

# Response to disruptive events at INEGI<sup>1</sup> - Mexico City Office

## Abstract

As a preventive measure to avoid **interruptions of critical processes** in Mexico City office, where an important part of the dissemination activities of the information we generate are carried out, we decided to formulate a **Crisis Management** procedure and a **Business Continuity Plan (BCP)**. To elaborate the BCP, the methodology selected was the **ISO 22301** and **ISO 22313** norms.

BCP implementation has been established in two stages. The first stage (in which we are currently at now) is focused on Mexico City office as a pilot test, and the second stage refers to the management of continuity at institutional level. The content of the BCP is as follows:

Define critical processes; Perform Risk Analysis; Perform Business Impact Analysis; Define Continuity Strategies; Develop procedures for communication, resumption of operations and recovery to normal status; Integrate Continuity Plan, and Test the Plan effectiveness.

We have developed already four of the seven steps and we estimate to finish the integration of the BCP by the end of September 2017.

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## **I. General background**

### I.1. About INEGI

INEGI was created in 1983 and two years later it faced its first major disruptive event. An earthquake of 8.1 degrees in the Richter scale affected severely Mexico City, where then INEGI had its main office building, which collapsed. As a result of the above and of a public policy of decentralization, it moved its headquarters to the city of Aguascalientes, 500 kilometers away, in the center of the country, and with a low seismicity index.

### I.2. Operative structure

INEGI has a presence throughout the national territory but, because of its importance as a political capital, Mexico City concentrates many institutions with which we have close interactions. Consequently, important processes or staffs such as the Governing Board, price indexes, national accounts, government and public safety statistics, coordination of the National System of Statistical and Geographic Information, institutional relations, and information dissemination, among others, are located at the office in Mexico City (Patriotismo office).

Additionally, there are 10 regional offices and 33 state offices, in which the information gathering processes are mainly carried out.

### I.3. The Patriotismo office

The Patriotismo office has undergone recently some arrangements to improve its functionality and seismic safety level. But its location in the country's capital city makes it susceptible to street blockades by social groups of demonstrators who come to exert political pressure against public institutions, generally, in favor of causes that have no relation with INEGI. Some blockades occur in the nearby area without prior notice, without a definite term of duration and may cause disruptions in the activities that take place in that office.

### I.4. Status of the risk management

For the processes of generation of statistical and geographic information we have been applying the institutional methodology of risk management that is based to a large extent on ISO 31000 and ISO 27000 standards, related to risk management and information security, respectively.

The main results of the risk analysis of the relevant statistical or geographic projects are presented on a regular basis to the Risk Management Committee to

receive feedback on the preventive and corrective controls that would have been put in place and to ensure that the residual risk is kept at manageable levels for the institution.

Some individual operational continuity plans have also been developed and implemented to be prepared to deal with disruptive events affecting only specific processes or services, like ICT services for instance.

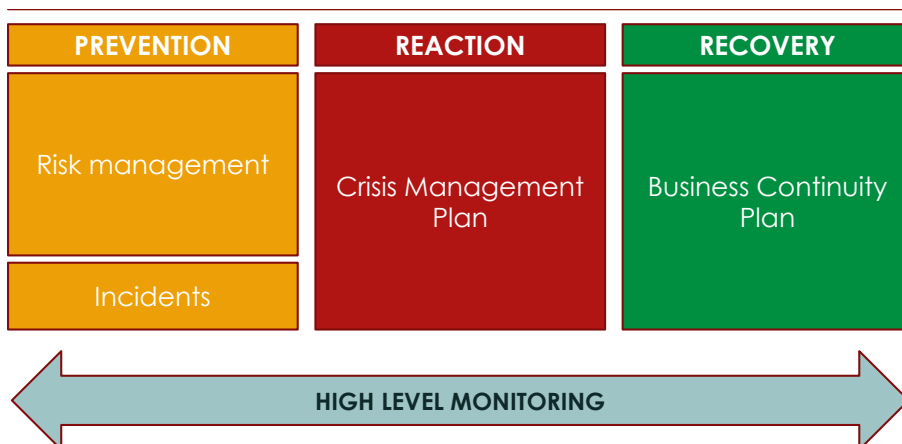
#### I.5. Institutional resilience

Despite the preventive measures adopted, corrective measures are also considered if a risk materializes. Although the management of this type of measures is in charge of those responsible for the processes, it could happen that if the magnitude of the risk rises to such a degree that it threatens the whole institution and becomes a strategic risk, those responsible of the processes communicate the situation to the top management so that it can monitor their evolution, get involved if necessary, and ensure that the effects are reduced or disappear in the least possible time and cost, both in economic terms and for the institutional image.

