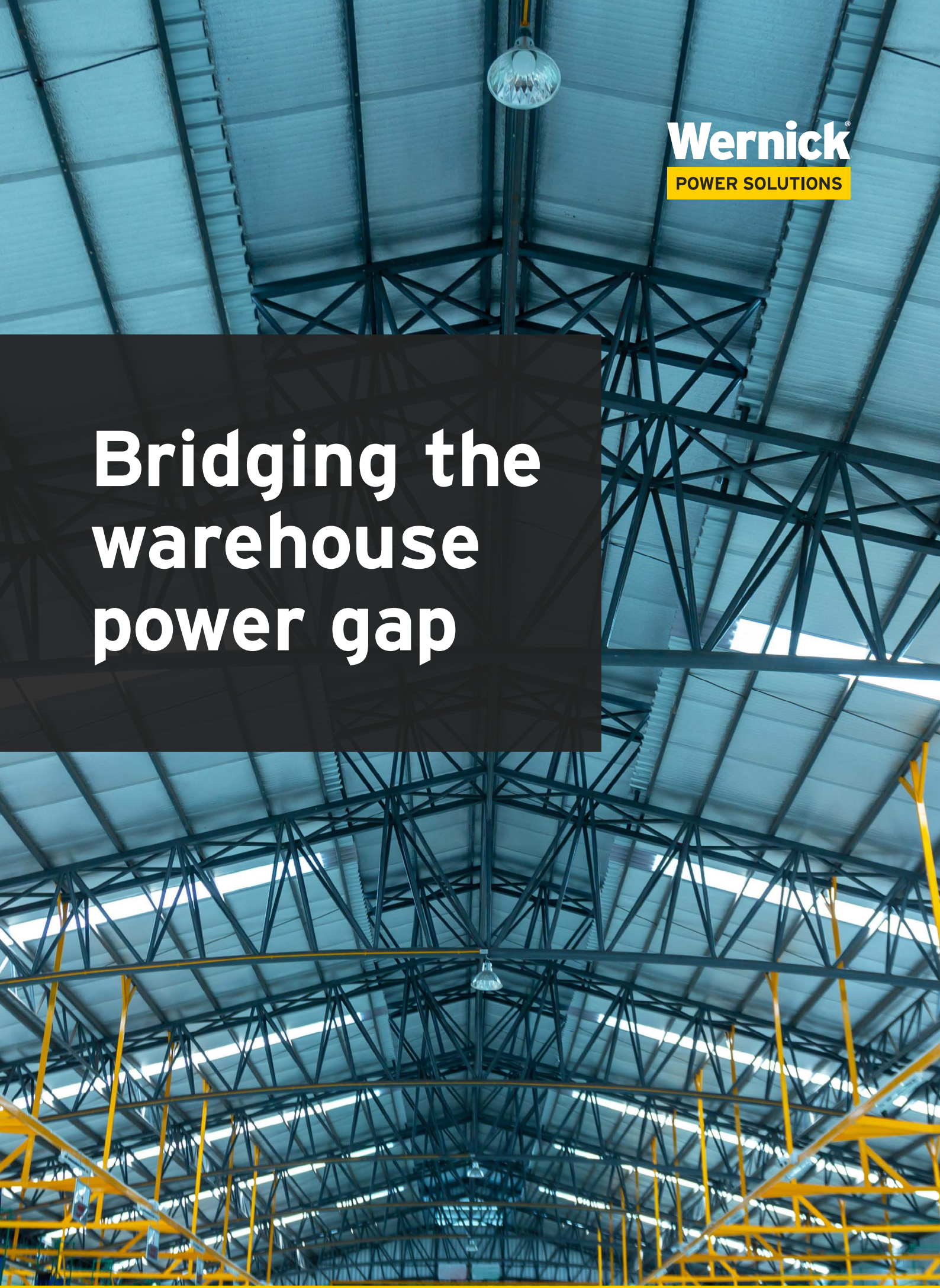

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Bridging the warehouse power gap

