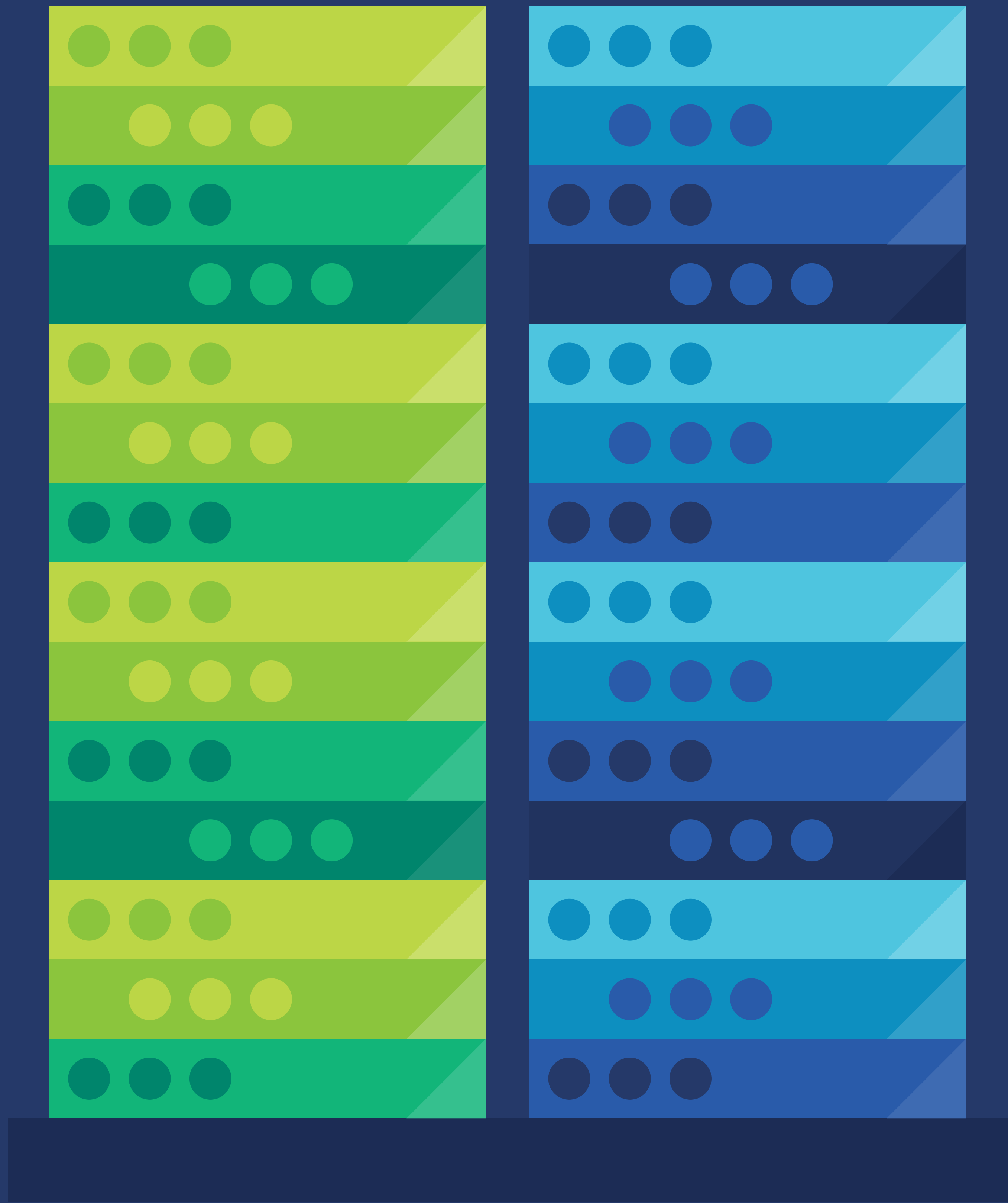
AusNet | bespoke energy

Integrating Data Centres

Prioritising power system integrity challenges in the NEM

White Paper – June 2026



ausnet.com.au

Acknowledgement of Country

AusNet acknowledges Aboriginal and Torres Strait Islander people as the Traditional Custodians of the lands on which we live and work. We pay our respects to Elders past and present, and celebrate their continuing connection to Country.

About the artist

As part of our reconciliation action plan we have commissioned an artwork by the artist Bitja (also known as Dixon Patten). A proud descendant of the Gunnai, Gunditjmara, Dhudhuroa, and Yorta Yorta tribes, with blood ties to Wiradjuri, Yuin, Wemba Wemba, Wadi Wadi, Monaro and Djab Wurrung, Bitja is deeply connected to his roots.

The artwork honours the strength in being part of a community, it honours our commonality as humans, but honours our diversity also and by having different views and experiences.

See AusNet's Reflect Reconciliation Action Plan

Foreword

The emergence and expansion of large-scale data centres presents both significant opportunities and complex challenges for the National Electricity Market (NEM).

In Victoria, we are seeing this play out firsthand. Strong development fundamentals have seen clusters of new projects forming around key Victorian terminal stations, with GW-scale interest across transmission and distribution networks generating state significant benefits. At the same time, decision makers are grappling with how much of this load will proceed, with advanced interest already exceeding current system capacity.

This white paper was developed to give industry a clearer, more practical understanding of what that growth means for the power system in Victoria and NEM, including technical and operational implications of connecting and operating data centres.

It draws on our experience as the operator of the Victorian transmission network and Bespoke Energy's technical expertise enabling the safe connection on data centres. It is grounded in Australian and international evidence, particularly in markets with substantial data centre load and precedent of grid-scale disturbance events. Its focus is on power system integrity challenges – especially with the Victorian grid and how their integration differs from traditional loads.

