

MULTI-DAY BLACKOUT IN AN INDUSTRIAL SEAPORT

THE FIRST CRISIS-AGENDA OF THE BUSINESS SPECIALIST

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A blackout is a large-scale and prolonged — often sudden — loss of electricity, typically caused by a disruption in the power grid. Given the increasing reliance on technology and IT systems, even short-term power outages can have far-reaching consequences, let alone those that last several days or occur for an indefinite period.

This article, authored by professionals from Kappetijn Safety Specialists, examines the impact of a multi-day power outage on a seaport. It explores what actions businesses should take to mitigate damage during an outage and how they can best prepare for a restart. While emergency power supply is a critical element, it is by no means sufficient on its own...



In case of blackout: all is connected

A Strategic Sector Under Threat

The Netherlands is a nation built on trade and transport, with its seaports serving as critical hubs for maritime, industrial and logistical activities within our economic infrastructure. These ports provide fast and efficient access from the open seas to the European hinterland. Goods arriving in the Netherlands are swiftly processed and reliably distributed to customers via waterways, rail, road and pipelines.

The seaports of Rotterdam, Moerdijk, Vlissingen, Amsterdam, and Groningen are inter-connected through the BOZ (National Port Consultation Body) and are designated as 'ports of national strategic importance'. As such, they collaborate with relevant ministries, focusing on both the nautical and industrial opportunities and threats — particularly from a long-term perspective.

In Motion

Ports operate around the clock. Industrial processes often run 24/7, ships are constantly arriving and departing, and containers, dry and liquid bulk cargo, ro-ro and goods are being loaded, unloaded, stacked, and transported. Logistics processes ensure that goods reach their correct

destination on time. From the largest container terminals in Rotterdam and Moerdijk to the smaller, specialized ports, everything revolves around efficiency, speed, and seamless integration.

Electricity plays an undeniable role

in all of this. From powering cranes and forklifts to enabling digital systems for inventory management, communication, security, and lighting across transport modes—without electricity, operations in a port come to a halt almost immediately.

The Blackout Scenario

A blackout can result from extreme weather conditions such as frost, freezing rain, or heavy precipitation, as well as from technical failures within the grid or incidents related to terrorism, war or cyberattacks. The area affected by a blackout can range from a single region to a vast geographical zone, depending on the scale of the disruption.

In the context of a seaport, a blackout impacts not only the port itself but also the surrounding areas—such as logistics hubs, distribution centres, infrastructure, guidance and safety systems, and factories that rely on the port for their supply chains.



Life-Threatening Situations

At the onset of a blackout, the power supply is completely lost, and the consequences are often immediately noticeable. There is often little or no time to react. Businesses, ports, transport companies, industries, as well as emergency services, fire departments, and other public agencies are simultaneously confronted with major disruptions.

In a port environment, this means that access control systems and cranes cease to function, computer systems shut down, and lighting, navigation systems, and shore power stop working. Communication between various departments—from port management to shipping—comes to a standstill. As a result, ships can no longer be loaded or unloaded, container traffic halts, and trucks operating within the port or at a terminal—dependent on GPS—can no longer navigate their routes.

Beyond the technical aspects, a blackout quickly affects human well-being: heating and climate control systems fail, access to buildings and areas becomes impossible, and individuals may become panicked or disoriented. Employees become acutely aware that what's happening at work is likely occurring at home as well. The failure of technical installations can rapidly lead to life-threatening situations.

The Impact of a Blackout on Seaport Operations

Several key consequences of a blackout include:

01.

Delays in Cargo Handling

The loading and unloading of vessels rely on advanced technology and electricity to power cranes and other mechanical systems. Without electricity, these operations come to a halt, resulting in delays for ships that cannot

depart or arrive. This impacts not only the vessels themselves but also the shipping companies, which are unable to maintain their sailing schedules.

02. Loss of Data and Logistics Information

Seaports and their associated businesses use automated systems to manage information related to cargo, containers, and freight. In the absence of electricity, these systems shut down, rendering critical data inaccessible. This makes it nearly impossible to track goods in a structured way, leading to uncertainty about their origin and destination.