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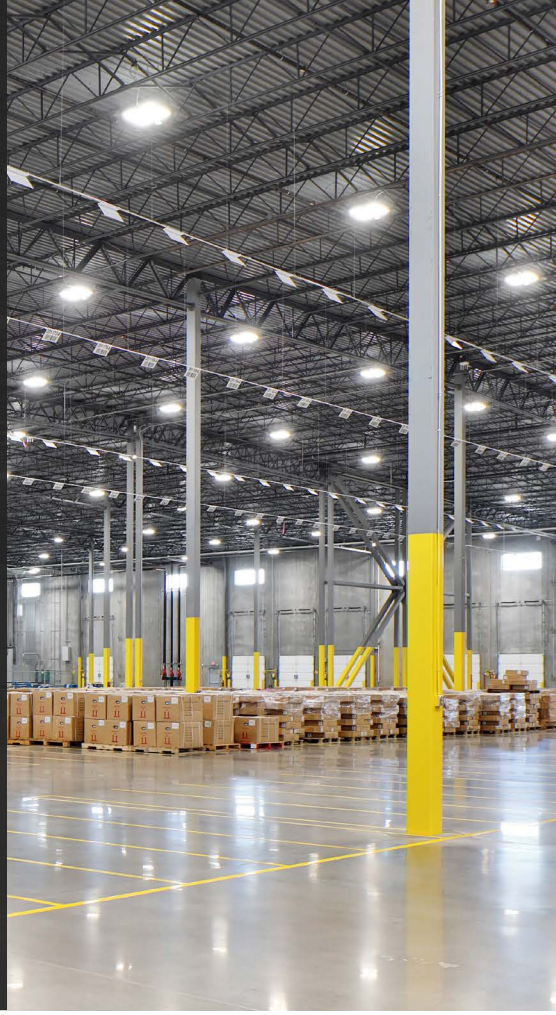


EXECUTIVE SUMMARY

Warehouse projects are increasingly reaching a stage where buildings and systems are ready to go, but permanent grid power is not. Assumptions made earlier in the project delivery programme don't always play out as expected by the time sites are approaching completion. Connection delays, phased capacity releases and wider network constraints can all change power supply timelines.

When that happens, temporary power stops being a short-term site arrangement and starts to play a much bigger role. It is often required to support commissioning, testing and early operational activity, sometimes for longer than originally expected. In warehouse environments, this can include automation and material handling systems, refrigeration or temperature-controlled processes, security infrastructure, lighting and controls. Demand rarely stays fixed, with loads building as systems are brought online, placing pressure on temporary arrangements that were never intended to operate at that level.

This brings different risks into focus for different teams. Developers and asset owners are exposed to programme and reputational pressure if facilities cannot be commissioned or operated as planned. Contractors and M&E teams carry integration risk, particularly where temporary power is introduced late or without a clear approach to how demand will grow and how handover will work. Facilities and sustainability teams may then inherit temporary systems that were designed for construction rather than ongoing use, often under scrutiny around cost, emissions and reporting.

This report looks at how warehouse projects can keep moving when permanent grid power is delayed or constrained. It draws on situations that teams recognise in practice, including grid-connection bridging, commissioning support and short-to-medium-term operational use. Rather than offering prescriptive solutions, it focuses on the realities that tend to shape outcomes once temporary power becomes central to delivery.

IN THIS REPORT:

Why traditional temporary power approaches fall short in warehouses

As warehouses become more operationally complex, temporary power is increasingly expected to support activities that go well beyond basic site services, often without changes to how it is specified or procured. **In practice, this exposes a number of weaknesses.**

! TIMING AND LATE INTRODUCTION

One of the most common challenges is timing. Temporary power is frequently introduced late in the project delivery programme, once delays to permanent grid connections have become unavoidable. At this point, decisions are often made under pressure, with limited opportunity to understand how demand will change during commissioning and early operation. What begins as a short-term requirement can quickly extend in both duration and complexity, with temporary systems expected to support live activity rather than basic construction needs.

! INTEGRATION AND ACCOUNTABILITY

When temporary power is treated primarily as a hire item, rather than part of the delivery strategy, responsibilities can become unclear. Contractors, power providers and site teams may operate alongside one another rather than in coordination, creating gaps in oversight. This can lead to issues around fuel management, emissions performance, noise constraints and reporting, particularly on sites with sustainability commitments or sensitive operating conditions.

! INCREASING AND PHASED DEMAND

Warehouses differ from many other environments because electrical demand typically increases in stages. Early requirements may be limited to lighting, welfare and basic systems, but demand grows as automation, material handling equipment, refrigeration, security systems and controls are commissioned and tested. Traditional temporary power solutions are often sized for an initial snapshot, rather than a progressive load profile, increasing the risk of inefficiency, instability or costly reconfiguration.