The central finding is simple: data centres behave differently from the type of loads the NEM power system was historically designed for. As large inverter-based loads, they can respond to disturbances and signals in a way that is faster, less predictable and more likely to cause power system stability issues than traditional industrial demand. If unmanaged, these behaviours can have an adverse power system impact beyond our existing operational controls.

This matters because the upside is significant. The digital economy is forecasted to drive A$1 trillion in data centre investment across Asia-Pacific by 2030, with each GW capacity associated with up to A$22 billion of construction capital, hundreds of direct jobs and many more ancillary jobs throughout the wider economy.

This paper's message is that large-scale data centres can be integrated safely in our power system – as long as we take a considered, coordinated approach and with co-designed solutions grounded in real-world experience.

Sharing our technical insights with the broader electricity industry is an essential first step to address differing expectations about what is technically required and practically achievable. We have identified issues and solutions that will be relevant to jurisdictions across Australia seeking to safely integrate the rapid growth of data centres.

We also believe that the collective knowledge and experience of network operators, data centre proponents and market participants will be critical to developing coordinated frameworks and practical solutions that serve industry and end users. The issue is not unwillingness; it is limited mutual visibility of each party's perspectives, challenges, constraints and needs.

Lastly, we are encouraged by the progress already being made and remain confident that, through continued collaboration and the sharing of technical evidence, our industry can address the most pressing power system risks, and close process and information gaps. This recognises data centre design and operational behaviours are evolving at a faster pace than we have seen for other grid-connected plant.

We invite all stakeholders—industry leaders, technical professionals, and policy makers—to join us in this endeavour.

By working together, leveraging diverse perspectives and expertise, we can proactively support power system security and Australia's continued digital and economic growth.

Laura Walsh
General Manager, Network Management (Transmission), AusNet

Babak Badrzadeh
Managing Director, Bespoke Energy

Authors note

The information contained within this White Paper was developed by March 2026. We have not sought to update information to reflect new developments that may have occurred before publication.

Purpose

- Share insights into the technical components of data centres and how they interact with the power system
- Identify the most pressing power system integrity risks for data centre integration in Victoria and the NEM
- Share our views on areas for industry collaboration: including a priority set of near-term actions to integrate data centres via a data centre enablement framework

Authors

Babak Badrzadeh
Managing Director, Bespoke Energy

Sorrell Grogan
Director, Bespoke Energy

Jason Jina
Policy & Reform Manager, AusNet

The authors would like to thank the following colleagues for their valuable contributions:

Bespoke Energy

Nilesh Modi, Principal Consultant

AusNet

Luke Clough, Director Engineering
Lulu Shao, Director Power Systems
Sarthak Manocha, Planning Engineer
Melanie Tan, Director Network Development & Planning
Jack San, Senior Manager Policy
Lucy Holder, Customer Engagement Manager
Riana Harley, Creative Lead

Executive summary

This Paper offers insights on data centre-power system interactions and a pathway to their safe integration

We share technical insights into how data centres interact with our electricity system and our perspective on the priority implications on system security, planning and operational decisions for both data centres and the wider power system as new development proceeds.

It also offers our views on a practical set of near-term actions (0-2 year period) to integrate data centres into the power system, built on collaboration between power system and data centre industries in the National Electricity Market (NEM).

Our approach leverages real-world Australian and international evidence and expert insight from AusNet and Bespoke Energy across grid connection, network planning and power system operations. We have not sought to conduct independent power system modelling.

While this Paper is largely centred on our experience in Victoria, its insights and actions are directly relevant to the NEM.[1]

What are power system interactions?

Power system interactions refer to the technical and operational consequences of data centre connection and operation for customers, data centre operators, the Australian Energy Market Operator (AEMO) and network service providers. Examples include how the exchange of energy between the data centre and the power system affects, or can be affected by, changes in frequency and voltage performance, power quality, protection adequacy, security of supply and the way different parties plan and operate their assets.

This Paper does not attempt to resolve issues outside of data centre related power system integrity challenges in the NEM. For example, other known challenges related to data centre integration in the power system (e.g. accuracy of demand forecasts, cost allocation) or other critical infrastructure requirements (e.g. efficient use of water).

Data centres are expected to grow rapidly worldwide, including in Victoria

Worldwide adoption of cloud-based computing and artificial intelligence services is forecast to drive A$1 trillion of investment in data centres within the Asia Pacific region by 2030.[2] Australian electricity network service providers are seeing this growth play out firsthand, observing an unprecedented wave of interest from data centre developers seeking connection to the national electricity market.

Victoria is now a hub for data centre development – reaching 338 MW of live IT capacity in 2025.[3] Its appeal is driven by strong development fundamentals including:

- larger, accessible land parcels
- timely and reliable grid connection
- access to a high capacity 500 kV transmission backbone
- relatively timely planning approvals
- strong fibre connectivity to Asia-Pacific
- a growing skilled workforce.

