
DND/CF

Continuity of Services/Operations Impact Analysis Templates

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How to Conduct the Critical Service/Operations Impact Analysis (IA)

Use the following instructions to conduct an IA for all critical operations in your organization.

1. **Identify and input organization information.** List functional area, business unit, level of organization, and the mission of the organization.

Example: Your business unit might be DSIS> your functional area could be Accommodations> Responsible Manager/Director – is the manager in charge of Accommodations (i.e. Jim Goodman)> Organization Level – Level III > Mission of Organization – Strategic and tactical planning of all office accommodations; coordination of office fit-ups and allocation of office accommodations.

2. **Describe the function of the business unit.** List the number of staff required to function at a minimum service level. Determine the incremental costs associated with interruptions in service for each business unit. Factor in financial and non-financial costs. Consider staff hours, consultants, and required equipment. List possible surge situations. Describe outputs of the organization functions and the outcomes of its functions. List the organization's clients.

Examples: Number of Staff - If your organization operates with 10 people, you might only need 2 employees to carry-out the organization's critical service as a minimum until normal operations can be restored. > Incremental Costs – If you require a fridge to store evidence, and a fridge was not available at your alternate location, but you needed one, this would be an incremental cost. Description of critical services – List all critical services that must be performed by your organization. Hours of operation – your staff might only work 7.5 hrs per day, five days per week = 7.5/5. If you run two shifts, 7 days per week = 15/7. Surge Situations – Are there certain times of the year, situations or events outside normal operations that require attention (i.e. budget, end of fiscal year – yes, no, immediately etc). Outputs – What is it that you must deliver in the way of critical services? Outcomes – What would be the outcome if you could not perform these deliverables/critical services? Clients – Who are your clients? List of Internal and external client for each critical service you must provide.

3. **List Critical Activities/Processes.** List the rationale for the critical activities of the organization. List the major IT resources and critical services the DND/CF organizational unit relies on and prioritize them using a 'high,' 'medium,' and 'low' scale to identify which resources are most critical. List the quantitative costs/losses/financial losses. List the qualitative costs/losses and write a statement regarding the level of impact.

Example: Priority and Critical Services - Prioritize the critical services that must be performed using 1 as most critical and 10 as least critical etc. Rational-Mission/Mandate - Explain the rationale for the criticality of the service that must be performed in relation to the National interest (i.e. See #3 on page 9 for explanation of National and Departmental interest). Quantitative Costs/Losses – expressed in terms of avoidable financial loss/costs or costs of injury to clients or Canadians (i.e. legal liability (fines), backlog cost, economic fee) if services are not delivered within normal time periods. Qualitative costs/loss – this is reputational impact or loss of credibility of the department, organization or GoC (i.e. -Client trust, (see #5 on page 9).

4. **Calculate the downtime tolerance for each critical service.** Assign risk timeframes that best describe the impact that downtime has on the organization (i.e., rank based on how long before the organization would feel a significant impact from downtime). For example, if there is a business unit that will feel the effects from an interruption of service four hours or less of, the business unit is vital.

Example: High – implies excessive impact level; possible loss of life, extreme financial loss, irreparable loss of public confidence, breakdown in civil order etc.
Medium – Possible injury to individuals; impedes investigations or law enforcement; compromise of personal or public information etc.
Low – Results in public embarrassment; minor financial loss; inconvenience to government operations resulting in delays, loss of information etc.

- 5. Determine the total impact of an interruption of service to the organizational unit.** Using the Maximum Allowable Downtime matrix, fill out the portion that suits your criticality. List when you need human resources the most and list the minimum level of services you need to provide. Sum up the total resource cost to the organizational unit for different durations of service downtime (e.g., the total impact to the business unit if there is an interruption of services for: less than four hours, one day, ten days, etc.).

