an environment where flooding has: (i) made certain areas, and hence certain ATMs, inaccessible and (ii) disrupted travel in and around Paris.
- Communication and coordination among participants:** provide efficient communication both internally (within the financial sector) and externally (to the public) and ensure that information can flow freely between members of the Coordination Unit so that appropriate decisions can be taken.

- **Relations between the financial sector and government agencies/vital network operators** (energy, telecoms, water, transport): maintain

close dialogue with government agencies in order to coordinate the initiatives and participants of business sectors that are crucial to the running

of the country and safety of its people (health, transport, finance, energy, etc.).

F7 8 March: gradual rise in water levels, major flooding expected



2.4 Detailed scenarios for the financial sector

The various scenarios prepared by the working groups unfolded on 8 March 2016. They included a number of complicating factors that required participants to react and coordinate with each other rapidly.

The Coordination Unit was active throughout the day, monitoring the flooding as it developed and arranging regular status reports by conference call, while remaining constantly in contact with government agencies. As a result, the Coordination Unit was able to regularly inform government crisis units about the situation in

the financial sector and to receive continuous information on water levels and the outlook for the next 48-72 hours.

Liquidity/financial markets scenario



- A fictitious banking institution encounters operational difficulties when attempting to resume its operations at a back-up site. This puts the institution at risk of being unable to settle its transactions on the interbank market.
- Since the flooding began, the institution kept the liquidity crisis unit informed of its difficulties. The crisis unit was able to rapidly assess the potential risks arising from the fictitious institution's non-payment and swiftly put measures in place so that the situation could be continuously monitored and the most urgent transactions settled.
- Thanks to the efficient coordination of participants in the liquidity crisis unit, and the continuous monitoring of and assistance to the institution, all its transactions were settled by the end of the day.

Cash/payment methods scenario



- The scenario included additional complicating factors for the cash industry: traffic disruptions affecting cash-in-transit vehicles in Paris, high public demand for cash from ATMs. The financial sector was assessed on the basis of its ability to keep public payment channels running smoothly in the event of a large-scale crisis.
- The cash crisis unit was able to map all the branch locations at risk of running out of banknotes. These sites could then be earmarked for priority delivery or back-up from other locations able to provide sufficient cash.
- The cash crisis unit's high level of involvement and close coordination with government agencies ensured that banks remained well supplied with cash, thus facilitating business continuity in the cash industry.

Communication scenario



- Simulated media pressure persisted throughout the exercise: rumours on social networks, incorrect AFP dispatches, simulation of interviews with journalists.
- The communication crisis unit took charge of aspects of external communication and the monitoring of the events on social networks. Thanks to its responsiveness, the Paris Resilience Group was able to adopt a communication strategy appropriate to the level of media pressure experienced.

2.5 Workshops on the “post-flood” theme held on 16 March 2016

In addition to the flood simulation phase, the Paris préfecture de Police arranged workshops to reflect on post-flood issues, attended by representatives from the business sectors concerned, including the Paris Resilience Group.

For the financial sector, discussions were based on four key themes:

- Working together with the government and regulators, identify areas in which regulations could be temporarily eased to enable financial institutions to return to business as usual as soon as possible while minimising the impacts on their operations.

- Manage the resumption of normal operations for the HR department over the long term, providing support and assistance for employees.

- Restore buildings and branches to their pre-crisis condition.
- Ensure service continuity in relation to cashless payment methods and cash distribution channels.

Close to 80 experts from institutions in the Paris Resilience Group attended the workshops during the two half-day sessions.

This work was geared towards achieving two key aims:

- Provide the Paris Resilience Group with preliminary indications of collective action to be taken to

ensure a more efficient resumption of operations as soon as water levels begin to subside.