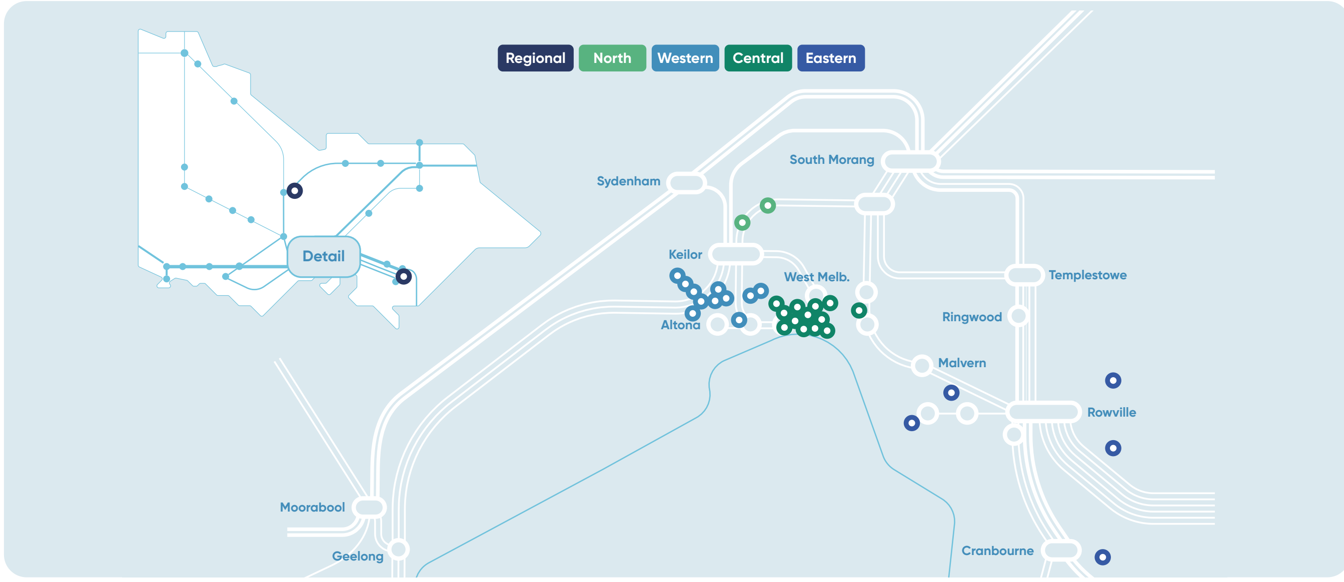
Further commitments from industry and the state government are expected to grow Melbourne as a cloud region.

Victoria is expected to increase its share of data centre demand in the NEM from approximately 25% today to 33% by 2030 and over 40% longer-term.[4] Clusters of future development are forming at key Victorian terminal stations and substations, with gigawatts (GWs) of interest across transmission and distribution electricity networks. While not all interest will proceed, advanced interest exceeds the current system capacity and is driving a race to connect. There has been an increased focus on efficiently coordinating data centres with existing and planned network capacity.

This Victorian data centre pipeline is a step change from development to date, which currently consists of predominantly smaller distribution-connected facilities centred around 'availability' zones in north, west and central Melbourne metro (see **Figure 1**). Today an individual data centre can be in the hundreds of MWs and beyond.

1. Note under Victoria's declared shared network (DSN) arrangements, VicGrid oversees planning of the Victorian transmission system and manages connection applications to this network including performance requirements and approval. AusNet owns, operates and replaces DSN transmission assets including high voltage lines, stations and connections. It also works alongside the Australian Energy Market Operator (AEMO) retaining operational responsibility to keep the DSN secure.

2. Moody's, APAC Data Centres: Dispersed growth, unique challenges report, 2025. Applied an exchange rate of 0.67 AUD/USD
3. Knight Frank, Data Centres The Asia Pacific Report, 2025
4. AEMO, 2025 Inputs, Assumptions and Scenarios Report, July 2025



▲ **Figure 1:** Map of operating data centres in Victoria[5]

Managed well, Victorian data centre growth brings benefits to our local economy and potentially our electricity system

In an increasingly digitised world, data centres play a central role in our everyday lives. As critical IT infrastructure, they provide a variety of consumer and business services ranging from high-performance computing and cloud services to AI productivity and automation tools. These digital interactions enhance living standards, productivity and innovation.

The digital economy is driving economic growth and now comprises about 15% of global GDP (~US$16 trillion), growing 2.5 times faster than the rest of the economy.[6] Each GW of data centres developed results between $A13-22 billion in construction capital spent, with additional value attainable through future expansion.[7] A typical hyperscale facility creates hundreds of direct, permanent jobs once operational. Each of these direct jobs helps to create 7.4 ancillary jobs throughout the wider economy.[8]

Data centres can also offer some benefits to the electricity system on a project specific basis. This includes funding network upgrades that other consumers use (i.e. terminal station establishment costs, new switchyards or transformers) and partnering with renewable developers to underwrite energy through power purchase agreements.

Chapter 1 covers the services data centres provide, their benefits, current state of development in Victoria, grid connection challenges and how the power system must evolve.

Safely connecting and operating data centres within our power system is a key challenge to unlocking their benefits

From a power system perspective, there is a growing appreciation that data centres' electrical behaviours are fundamentally different from traditional industrial loads. Most conventional large loads – such as factories and processing plants – are static, predictable and have well understood interactions with power system security.

Data centres on the other hand are a new class of inverter-based loads.