Example: Maximum Allowable Downtime (MAD) – The longest allowable time that the critical service that you provide can be down until your organization feels the Quantitative or Qualitative effects (i.e. 0-4 hrs, 24 hrs etc). **Human resource requirements** – how many employee's are required within a specific time frame (i.e. 2 people within 4 hrs = +2; 4 people within 48hrs = +4; 6 people within 4 days = +6, etc). **Minimum Service Level (MSL)** - the absolute minimum service level you can provide and for how long, so that your organization does not feel a negative impact/effect. **Comments/Justification** – Justify the reason for the (MAD) and (MSL) (i.e. - The 3 hr MAD is important due to the necessary communications between Canada Command and the Minister of National Defence. The MSL is the least amount of service your organization can provide before it feels a negative affect)

- 6. Prioritize organizational units and key resources to be protected.** Once you have arrived at total impact estimates for all of the unit(s) within your organization, you can now prioritize risk mitigation strategies based on which unit(s) and functions will suffer the most should an event occur. Since you now know the potential financial and reputational impact of service interruptions, you should also be able to get a rough sense of what an appropriate budget might be for disaster recovery.

Example: 1. Strategic and tactical planning of all office accommodations
2. Allocation of office accommodation
3. Allocation of parking spaces

- 7. Use the results from your IA to take appropriate action.** Conducting an IA is the first step in mitigating potential risks to your organization. While an IA helps identify the impact of a major event, much more analysis is required to effectively manage potential risks and identify viable solutions such as:
- the probability that a risk will occur;
 - the risk exposure (i.e., the probability, multiplied by the impact of the risk event);
 - the root causes of risks;
 - the effects of the risk event and weigh costs of the risks;
 - a good risk management solution will also assign an owner to each risk, develop a mitigation strategy for potential risks, determine red flags to help identify risks, and
 - outline contingency plans should the risk event actually occur.

Definitions

Impact Analysis – An IA determines which processes must be recovered quickly following a disruption. It identifies the costs and consequences of a disruption, the dependencies between processes, and the minimum service level that is required during the recovery period for each process. Using this information, the order in which processes should be restored and the resources required during restoration can be determined.

Alternate Sites (characterized in 3 levels of operational readiness) – Hot site – site is ready to go; Warm site - almost ready to go; Cold site – not prepared yet.

Analysis – this process is a method of studying the nature of something or of determining its essential features and their relations.

Hazard – Man or nature made ---- Man - Anthropogenic --- fire, war, bio, IT failure; nature - flood, electrical outage, earthquake.

High Degree of injury – is severe harm related to the provision of sustenance (i.e. food, water, shelter, energy), public order, emergency care and response, a life sustaining environment; vital communications and transportation, fundamental economic services, continuity of government, territorial integrity and sovereignty.

Crisis – A situation where the government's ability to deliver critical services is compromised.

Critical service – are DND/CF services whose compromise in terms of availability or integrity would result in a *high degree* of injury to the health, safety to employees, security or economic well being of Canadians, or to the efficient functioning of the Government of Canada. BCP program assures minimum service levels (MSL) for critical services.

Critical assets – assets supporting a critical service or cause a financial disruption.

Recovery Time Objective (RTO) – the time by which the critical services must be recovered to its minimum service level for each process.

Maximum Allowable Downtime (MAD) – the absolute maximum time the system can be unavailable without direct or indirect ramifications to the organization's critical services.

Minimum Level of Service (MSL) – lowest level of service to which a process must be recovered for service expectations to be met, and the resources required to achieve the expected level of critical service performance.

Recovery Point Objective (RPO) – Recovery Point Objective is the point to which information must be restored in order to deliver critical services – for each process.

Mitigation – the action of lessening the severity or intensity of a situation.

Impact – when something has a negative or positive influence or effect on someone or something.

Risk – the hazard or chance of loss and the degree of probability of such loss.

Risk Assessment – is an assessment that identifies the threats that could disrupt the organization's critical services, and determines the probability of consequences of each threat. It helps determine whether you should ignore a threat, how much you should spend in taking action to reduce a threat, or whether you should plan for the recovery of operations if the threat occurs.

Risk Evaluation – assesses the probability and impact of individual **risks**, taking into account any interdependencies or other factors outside the immediate scope under investigation.

Required Resources – items required during an outage/interruption in order for the organization's continuance to provide critical services.

Continuity of Service/Operations Impact Analysis
Data Capture Worksheets

Tombstone Data

Functional Area:
Business Unit and Organization Level:
Responsible Manager/Director:
Location:
Mission/Mandate:

Continuity of Services/Operations Impact Analysis
Service/Activity Analysis Worksheet

What do you do?							
Inputs		Processes			Outputs ¹	Outcomes	Clients
Number of Staff	Operating Costs	Description of Critical Activities /Services	Hrs of Operations	Surge Situations (Always /conditional /contingent) ¹			

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Critical Services Analysis Worksheet

^{1?} Is there a time of year or specific situation or event where the organization's resources are involved in dealing with the issue to the exclusion of normal daily operations (no – what we do is always critical, sometimes – when this situation occurs we are conditioned to respond direct our attention to resolving it, maybe, who knows – there are things that could happen and in those situations we have contingent processes and procedures to deal with it).