! HANDOVERS AND EXTENDED USE

Operational teams are often brought into the conversation late. Facilities and sustainability teams may inherit temporary systems that were designed for construction rather than operation, with limited visibility over performance or a clear plan for how arrangements will be scaled back or removed once permanent power becomes available. This can result in inefficiencies, avoidable cost and pressure to justify arrangements that were never intended to operate at scale or for extended periods.

Recognising these weaknesses is an important step before considering how temporary power can be used more effectively during key phases of delivery.

Common warehouse power scenarios

Warehouse power requirements rarely fall into a single category. Temporary power is typically introduced in response to specific situations that arise at different stages of a project, each with its own risks and constraints. Understanding these scenarios is essential, as temporary power is often expected to perform very different roles depending on timing and use.

SCENARIO A
GRID-CONNECTION BRIDGING

In this situation, a warehouse is structurally complete or nearing completion, but permanent grid power is delayed or released in phases. Temporary power is required to bridge the gap between build completion and operational readiness. During this period, systems may need to support commissioning, testing and early operation, often for longer than originally planned.

SCENARIO B
COMMISSIONING AND TESTING SUPPORT

Even where permanent power is expected on time, temporary power is often required to support phased testing of automation, material handling systems, refrigeration or control infrastructure. These activities can place variable and concentrated loads on power systems and typically occur before full handover, making predictability and stability critical.

SCENARIO C
OPERATIONAL UPLIFT OR RESILIENCE

Some warehouses require additional capacity to support peak trading periods, system upgrades or resilience planning. In these cases, temporary power may operate alongside permanent infrastructure, supplementing capacity rather than replacing it. This introduces additional considerations around integration, control and ongoing performance.

Why scenarios matter

Across all scenarios, a common factor is that power demand is not static. Loads evolve as warehouses move from construction into operation, and temporary systems must accommodate this progression without creating inefficiency or disruption. Treating these scenarios as interchangeable often leads to avoidable risk.

Temporary power in warehouses is rarely a single, short-term requirement. Whether bridging a grid delay, supporting commissioning or supplementing live operations, each scenario places different demands on power systems. **Recognising which situation applies is critical to reducing programme, operational and compliance risk.**

What effective temporary power planning looks like in warehouses

Once the temporary power scenario is understood, planning needs to focus on how power demand will change over time. In warehouse environments, effective temporary power planning is less about meeting a single capacity requirement and more about anticipating how systems will be used as the project progresses.

PHASED LOAD GROWTH

Power demand typically increases as equipment is installed, commissioned and tested, and may continue to evolve as operations ramp up. Temporary power arrangements that are sized for an initial stage can become inefficient or unsuitable if this progression is not considered early.

PREDICTABILITY AND CONTROL

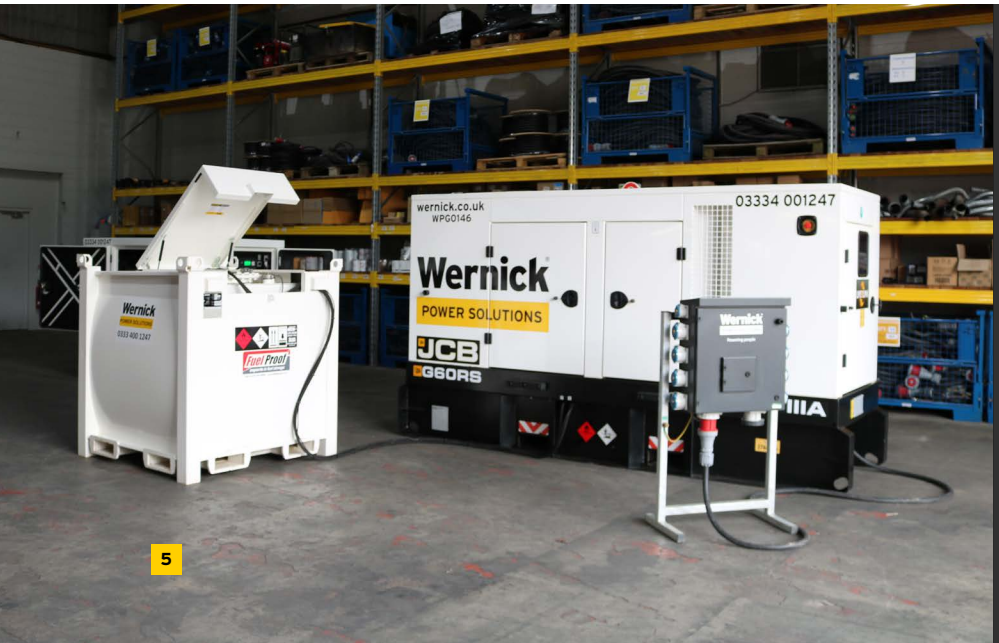
Commissioning and handover activities often operate to tight programmes, where interruptions or instability can cause disproportionate delays. Temporary power needs to perform consistently, with clear arrangements for monitoring and managing performance during critical phases.