Data centres – key components and classification

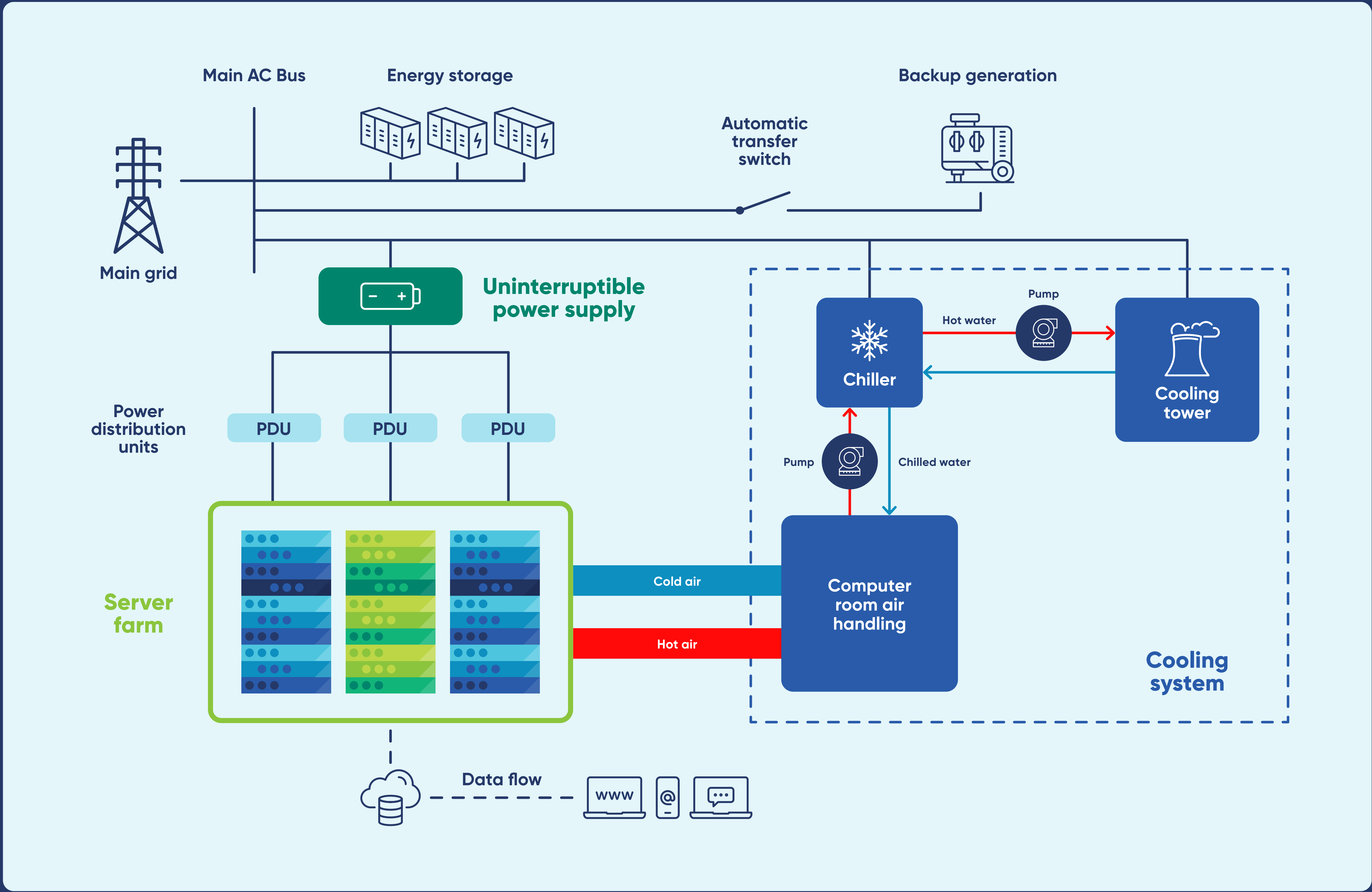
From a grid interaction perspective, a data centre is best represented as two interacting elements:

a) the Server Farm, comprising large numbers of individual servers that perform data storage, processing, hosting and other activities, which sets the MW demand profile during normal operation.

b) the Uninterruptible Power Supply (UPS) manages the data centre's transition to stored energy, which determines how a data centre responds to a grid-side disturbance and the net-impact on the power system.[9]

5. RenewMap – as of 21/02/2026
6. International Data Center Authority, Global Digital Economy Report, 2025
7. Cushman & Wakefield, Data Centre Development Cost Guide, 2025. Applied an exchange rate of 0.67 AUD/USD.

8. CBRE, Data Centre growth has economic ripple effects article, 2024
9. Cooling Systems while critical to data centre operations are usually second-order priority as they typically only represent a small fraction of the data centre's power usage and interface size.



▲ **Figure 2:** A typical data centre components and interconnection[10]

10. Journal of IEEE transactions on automation science and engineering, A complete model for modular simulation of data centre power load, 2017

At a high level, data centre classification varies greatly across physical form (e.g. scale, siting and the balance of IT vs cooling loads), ownership (e.g. who controls workload scheduling and the practical demand-response envelope), functional role (e.g. specific workloads drive dynamic demand of power) and redundancy approach. These variations influence the net behaviour at the connection point.

Physical form	Ownership model	Functional role	Uptime tier
Enterprise (on premises)	Enterprise (on premises)	AI training or inference	Tier I Single path, No redundant components
Edge/Micro	Colocation (multi-tenant data centre (MTDC))	High-performance computing (HPC) / simulation / rendering	Tier II Single path, N+1 (one spare) components
Modular/ Containerised	Cloud / hyperscaler	Disaster recovery (DR)	Tier III Concurrent maintainability (dual A/B paths; N+1)
		Telecom / network	Tier IV Fault-tolerant, 2N (two independent full-capacity paths)
		Content Delivery Network (CDN) / edge cache	
		Price-sensitive compute	

▲ **Table 1:** Classification type summary

Chapter 2 provides an overview of the key components of data centres that affect grid interactions and how they are classified, as context for the deeper analysis of data centres and power systems in subsequent chapters.