There are risks that have been identified in the analysis of processes, other risks arise from the environment in which the institution operates, although its existence had not even been suspected before. The former give them an opportunity to prepare themselves, while the latter can only be dealt with through preventive actions of a general nature, in addition to specific reaction measures.

As institutional resilience is based on anticipation and prevention to handle adverse events, in the institutional risk management procedures besides the usual preventive actions in each process, we are seeking to be prepared, if a risk materializes to implement corrective actions and if it becomes necessary, to go further and implement a Crisis Management Plan as well as a Business Continuity Plan.

**Figure 1. Risk Management Strategy**



## **II. Scope of business continuity management at INEGI**

### II.1. Current situation

The methodology for designing the business continuity plan is based on the ISO 22301 and ISO 22313 standards. For the purposes of this project, the objective of business continuity is defined as: *To give continuity on a specific period to the critical processes that make possible the generation of statistical and geographical information.*

To secure the business continuity is a desirable but complicated goal to carry out, particularly at institutional level when the dissemination of information is a day-to-day practice. Therefore, we decided to start applying the methodology of business continuity only at the Patriotismo office because of its strategic importance, due to the relevance of the processes carried out there, and by the effect that manifestations or blockades may have over the performance of the statistical and geographical tasks.

The development of business continuity has been proposed in two stages. The first, as a pilot test, which is in process, includes only the Patriotismo office. A second stage will be of institutional scope that we have scheduled to initiate in 2018.

### II.2. Features of Stage 1

For this stage, the risk analysis has been limited to social demonstrations or blocking of facilities, which may affect the development of activities that are carried out in the Patriotismo office. As alternate offices with the capacity to host critical processes on a temporary basis, we have identified two INEGI buildings, which are

also located in Mexico City, and which correspond to a regional direction and a state coordination.

As soon as possible we plan to expand the risk scenario to include earthquake and fire, among others. An earthquake could leave us with no possibility of maintaining continuity in Mexico City. In the event of fire, the operation could continue in alternate offices, but the conditions for maintaining operations would surely differ from those we have identified for a disruptive event lasting only a few days.

### II.3. Background of the continuity strategy

Following are some definitions contained in the British standard BS 11200: 2014, for crisis management, which are important for what is described below.

**Crisis:** abnormal and unstable situation that threatens the organization's strategic objectives, reputation or viability.

**Incident:** adverse event that might cause disruption, loss or emergency, but which does not meet the organization's criteria for, or definition of, a crisis.

**Crisis management:** development and application of the organizational capability to deal with crises.

As a preliminary step to the implementation of the Business Continuity Plan, we have used the standard BS 11200: 2014 to develop a procedure that allows us to monitor the evolution of demonstrations or blocking of facilities, because although that kind of incidents do not exactly constitute a crisis, it becomes necessary to define the more convenient actions to prevent them from escalating in magnitude and evolving into one.

A key role in this procedure is for the coordinator of the incident, which has the responsibility to assess, dialogue and eventually negotiate with the protesters in order to avoid affecting the security of the occupants of the building and the safety of the facilities.

If necessary, the Coordinator of the incident communicates to the senior staff and to those who have been designated as part of the support network, the decision to evacuate the building, with the assistance of the civil protection brigades. Critical process managers are also notified to assess whether it is necessary to move to one of the two alternate offices to continue their operation in accordance with the Business Continuity Plan described below.

The ability to act quickly and effectively is essential. Therefore, there must be a substitute for each participant who has a direct intervention in the handling of the incident. For this purpose, a directory has been integrated with the contact details

of key staff so that they can be located, if necessary, without restriction of days or schedules.

#### II.4. Components of the Business Continuity Plan

The Business Continuity Plan, according to the ISO standards used as reference for its elaboration, is integrated by the following components:

1. Identification of Critical Processes
2. Risk Analysis
3. Business Impact Analysis
4. Definition of Strategies
5. Develop Continuity Procedures
6. Integrate the Business Continuity Plan
7. Test of the Business Continuity Plan

##### II.4.1. Identification of Critical Processes

There is one representative for each of the administrative units that are located in the Patriotismo office and they were trained in the methodology to be used for the development of the Business Continuity Plan according to ISO 22301, and they were asked to prepare a list of the Critical processes, based on the following criteria: its contribution to the Institutional objectives, the commitment dates for publication of results contained in the dissemination calendar, the maximum term that could suspend its operation, and the impact for INEGI in case of not being able to deliver the previously specified results.