INTEGRATION

This should be addressed from the outset. Temporary systems may need to interface with permanent infrastructure or operational controls. Without clear integration planning, responsibilities can become unclear, increasing delivery risk.

DURATION AND EXIT

Temporary power use frequently extends beyond its original timeframe as grid timelines change. Planning for how systems will be scaled back or removed once permanent power becomes available helps avoid unnecessary cost and disruption later.



Planning beyond day one

In warehouse projects, temporary power demand almost always changes over time. Anticipating phased demand, integration requirements and realistic durations helps ensure temporary systems support delivery rather than constrain it.

> **Temporary power decisions often sit across delivery, operations and sustainability teams, each with different expectations and pressures**

Operational and sustainability considerations in warehouse power planning

In warehouse projects, temporary power decisions are rarely made in isolation. They sit alongside operational expectations, sustainability commitments and, increasingly, the need to explain how temporary arrangements will perform if they remain in place longer than planned.

From an operational perspective, warehouses are often working to tight programmes where commissioning, testing and early use overlap. Temporary power may be supporting live systems at a point when there is little tolerance for interruption. In these situations, visibility matters. Teams need confidence in how systems are performing day to day, how fuel is being used and whether arrangements are stable enough to support ongoing activity.

Sustainability considerations also tend to surface earlier than they once did. Even during temporary phases, questions are often asked about emissions, noise and efficiency, particularly where sites sit close to communities or within organisations with established sustainability targets. When temporary power use extends beyond initial assumptions, the ability to evidence performance becomes more important.

These considerations often span different roles. Project teams are focused on maintaining momentum, while operational and sustainability teams are concerned with longer-term impact and accountability. Where expectations are not aligned early, temporary power can become harder to manage rather than something that supports delivery.

Recognising these pressures upfront helps ensure temporary power arrangements sit comfortably within both delivery and operational contexts.

What good temporary power provision looks like in practice

Where temporary power is planned effectively for warehouse environments, it shares a number of common characteristics. These are less about specific technologies and more about how power is approached as part of the wider delivery.

EARLY CONSIDERATION

This is one of the clearest indicators of good practice. Temporary power performs best when it is discussed before grid constraints become urgent, allowing assumptions around duration, load growth and integration to be tested rather than reacted to. This creates space to plan for change, rather than manage it under pressure.

CLEARLE DEFINED RESPONSIBILITIES

Temporary power arrangements tend to work best when it is understood who is monitoring performance, who is managing changes as demand evolves, and who is coordinating interfaces with other systems. Where this definition is missing, issues can remain unresolved or be passed between parties, increasing disruption at precisely the wrong point in the programme.

DESIGNED TO SCALE

Warehouse projects benefit from temporary arrangements that can adapt as demand increases, rather than being fixed around an initial requirement. This reduces the need for disruptive changes as commissioning and early operations progress.

TRANSPARENCY

Performance, fuel use and operating conditions are visible and understood, allowing teams to make informed decisions and explain temporary arrangements when required.

Together, these characteristics help ensure temporary power supports delivery and operation, rather than becoming an additional source of risk.

Temporary power arrangements that are discussed early and designed to scale are far less likely to require disruptive changes during commissioning and early operations.

> **Temporary power challenges are more often linked to late decisions and unclear ownership than to a lack of technical capability**

When temporary power introduces avoidable risk

Temporary power introduced late in warehouse projects often brings challenges during commissioning and early operation. These issues are rarely technical in isolation. More often, they relate to timing, expectations and how responsibility is managed once systems are in use.

! LATE DECISION-MAKING

When grid delays become apparent close to completion, temporary power is often brought in quickly to protect programme dates. In these circumstances, arrangements are typically sized around immediate requirements, with limited allowance for how demand will change as commissioning progresses. As loads increase, systems may need to be adapted or supplemented, introducing disruption at a sensitive stage of delivery.

! UNCLEAR RESPONSIBILITY

Where it is not defined who is monitoring performance, managing changes or coordinating interfaces, issues can remain unresolved or be passed between teams. This becomes particularly difficult during commissioning, when activities are tightly sequenced and there is limited tolerance for delay.