The following unique behaviours have been observed and indicate that uncoordinated integration of data centres can have material system-level impacts:

Fault ride through and recovery capability for common power system faults

The ability for a data centre to 'ride through' (i.e. stay connected) to the power system during and after grid disturbances (i.e. loss of circuit, generator or load) is critical for maintaining grid stability.

The behaviour of large data centre loads during disturbances can have the same impact on the power system as large generators, because sudden drops or increases in energy consumption can push the frequency and voltage beyond safe operating limits triggering generator or load shedding.

For example, an abrupt reduction in load can result in over-frequency and voltage rise, prompting generator run-back or, in more severe cases, generator trips due to over-frequency generation shedding schemes. Whereas a large, coincident reconnection or rapid load ramp can contribute to under-frequency and activate automatic load shedding schemes.

Traditional industrial loads typically ride through short dips and continue drawing energy from the grid. By comparison, the involvement of data centres in large-scale system disturbances is a growing phenomenon internationally, with the impact on the power system aligned with the size of individual or geographical concentration of facilities.

International precedent confirms data centres may:

- detect a single disturbance and transfer critical load to their UPS and if conditions persist, on-site generation. To the grid this appears as a sudden MW drop followed by staged reconnection.
- remain online through a single dip but transfer to their UPS (or stage shutdowns) if multiple dips occur within about one minute (e.g. three dips in 60 seconds). Many data centre rooms move off grid together. This turns what is, electrically, a single transmission fault into a multi hundred MW event at the system level.

The initial transfer to backup or partial disconnection is only the first stage of the disturbance. Uncontrolled or overly rapid reconnection of large blocks of load during recovery can cause significant swings in frequency and voltage, effectively creating a second contingency. Practical experience has shown that staged reconnection, defined ramp rate limits at the connection point, reduces this risk and supports stable system balancing.

Fault ride through outcomes are highly sensitive to project-specific voltage and frequency protection thresholds and settings (transfer logic, successive-disturbance tolerance and reconnection profile) and power system performance standards. In most previous international incidents, data centres were connected under standards materially less stringent to those applied to inverter-based resources, although this is changing with new requirements being proposed across various jurisdictions.

Chapter 3 steps through how data centres differ from other loads, explores typical load profile and ramping behaviours and lessons from documented international experience disturbance events.

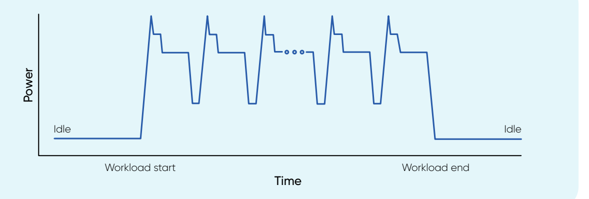
Rapid ramp rates and pulsing demand

Data centres can change their electricity usage with computing loads ramping up or down at a rate much faster than anything the power system has dealt with before. These sudden and large demand changes typically occur independently to prevailing power system conditions.

There are a wide variety and scale of data centre load profiles observed today, with rapid ramping behaviour driven by application-specific tasks and workloads. Facilities primarily used for cloud computing have variable loads and seasonal spikes. Data centres that host AI training, gaming or media streaming events have computationally intensive "bursts", with large variations in power and cooling requirements. Further information on these different load profiles is available in Section 3.2.

Large inverter-based loads can ramp bidirectionally at rates of hundreds of megawatts in seconds, which impact the grid even when these sites are operating normally.[11] In some operating modes, demand changes exhibit second-scale swings and step-like variations that can become system-visible when many data centre racks or halls align. This is particularly concerning when multiple large loads are geographically concentrated.

The figure below shows a typical AI-compute power trace: a rapid ramp-up from idle to high load, followed by coincident seconds-scale swings during the run and a rapid ramp-down at job end.