- Continue to reflect on these issues within the institutions, act on proposals made regarding action to be taken and ultimately develop the institutions’ business continuity plans as necessary to address a potential flooding of the Seine;

3

Key success factors and avenues for improvement

EU Sequana in figures

- General organisation:
 - around 100 participating public and private-sector entities from around ten business sectors (energy, transport, telecoms, finance, insurance, health, etc.);
 - collaboration with a number of European countries (Spain, Belgium, Czech Republic, Italy) within the European Civil Protection Mechanism.
- Within the financial sector:
 - 1,550 individual participants;
 - 62 crisis units activated;
 - 14 participating institutions (banks, market infrastructures, authorities).

3.1 The exercise was a success on several levels

The exercise enabled the Paris Resilience Group to broadly meet its objectives and confirmed that the action plans drawn from the 2012 test were effectively implemented. Some of the key points to note are:

- **Reaffirmation of the financial sector's ability to withstand**

a major flooding of the river Seine. The Paris Resilience Group conducted tests in a flood scenario for the first time in 2010. The work carried out since this first test enabled Group members to strengthen their business continuity plans and deepen their knowledge of flood-related issues. During this latest exercise, they were able to respond quickly to the crisis and implement vital measures to ensure that their critical functions remained in operation.

- **Increased involvement of the financial centre's crisis units (CCP).**

These crisis units are made up of representatives of the Group's banks and market infrastructures who work in the critical business lines, i.e. the first to be affected by a major incident (cash, interbank liquidity, communication). For the organisational structure underpinning the resilience of the financial marketplace to be effective, it is crucial to improve information sharing

between the crisis units and the Coordination Unit. As members of the Coordination Unit, the heads of the crisis units play a key role in this process. The EU Sequana exercise provided an opportunity to test the efficiency of information channels within the banks (involving the various business lines and business continuity managers) and within the financial centre's "resilience" system. The Coordination Unit ensured smooth information flows between participants and efficiently coordinated all the parties involved.

3.2 The exercise also highlighted avenues for improvement

- **The EU Sequana operation highlighted the need for tight coordination between the financial sector and the government at various levels, depending on the specific competence** and type of crisis concerned: at the level of the crisis zone with the zone's general secretariat for defence and security and at the national level with the general secretariat for national defence and security.

Limitations were revealed in terms of coordination, particularly regarding

information provided on the overall situation or other key sectors such as transport and telecoms. The financial sector should thus further develop its relationships with government agencies in order to improve information sharing and provide a better overview of the overall crisis situation.

- **Direct relations between the financial sector and key network operators (utilities) must be improved, as some banking activities depend on services provided by these external operators.**

The financial sector depends on other operators to run its operations, particularly energy, telecoms and public transport networks. At times of crisis, it is crucial **to ensure that these operators are able to provide regular status reports on their networks directly to the financial sector so that the impacts of the crisis** can be anticipated to the fullest extent possible. This is particularly true in the event of a flooding of the Seine, in that it affects all business sectors and could cause prolonged disruptions for the key network operators. When drawing up their business continuity plans, banking

and financial institutions must identify **all critical processes that depend heavily on key providers** and must assess operators' ability to ensure service continuity.

- **Efficient coordination involves putting shared crisis management tools in place to avoid the need to circulate an abundance of information.**

Each banking institution has its own crisis management tools. The assessments made by the Paris Resilience Group when it was first created soon revealed **the need for shared crisis management tools enabling swift information exchanges between members**. Past crisis management experience has shown that, while it is necessary to circulate sufficient information to facilitate sound decision-making, **an overabundance of information from multiple sources can undermine the crisis management process**. Over a number of years, the Paris Resilience Group has developed its own tool to enable members to exchange pertinent information in a centralised manner at times of crisis and to record the impacts of the crisis on the financial sector's functioning. Work must be done to make the tool more user friendly, ensuring that

each member has rapid access to the information it considers to be vital.