Temporary power also often remains in place longer than originally anticipated. Without appropriate oversight and performance visibility, extended use can place additional pressure on operational teams and make ongoing arrangements harder to justify or explain over time.

Taken together, these risks tend to arise when temporary power is treated as a short-term contingency rather than as part of the wider delivery context.

How temporary power decisions are tested in practice

On warehouse projects, the effectiveness of temporary power decisions is most clearly tested once sites move into commissioning and early operation. At this stage, assumptions made earlier in the project delivery programme are exposed to real conditions, changing demand and tighter time constraints.

Temporary power planned with limited flexibility can quickly become harder to manage as activities overlap and loads increase. Small changes to sequencing or programme can have a disproportionate impact where systems are already operating close to their intended limits. In contrast, arrangements that were planned with change in mind tend to absorb these pressures more easily as commissioning progresses.

This period also brings greater scrutiny. Once temporary power is supporting live activity, performance, fuel use and reliability become more visible. Operational and sustainability teams are often more closely involved at this stage, sometimes having had limited input into earlier decisions, but now carrying responsibility for ongoing performance and impact.

As temporary arrangements remain in place, often for longer than originally planned, confidence becomes increasingly important. Teams need to understand whether systems are performing reliably, whether demand is being managed effectively and whether temporary power can continue to support operations without regular intervention. Where this information is available and easy to explain, temporary power tends to settle into the background. Where it is not, concern can grow over time, even if systems remain technically capable.

In practice, many temporary power challenges arise not from failure, but from uncertainty around performance and impact once systems are in use.

WHAT CHANGES WHEN SITES GO LIVE

- Demand becomes less predictable
- Activities begin to overlap
- Tolerance for interruption reduces
- Performance is more closely scrutinised

"Temporary power is often checked at installation, but judged on how it performs over time"

How temporary power fits into warehouse delivery

On many warehouse projects, temporary power is introduced to address a specific issue, most often linked to programme pressure or delays to permanent grid connections. But once in place, it often supports commissioning, early operation and, in some cases, longer periods of use than originally anticipated.

What emerges across projects is a difference between how temporary power is expected to behave and how it is experienced once sites move into live activity. Where it is treated purely as a short-term measure, decisions tend to be made late, responsibilities can be unclear and systems may be asked to operate beyond their original intent. Where temporary power is considered alongside delivery and operational needs, it is more likely to support progress in a predictable way.

The distinction is not usually technical. More often, it relates to timing, expectations and the availability of information once systems are in use. Projects that allow for change, establish responsibility early and maintain visibility over performance tend to experience fewer issues as temporary power supports ongoing activity.

For warehouse teams, this means thinking about temporary power in terms of how it will operate over time, how it will be understood by different roles and how its performance can be explained if arrangements extend.

Approached in this way, temporary power becomes easier to manage as part of the overall project environment, even where uncertainty around permanent connections remains.

> **"Temporary power often starts as a short-term response, but its impact is shaped by how it is planned and managed over time"**

Temporary power is unlikely to become less important on warehouse projects in the future. Grid constraints, phased connections and programme pressure mean that temporary arrangements will continue to play a role in supporting commissioning, early operation and, in some cases, extended periods of use.

What this report highlights is not the need for more complex solutions, but for more considered thinking. Many of the challenges associated with temporary power do not stem from technical limitations, but from how and when decisions are made, how responsibilities are defined and how performance is understood once systems are in place.

Where temporary power is approached with a clear view of how demand may change, how long arrangements may realistically remain in place and how they will be managed day to day, it is more likely to support delivery rather than distract from it. Confidence is built through predictability, visibility and shared understanding across project and operational teams.

For warehouse decision-makers, this means recognising temporary power as part of the wider delivery environment rather than a separate, short-term fix. When treated in this way, temporary power becomes easier to manage, easier to explain and better aligned with both programme and operational needs.

In an environment where uncertainty around permanent power remains a reality, this approach provides a more stable basis for moving projects forward.

Wernick Power works with warehouse developers, contractors and operators to support projects where permanent grid power is delayed or constrained. Our focus is on helping teams plan, manage and operate temporary power in a way that supports delivery, commissioning and early operation, without adding unnecessary complexity.

To discuss a specific project or scenario, email Martin Malone at martin.malone@wenick.co.uk to organise a call.

Email Martin

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