It was also requested that, for each of the critical processes identified, they should integrate a working group composed of personnel with the following characteristics: detailed knowledge of the process, capacity to integrate the necessary documentation, decision-making capacity for the design and establishment of strategies, as well as knowledge of the operational continuity plan for the specific process, if applicable.

At the end, 29 critical processes were identified.

Figure 2. Critical processes located at the Patriotismo office



#### II.4.2. Risk Analysis

As previously mentioned, the only type of risk analyzed in stage 1 is the manifestation or blocking of facilities, whose probability of occurrence is high, according to recent experience.

#### II.4.3. Business Impact Analysis

The business impact analysis is integrated by the following phases:

- a) Process description
- b) Criticality level
- c) Evaluation of results
- d) Priority assignment

a). **Process Description:** In this phase all the characteristics that are necessary to ensure its continuity are detailed so as to allow a clear knowledge of the process and its contribution to the mission and institutional objectives. It is based on the application of a questionnaire to the members of the working group responsible for each process.

The questionnaire consists of three sections:



1) Process description. An analysis is made in order to establish the general context: objective, total stages and those that are critical and, in particular, determine the maximum term that the process can remain inactive.

2) Resources. This section identifies the human resources (responsible for the process, key personnel, and substitutes), office resources (workspaces) and technological resources (computers, specialized software, printing and phone services, applications, etc.) required for the operation of the process before an incident, as well as the information that the process requires for its execution after the incident. It also identifies whether there is an interrelationship with other processes or a dependence of external suppliers.

3) Impact. The purpose is to identify the magnitude and type of impact that can cause the suspension of the process. The types of impact considered relate to: compliance with objectives / work program, institutional image, informants' trust, users, regulatory / contractual, financial and other compliance. The impact is measured using the following scale:

- Minimum
- Moderate
- High
- Catastrophic

b). **Criticality level:** A checklist is applied in order to assess the criticality of the process based on its contribution to the institutional objectives and goals.

c). **Evaluation of results:** It is oriented to classify the processes according to their priority, so that the strategy of continuity appropriate for each of them can be selected. This stage allows to verify if the process that has been proposed by each administrative unit meets the criteria to be considered critical.

In order to carry out the evaluation it is necessary to visualize in an integral way the results obtained from the analysis of business impact and to assign priorities considering the following criteria: The priority is determined in inverse proportion to the maximum interruption period (Figure 2) and in case of coincidence of the maximum interruption period, the highest priority corresponds to the process with the greatest impact.

Figure 3. Maximum interruption periods of the processes

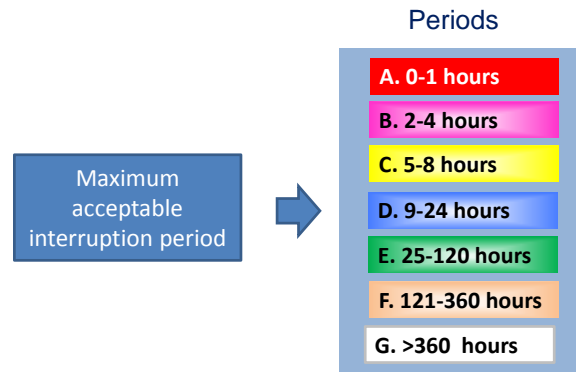
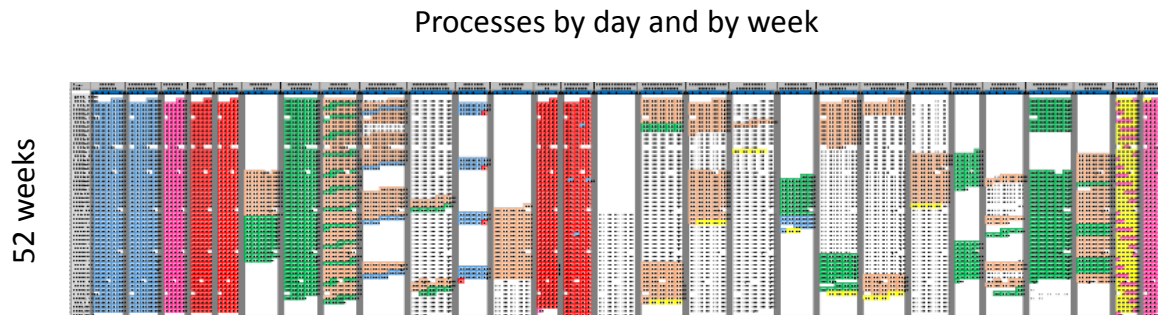