03. Loss of Production Capacity

Many companies located

in seaports depend on a continuous supply of raw materials and goods. Access gates and entry/exit points are typically electrically operated. A prolonged power outage can drastically reduce production capacity, potentially shutting down factories and delaying product deliveries. Concerned about their own homes, employees may want to leave, and new shifts may fail to arrive or be limited. This can cause significant economic damage, especially for perishable goods or items tied to strict delivery deadlines.

04. Logistical Chaos

Many ports function as key hubs for the transportation of goods via trucks, trains, and ships. Traffic management across all these

transport modes is electronically controlled. During a prolonged blackout, logistics systems cease to function, preventing trucks from being unloaded, limiting access to the port, and disrupting the flow of goods.

05. Loss of Reputation and Brand Damage

Companies involved in port operations risk reputational damage if they are unable to serve their customers on time. While there may be understanding regarding the uncontrollable nature of a blackout's cause, there will also be an expectation that companies have taken adequate measures to mitigate the impact of prolonged outages.

Leadership with Decisive Authority: Business Specialist

A large-scale blackout crisis is not easily managed—it requires all hands on deck. Decisive leadership with the authority to make critical decisions is essential. It is crucial that the Business Specialist in the crisis structures of a company has a clear overview of which processes must be initiated... in the event of an impending blackout, with support from the appropriate colleagues.

However, a blackout can complicate or even completely disrupt communication, meaning that the Business Specialist must operate under extremely challenging conditions.

Business Specialist's Initial Agenda

When confronted with a power outage, it is crucial to create an overview to structure and prioritize the initial actions: what's on the starting agenda. In the event of an impending blackout, the following 10 issues should be prioritized and addressed:

01. Verification of Information:

Is the information about the imminent blackout coming from one or more reliable sources? What information can the port authority provide? What sources are used for information and when is information verified enough?

02. Emergency power:

Is there emergency power and/or an uninterruptible power supply (UPS) available, and if so, how long can the connected business units continue to operate? Is it possible to refill fuel for the emergency power supply if it is running low? What must

be arranged at a minimum before the emergency power runs out?

03. Complicating Factors:

Are there issues such as bad weather, holiday periods, public holidays, or the time of day that may complicate safely shutting down operations? How can these challenges be mitigated, at least in part?

04. Sufficient Core Staffing:

Are there enough personnel and contractors on-site to initiate and manage a complete shutdown?

05. Communication:

How and for how long can communication be maintained with contractors and visitors, global/HQ, incoming shifts, utility suppliers, emergency services, and employees' families?

06. Securing IT Systems:

What is required to ensure that critical data is securely stored? Does the shutdown (and preservation!) of IT systems align in the timeline with the shutdown of production processes?

07. Security Levels:

Is the security team capable of

maintaining a minimum security level to address any security dilemmas that may arise?

08. Personnel Flow On-Site: Can security effectively manage vehicle and personnel movements on-site, even after the blackout?

Conclusion

A prolonged power outage in a seaport can have far-reaching consequences for port operations and the businesses operating there. From delays in cargo handling to the loss of data and production capacity, the impact is significant. Companies must be well-prepared for such crisis situations by implementing robust crisis management plans and backup systems. Only by responding quickly and effectively can businesses minimize their losses and become operational again once power is restored.

The key position for companies lies in the role of the Business Specialist: the management role in the emergency organization, often filled on a 24/7 shift basis. This role also holds the mandate from management to make far-reaching decisions. The organization must be well-prepared, and the Business Specialist must be comfortable in this role. Connection with the port authority is a crucial factor. Since blackouts do not always occur on a Tuesday morning with clear skies and 20 degrees Celsius, but often at night or during weekends, when it's freezing or snowing at minus 3 degrees, and most of the management team and executives are at home or at the theatre...

09. Risks in Case of Power Outage: Is there a clear understanding of the significant risks to which colleagues may be exposed if the power suddenly and uncontrollably goes out?

By answering the above questions as quickly as possible and initiating the corresponding actions, it becomes clear what the potential consequences could be for production, data preservation, communication, personnel, site security, and the surrounding area. In a port environment, existing communication structures between the company and the port authority's control centre can be leveraged. The primary responsibility for managing this within the company lies with the Business Specialist.



10. Calling and Staffing the Crisis Management Team (CMT): Which CMT members do I need in my crisis management team if the power actually goes out, and can I reach them?



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