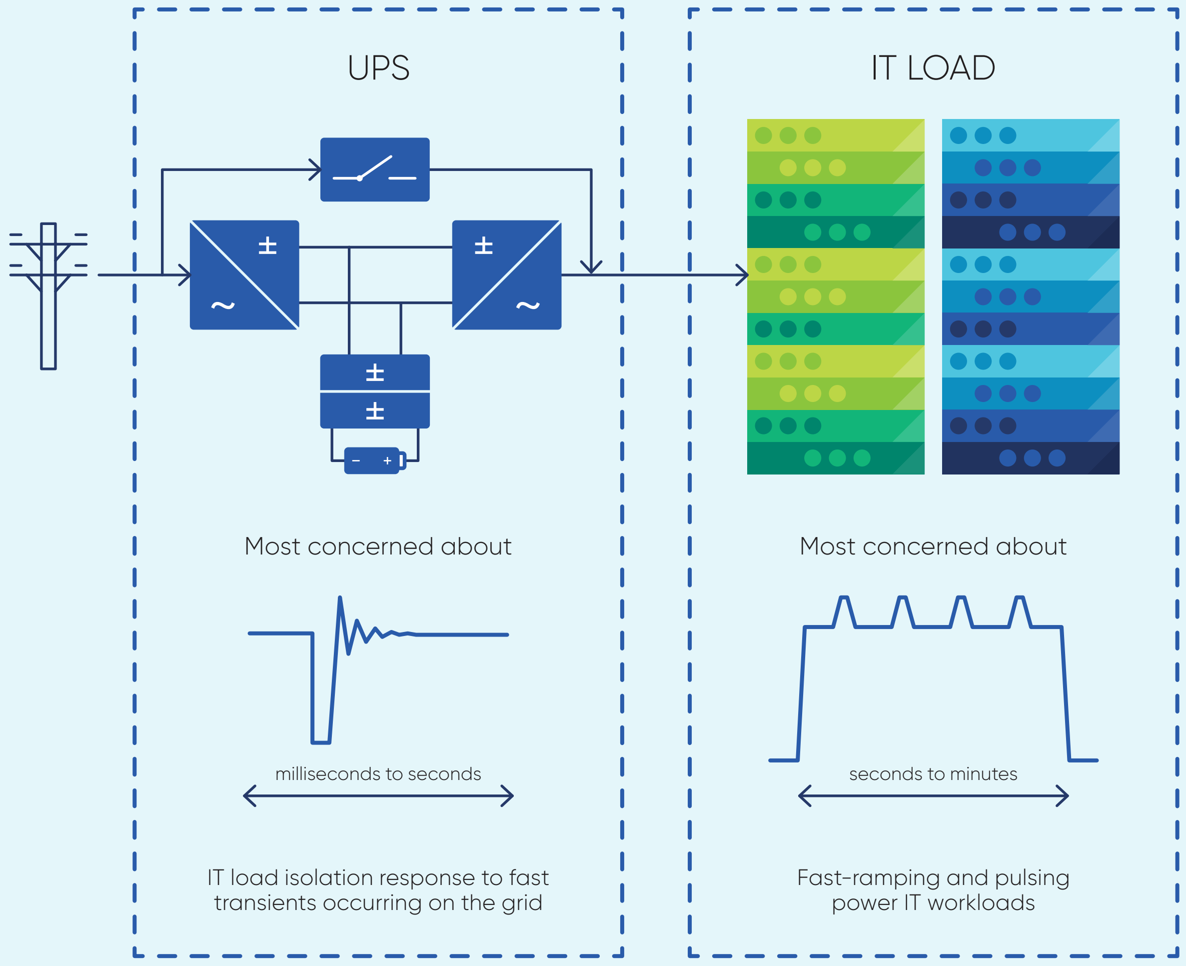
▲ **Figure 3:** Coincident AI-workload power profile (fast ramp-up, repeated spikes, fast ramp-down). Source: Confidential

Start-stop, pulsing load profiles like those caused by AI computes can challenge a power system when the magnitude of the pulses reach single MWs at the distribution network level or extend into tens of MWs at transmission level. Appearing as a forced oscillation on the network, such large, rapid power swings have the potential to unduly trigger frequency control mechanisms, cause power quality standards to be breached (e.g. voltage flicker), or even excite instabilities in the power system (more on this in subsequent sections).

Depending on the timescale of the power swings, this behaviour can increase the frequency of mechanical and discrete control actions, such as tap changer operations and switched shunt capacitor or reactor switching, with implications for asset wear and service life. These impacts scale with data centre size and are strongly context dependent.

Technological advancements mean this is a rapidly evolving space and we anticipate that ramping behaviours will become less peaky over time. Some data centre proponents are working with OEMs to develop rack-level controls that help smooth data centre load behaviour and address active power variation at the grid side. These controls are available on some new systems but are still emerging technologies and are not universally adopted.

11. NERC Large Loads Task Force (2025), Characteristics and Risks of Emerging Large Loads, July 2025.



▲ **Figure 4:** Primary power system integrity challenges as they relate to data centre components

Primary power system integrity challenges as they relate to data centre components

Figure 4 links the two above mentioned power system concerns to the simplified major components of a data centre.

The UPS determines when and how to disconnect from or reconnect to the grid. It therefore plays a pivotal role in either mitigating or amplifying concerns around a lack of fault ride through and recovery capability during a disturbance.

The IT load determines the primary power demand drawn from the grid during normal operation. It therefore determines the sudden changes in the short-term power-draw impact of data centres (ramp rates), which can impact network asset lifetimes, trigger grid-scale control schemes and erode headroom on frequency control equipment and markets.

Risks of frequency instability

Large-scale, near-instantaneous data centre disconnections (i.e. mass transfers to backup) create a positive contingency (where generation exceeds load) so frequency rises quickly and regulation/primary controls must arrest and return it to nominal frequency.

A recent US Eastern Interconnection event illustrates the potential for an observable frequency response from disturbance driven data centre disconnections. In July 2024, approximately 1,500 MW of voltage-sensitive data centre load reduced within 82 seconds during a reclosing sequence, pushing frequency up to about 60.05 Hz before settling back to 60 Hz in four minutes.[12] The generating capacity of the Eastern Interconnection system is roughly 10 times larger than the NEM. The same loss in a smaller system, such as the NEM, would have the potential to cause a larger frequency deviation and increase the minimum inertia (or equivalent fast frequency response) needed to maintain secure frequency performance.

The volume of contingency frequency control ancillary services (FCAS) procured within a given NEM region gives consideration to the single largest credible contingency. In Victoria, the largest allowable contingency is 600 MW designed to cover the potential loss of the largest industrial load or the Victoria to Tasmania interconnector. It is currently less than in other states. We welcome the rapid increase in BESS being commissioned in the NEM with a high degree of frequency capability. However unless limits are raised, data centre projects are expected to exceed this contingency increasing risk that FCAS is eroded beyond existing limits.

In system normal conditions, seconds-scale AI clusters widen short-term frequency deviations and also increase the duty on frequency control and reserve provision. This recognises frequency balancing processes are tuned for many small, uncorrelated variations, not step-changes of hundreds of megawatts.

These frequency impacts are best managed by prioritising the underlying drivers (ride-through and recovery expectations and ramp envelopes) rather than treating "frequency instability" as a standalone primary risk. A higher contingency event size to account for large data centre loads is another possible solution worth investigation. A change to the market could be allowed that enabled data centres to procure FCAS to cover their impact.