- **Appropriate communication is crucial to prevent an escalation of the crisis.**

The media pressure simulated during the EU Sequana exercise was largely channelled through social networks. The Coordination Unit, via the communication crisis unit, adopted a proactive communication strategy during the test. Participants

demonstrated a high level of responsiveness in their interactions with the business line crisis units, within the communication crisis unit itself, and in response to media pressure. They avoided responding (i) too early in the communication process, so as to avoid sending multiple messages and undermining the communication strategy, or (ii) too late, ensuring that reassuring messages/denials were sent in time to prevent a prolongation of alarming situations or rumours. The

exercise also showed how difficult it is to perform exhaustive monitoring during a crisis, in particular on social networks. The Group must work on this aspect to further strengthen its crisis communication system.

By the end of the first quarter of 2017, the working groups dealing with these issues should put forward proposals for improving the Paris financial centre's overall "resilience" framework.

4

Paris Resilience Group system tested by a real crisis: Seine flooding in June 2016

Shortly after the EU Sequana exercise was conducted, the Paris Resilience Group had to handle a real crisis when the Seine burst its banks in June 2016.

Between Monday 30 May and Wednesday 1 June, the Seine swelled rapidly due to major flooding on some of its tributaries. The water levels recorded at the Paris Austerlitz station rose from 1.9 metres on 30 May to a peak of 6.1 metres on 3 June (the alert threshold being 3.2 metres). Flooding is extremely rare at this time of year: records show that floods have historically occurred in winter and rarely any later than March.

4.1 Regular communication with government agencies

Throughout the crisis, the Coordination Unit maintained close dialogue with the Paris *préfecture*

de Police. The crisis unit activated at the *préfecture de Police* regularly informed the Coordination Unit of the latest measures taken and the outlook for the next 24 hours. Thanks to this information, the financial sector was able not only to manage the immediate situation, but also to put strategies in place to deal with anticipated developments (e.g. precautionary closures of certain bank branches and transfers to fall-back sites).

The Coordination Unit also kept government agencies informed about the flood's impacts on the critical operations and resources of banks and market infrastructures (human resources, premises, IT systems).

4.2 Swift mobilisation of the Coordination Unit

Thanks to information sharing between its members, the

Coordination Unit was mobilised swiftly as soon as the alert threshold was reached (3.2 metres). The initial information exchanged via the crisis management tool enabled it to (i) make a preliminary assessment of the situation and (ii) anticipate the impacts of rising water levels in the coming hours. The financial sector experienced localised impacts, with some bank branches in the Ile-de-France region becoming inaccessible to the public.

Coordination Unit members communicated frequently as their respective situations developed, keeping each other informed of steps taken and action planned in anticipation of a worsening of the crisis.

Ultimately, although the flooding caused localised damage in the banking networks, there were no major disruptions and the financial sector was able to ensure the continuity of its operations.

A₁

Glossary

Term	Explanation
Alert	Formal notification of: • an adverse event; • an incident that could give rise to an adverse event; • an emergency (e.g. a 100-year flood).
Business impact analysis	Assessment of: • the financial impact of direct losses (misappropriation of funds, fraud, errors, etc.) and indirect losses (reconstruction of systems, etc.); • the impact on image (lost credibility, court action, etc.).
<i>Business as usual (BAU)</i>	Resumption of normal business activities
Crisis unit	Multi-disciplinary group of decision-makers and experts brought together in a crisis to: • assess the situation; • estimate the possible consequences; • decide on measures to take; • mobilise the resources needed to restore an acceptable level of activity; • act as the interface for operational teams dealing with the crisis; • coordinate actions; • handle crisis communications with other participants.
Business continuity	Set of procedures designed to ensure that critical processes can be maintained regardless of the circumstances, especially in the case of an adverse event affecting the information system, buildings or personnel.
Crisis	Sudden event causing major losses and damage forcing one or more critical activities to be stopped or an overall organisation to be shut down, having long term impacts and requiring the use of a crisis unit and, where applicable, a back-up site.
Incident	Any event that affects or could affect normal operations and that requires a response by personnel or automated systems.