² Reports, Regulations, Inspection certificates, etc.

Priority	Critical Activities/process	Rationale – Mission / mandate of organization in relation to the national or departmental interests ²	Quantitative Costs / Losses ³	Qualitative Costs / Losses ⁴	Risk Statement ⁵ (impact level)

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Continuity of Services/Operations Impact Analysis

Downtime, Staff Requirements and Minimum Service Levels Worksheet

When do we need to be back on-line?	When do you need staff and in what amounts?	What is the minimum level of services you need to provide?	Comments/ Justification
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² **National Interest** - Health, safety, security, economic well-being, effective functioning of government, credibility and public confidence. **Departmental Interest** - legal/contractual, regulatory, time sensitivity.

³ **Quantitative**: impacts are usually expressed in terms of avoidable financial costs and the costs of injury to clients and Canadians in general if services are not delivered within normal time periods. These include the cost of injury that would occur if services were not delivered: legal liability (fines), backlog costs, economic losses (fees).

⁴ **Qualitative**: impacts are intangible losses that can affect the credibility or reputation of the department or the GOC for example: loss of clients trust, violation of security policy or legislative requirements, etc.

⁵ **High** – high injury will generally result in such things as loss of life, the breakdown of civil order (e.g. violent demonstrations), loss of territorial sovereignty, irreparable loss of public confidence, extremely large financial losses or severe disruption to the economy, disclosure of intelligence sources or methods of gathering intelligence, serious long-term damage to the conduct of international relations, and unavailability of a critical service. **Medium** – medium injury will generally result in such things as injury or illness to individuals, inability to conduct criminal investigations or other impediments to effective law enforcement, serious loss of public confidence, compromise of particularly sensitive personal information, significant financial loss or disruption to the economy, ineffectiveness in conducting international or federal-provincial relations, and disruption of services that would seriously inconvenience Canadians. **Low** – low injury will generally result in such things as public embarrassment, minor financial loss, and inconvenience in conducting fed-prov or international relations and minor disruption of internal government operations leading to delays & loss of information.

Critical Activities / Processes ⁶	Maximum Allowable Downtime						Human resource requirements over time						Minimum Service Levels ⁷	
	Hours		Days		Weeks		Hours		Days		Weeks			
	0-4 hrs	<24 hrs	24-48 hrs	2-5 days	6-10 days	10-30 days	0-4 hrs	<24 hrs	24-48 hrs	2-5 days	6-10 days	10-30 days		

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Dependencies Analysis Worksheet

Who or What do you depend on to deliver your service?							
Critical Activities / Processes ⁸	Suppliers	Other Government Departments	Other DND Branches Directorates	Other Corporate Services	Infrastructure (facilities, telecom)	Databases/Vital Records	IT Systems / Applications

⁶ Services deemed in the National or Departmental Interest AND where there is a Level 1 risk if the service is not delivered (from Critical Services Analysis Worksheet).

⁷ The minimum acceptable level of the service – is the point at which a high degree of injury would result.

⁸ Services deemed in the National or Departmental Interest **AND** where there is a Level 1 risk if the service is not delivered (from Critical Services Analysis Worksheet)

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Recovery Strategies and Resource Requirements Analysis Worksheet

What do you need to do to ensure the delivery of critical services?		What resources do you need to provide a minimum service level of critical services?
Critical Activities / Processes	⁹ lternate Strategies ¹⁰	¹⁰ esource Requirements ¹¹

⁹

¹⁰ Identifying whether the strategy is in place or required

¹⁰¹¹ Data elements to be identified by relevant responsibility centre

¹² Identify your alternate sites (first alternate site and Tertiary site)

¹

	Succession plans/ cross trained staff/ detailed SOPs	Alternate sites ¹² (staff relocation)	Re-establish systems and network interfaces	Establish Comms	Alternate means (Telework/ virtual officing/ other service providers)			

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