Risk of forced oscillations

Power electronic control algorithms and faulty equipment have the potential to cause persistent oscillations in the system frequency independent of grid conditions, which can lead to resonances.

Variations in data centre IT load profile can potentially create periodic low-frequency power oscillations up to 3 Hz, which are within the natural modes[13] of power system electromechanical oscillations. Recent international incidents also show that data centres can trigger higher-frequency control-induced oscillations in the 10–30 Hz range caused by power electronic controls rather than IT load variations. In addition to control algorithms operating as intended, forced oscillations can also originate from power electronic controls, for example mistuned controllers or firmware defects in inverter or UPS systems.

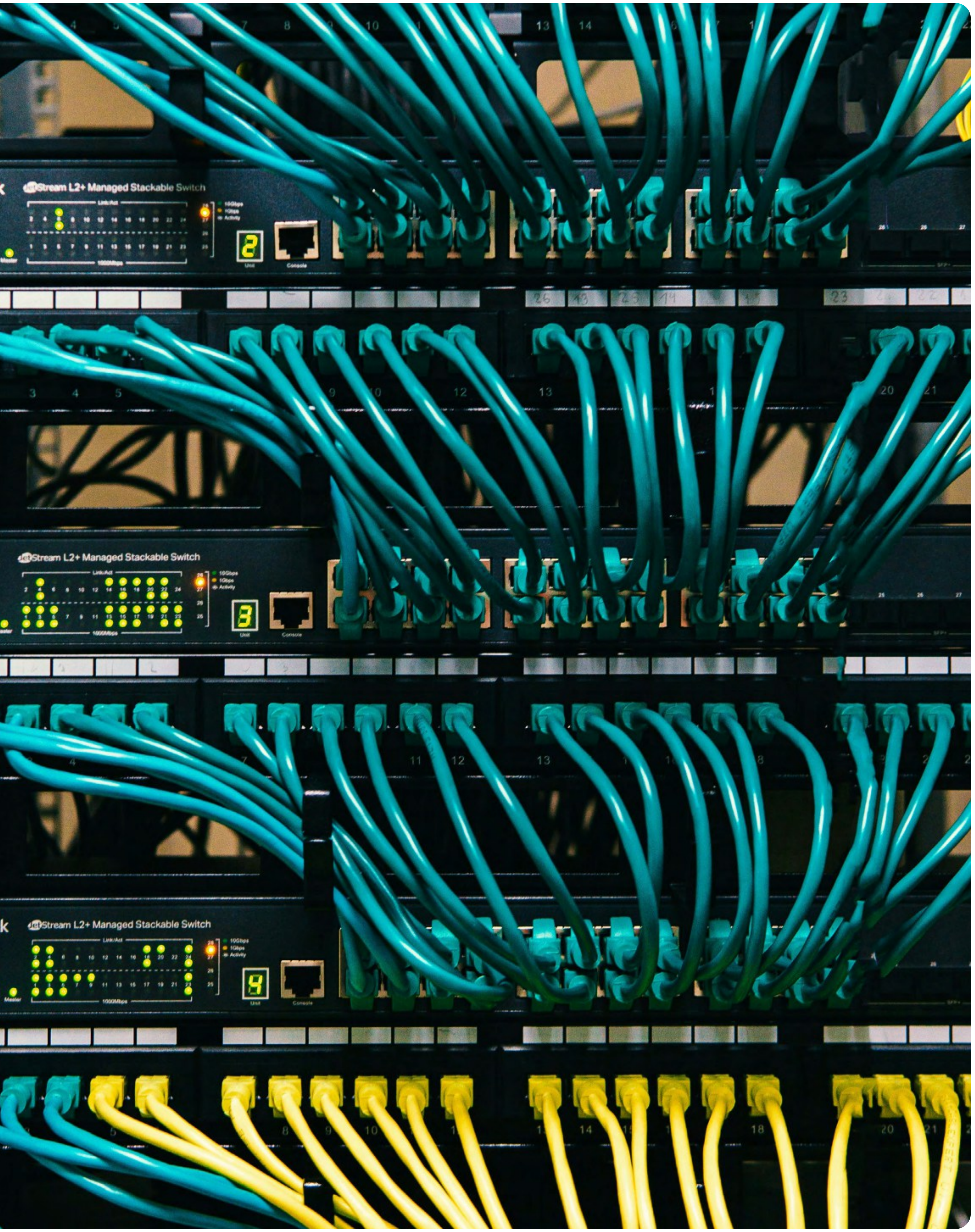
Forced oscillations occur when a load or generation source introduces periodic disturbances, independent of grid conditions, at frequencies near these natural modes. These oscillations can propagate across the system, potentially leading to resonances which result in tripping of generators, load, or network elements on self-protection.

Victoria has already seen examples of power system oscillations driven by inverter-based renewables during periods of low system strength, with no evidence that data centres are immune to such scenarios.

Targeted investigations using fit-for-purpose dynamic representations and monitoring of new data centre installations can help improve knowledge of these issues as they apply to inverter based-loads. Mitigation measures in documented international incidents have typically involved firmware updates, controller retuning and where necessary, temporary MW caps while fixes are validated.

Chapter 4 considers the disturbance set relevant to data centres, the Victorian planning context, and what power system performance requirements are emerging internationally.

12. North American Electric Reliability Corporation, Incident Review—Considering Simultaneous Voltage-Sensitive Load Reductions, Jan 2025.
13. A natural mode is a natural resonant frequency and damping ratio that a power system may have due its inherent topology and components.