Figure 4. Graphic example of the distribution of critical processes along a year



The image illustrates that there are processes whose maximum interruption period maintains the value of one hour throughout the year (red color). One of them is the publication of the press releases that are scheduled to be issued, at the indicated dates, at 8 o'clock in the morning invariably. In fact, this process already has a specific continuity procedure.

d). **Priority assignment:** With the classification made in the evaluation of results, a priority is assigned to each of the critical processes in order to determine the order in which they must be re-established to minimize the potential impact.

#### II.4.4.Strategy Definition

The Business Impact Analysis determined the continuity strategies appropriate for each of the processes considering technological alternatives that allow to resume operations within the established deadlines, with lower costs and complexity.

As the strategy selected is to move the critical processes to alternate offices, additional requirements were identified to accommodate such processes, according to their specific needs.

#### II.4.5.Continuity Procedures

The following procedures are currently under development:

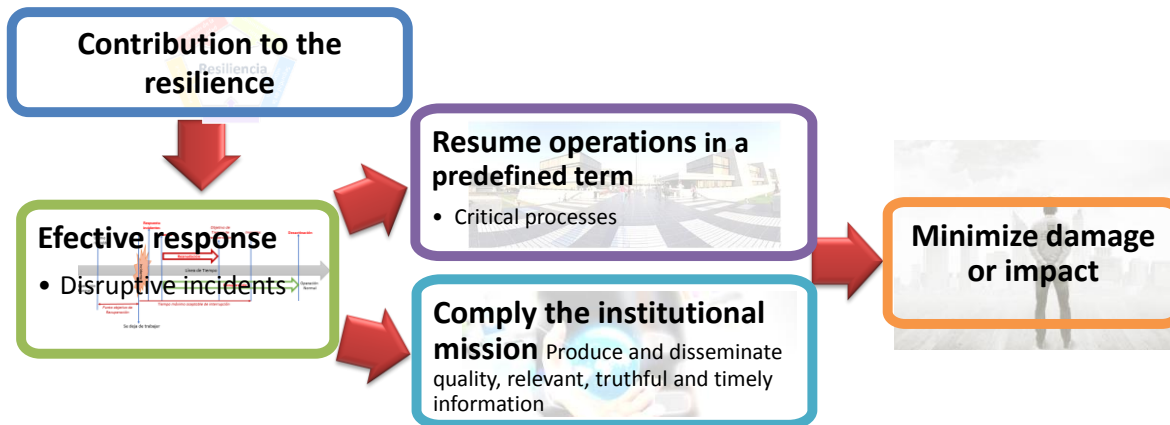
- Communication. Describes the activation phase of the continuity plan and how the communications to be issued and received during the incident will be coordinated, as well as the means to carry them out.
- Resumption. Describes how the continuity strategies defined for the established scenarios will be executed. It specifies the activities to be carried out, the deadlines, the place where they will be realized, and the return to the Patriotismo office.
- Recovery. It should include an assessment of the situation and a description of the activities to restore normal operation of the processes.

#### II.4.6.Integration of the Business Continuity Plan

The Business Continuity Plan will be integrated as a document, with the various elements that have been enunciated. It will contain: clear and precise instructions so that they can be executed without delay, the map with the location of the alternate offices, the meeting point, the description of the conditions for the transfers, the description of the resources allocated to work in the alternate offices, as well as the location of the information that the every process requires, such as roles and responsibilities for the participants in the business continuity and the directory of key personnel and their substitutes.

This plan will be shared among all the staff of each administrative unit, so that they be aware of their possible participation.

Figure 5. Business Continuity Management Scheme



#### II.4.7. Tests of the Business Continuity Plan

The Business Continuity plan will be tested periodically, through drills, to ensure proper operation. To do this, a calendar will be developed considering that it will interfere as little as possible with daily operations and affect the least number of critical processes. The first tests will be carried out in a partial way, that is, considering only a few critical processes and later a full test once a year, including all critical processes and all personnel at the Patriotismo office.

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