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Term	Explanation
Business continuity plan (BCP)	Set of plans drawn up preventively and always available. The BCP is activated by the crisis unit following an alert or an adverse event . Each business line prepares a BCP.
Critical process	Process that, if interrupted, must be restored to prevent the entity from suffering heavy losses or other damaging impacts.
Resilience	Ability of a participant in the financial sector, a financial authority or a financial system to remain operational during a period of major operational disruption.
Operational resilience	Ability of a participant in the financial sector, a financial authority or a financial system to absorb the impact of a major operational disruption and continue critical operations or services.
Adverse event	Any event with an accidental, natural or criminal cause that disrupts or prevents normal operation for long enough to significantly affect the critical processes of the bank, a business line or an assignment.
Crisis exit	Phase when the crisis is ended and operations progressively return to normal.

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Crisis unit (CCP) factsheets

	Communication crisis unit (CCP-Com)	Liquidity crisis unit (CCP-L)	Cash crisis unit (CCP-F)
Members	Co-chaired by the Banque de France (BdF) and the French Banking Federation (FBF), CCP-Com has representatives from the ACPR, the main banking groups (BNP Paribas, BPCE, Crédit Agricole, Crédit Mutuel/CIC, La Banque Postale and Société Générale), Caisse des Dépôts et Consignations, market infrastructures (STET, Euroclear, LCH SA, Euronext, ABE Clearing, GIE cartes bancaires) and government agencies.	CCP-L, which is steered by the Banque de France and a banking industry representative, has representatives of the Banque de France, LCH SA and Euroclear France, BNP Paribas Group, Crédit Agricole, Crédit Mutuel/CIC, La Banque Postale, BPCE Group and Société Générale Group. Its membership may be extended if necessary to include operators of other systems (ABE Clearing, STET, Euronext, Visa France, GIE cartes bancaires) or other institutions.	CCP-F, which is steered by the Banque de France, comprises representatives of SHFDS of the Ministry for the Economy and Finance, the Treasury, IEDOM, and the French Banking Federation, as well as a representative from each of the major banking networks participating in the Paris Resilience Group (BNPP, BPCE, CASA, CMCIC, HSBC, La Poste-Banque Postale, LCL, Société Générale, the FCD and MERCATEL retail and distribution federations, Fedesi (federation of cash-in-transit firms) and five cash-in transit firms (Brink's, Loomis, Prosegur, TAS and Témis).

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	Communication crisis unit (CCP-Com)	Liquidity crisis unit (CCP-L)	Cash crisis unit (CCP-F)
Secretariat	Communication Directorate of the Banque de France	Payment Systems and Market Infrastructures Directorate of the Banque de France	Cash Activities Directorate of the Banque de France
Objectives	• Coordinate communication between members of the communication crisis unit and the resilience Coordination Unit in the event of an operational crisis; • Raise participant awareness of market-wide communication.	• Be proactively involved in managing liquidity issues, especially in the context of new system or service launches; • Respond in the management of crises caused by technical or banking problems at the level of Target2, external systems or participants, which have an impact on interbank liquidity or present systemic risk.	• Steer and coordinate the management of cash crises, whether at the local or national level.
Meetings	CCP-Com meets as needed in a crisis and at least once a year for discussion, with a view to raising awareness about market-wide communication.	CCP-L meets regularly and as needed in the event of individual or collective problems facing members that could affect the liquidity of the financial centre.	CCP-F meets as needed in a crisis and at least once a year to test its ability to mobilise.

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List of members of the Paris Resilience Group

Presidency:

Banque de France

Organisation representing the banking sector:

Fédération bancaire française

Banking groups:

BNP Paribas

Crédit Mutuel-CIC

Crédit Agricole

Société Générale

BPCE

Groupe Caisse des dépôts et consignations

La Banque postale

Market infrastructures:

Euronext

LCH SA

Euroclear

Payment system operators:

GIE cartes bancaires

STET

ABE Clearing

Government services:

Senior Defense and Security Official from the Ministry of the Economy and Finance

French Treasury

Regulatory authorities:

Autorité de contrôle prudentiel et de résolution (ACPR)

Autorité des marchés financiers (AMF)

Presidency of Crisis Units:

Liquidity

Communication

Cash

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