Data centre behaviours are new to the power system and we are still developing robust tools and processes to manage them

The data centre behaviours explored in this paper are relatively new to power systems internationally and in Australia.

It should be no surprise that the NEM does not yet have all the necessary planning and operational tools in place to model and anticipate the speed, coincidence and variability of inverter-based loads. This plays out in a number of ways:

- **Unknown performance**

  The industry does not currently have a suite of representative, validated models of data centre behaviour, nor does it have consistent real-time monitoring of how these facilities actually perform once connected.

  Without accurate models and operational data, planners and operators cannot effectively assess dynamic interactions, system strength impacts or the cumulative effects of many similar connections. This lack of understanding inevitably leads to conservative assumptions in some areas and blind spots that can miss key behaviours of power-electronic front ends and site controls. Neither supports efficient investment or secure operation.

  Detailed dynamic models can and are being developed for key data centre technologies. This suggests that the main barrier is not necessarily technical capability or lack of willingness, but the lack of a unified framework that clearly defines modelling requirements and improves real-time visibility at data centre connection points.

- **Collaborative processes are still maturing and not publicly visible**

  Processes to collaboratively learn about new data centre design and operational capabilities, or to continuously improve how data centre integrations are being handled, are still developing. Network service providers, system operators, data centre developers, equipment manufacturers and commissioners all hold pieces of the puzzle.

  More can be done to leverage existing collaborative processes to coordinate insights, share operational experience, or refine technical management approaches. To the extent possible, these processes should actively encourage participation and aim to publish insights publicly.

- **Undefined management requirements**

  Technical requirements for inverter-based loads are either not fully specified or are inconsistently applied across the NEM. In Victoria, recent guidelines have updated performance, modelling and study requirements for transmission-connected data centres and are – at present – more comprehensive than distribution-connected facilities of a similar size and nature.

  There is work underway by the Australian Energy Market Commission (AEMC) to design and implement technical requirements across the NEM.[14] While offering a more consistent approach than currently exists, requirements at state and NEM level must continuously evolve to respond to real-world performance capabilities and risks identified in this paper (e.g. ramp rate limits and start-up and shutdown controls).

  Compliance with intended performance is not currently consistently monitored. This recognises that without data centre-specific requirements and sufficiently detailed models, performance cannot be specified, demonstrated or verified consistently.

  Further, approaches to optimise network planning decisions to account for "size creep" (i.e. data centres that begin small and receive multiple expansion approvals) are still evolving, particularly for distribution connected plants.

Chapter 5 identifies the areas at the data centre and grid interface that most need addressing – including process and information gaps and the most pressing power system performance issues for Victoria and the NEM.

14. Note VicGrid is in the process of introducing the Victorian Access Regime which are a set of requirements for renewable energy and storage projects seeking acces

AusNet sees four areas in which our electricity sector can respond to the data centre industry as it grows and evolves

AusNet is proposing the power system and data centre industries work together on a proactive, coordinated approach to accommodating data centres, which supports power system security and Australia's continued digital and economic growth.

The current data centre landscape bears a striking resemblance to the initial renewable energy surge between 2017-2019. We see opportunities to draw on the lessons of the integration of renewables and complement other related work already underway in the NEM.

These areas have formed the basis of our data centre enablement framework. We encourage further conversation about this framework and are open to exploring additional actions or constructive changes that may support its intent.

Chapter 6 proposes a data centre enablement framework that brings insights from previous chapters together in a set of near-term priority actions for the power and data centre industries to collaborate on.

We see four areas in which the electricity sector can respond:

1 Connections

Fit-for-purpose requirements

Establishing fit-for-purpose NEM-wide performance requirements for transmission and distribution-connected inverter-based loads enables data centres to deliver predictable behaviours that support system security, while accelerating the overall connection process. Clear expectations around fault ride-through performance, acceptable active power ramp rates and oscillatory behaviour reduce uncertainty and prevents adverse interactions as penetration increases.

Modelling and predictability

Consistent and robust connection modelling requirements are essential to improving understanding before assets connect, as it is far cheaper to identify and remediate issues before construction than after operation begins. Requiring high-quality, representative models enables network service providers to assess risks accurately and proportionately, particularly where multiple data centres may interact.

2 Planning

Network plans

Using state transmission plans to proactively guide data centre development addresses the collective risk. By signalling where the network can efficiently support large new loads, these plans can help steer investment to appropriate locations, reducing congestion, system strength challenges and inefficient network upgrades.

Transparency and reporting

Furthermore, collecting and publishing load connection information improves transparency and system-wide awareness of how fast and where change is occurring. This visibility is a prerequisite for network planners and operators to anticipate emerging risks rather than reacting after problems materialise.

3 Operations

Monitoring and reviewing operational mechanisms

Improved real-time visibility of inverter-based loads addresses operational uncertainty. Understanding how data centres are actually behaving in real time and in high definition creates the foundation for secure system operation, as these loads become a dominant feature of demand and allow for validation of the models used for future connection and planning studies.

Exploring operating implications, including potential new mechanisms, required to manage a future with a high penetration of large loads – for example, outage planning and FCAS contingency procurement.

4 Engagement

Open collaboration

Leverage existing technical working groups to collaborate on foundational integration issues. This includes encouraging shared learning, coordinated evolution of standards and continuous improvement as technology and system conditions evolve.

AusNet

AusNet

Level 31
2 Southbank Boulevard
Southbank VIC 3006

1300 360 795

Locked Bag 14051
Melbourne City Mail Centre
Melbourne VIC 8001

Follow us on

@AusNet.Energy
@AusNet

ausnet.com.au