

Case study

Always-on cooling: End-to-end Managed Services for a live data centre



Background

A major Australian telecommunications provider operates a live, mission-critical data centre supporting multiple technical spaces, where continuous operation and stable cooling are essential to service availability.

Vertiv identified that key elements of the condenser water cooling system, including chillers, pumps, and supporting infrastructure, were nearing end-of-life. Addressing this risk required a carefully staged upgrade that would protect uptime while the facility remained fully operational. Working in close partnership with Air Water Power (AWP), Vertiv delivered a controlled condenser water system upgrade, designed and executed within a live data centre environment, without disruption to services.

Challenges

End-of-life chillers and pumps were reducing system resilience and increasing operational risk. As the infrastructure supports four technical spaces, all replacement works needed to be staged to maintain continuous operation and full cooling redundancy.

The project also required the installation of new mechanical switchboards to support future power redundancy, while managing safety, access, and multiple contractors within a live data centre. Any disruption could impact mission-critical services.

Key solution included:

- Condition assessments of chillers, pumps, and associated condenser water infrastructure.
- A staged replacement strategy designed for a live data centre.
- Replacement of end-of-life chillers, pumps, and associated mechanical and electrical systems.
- Temporary chiller and generator installation to maintain full redundancy.
- New mechanical switchboards with provision for future power redundancy.
- EMS integration for real-time monitoring and visibility.
- Close Vertiv–AWP coordination for safety, access, and sequencing.
- Phased execution with continuous on-site oversight and reporting

The solution renewed end-of-life condenser water infrastructure while preserving uninterrupted cooling and site stability throughout the project.

Industry: Telecommunications.

Region: Adelaide, South Australia.

Project: Live data centre chiller, pump, and condenser water upgrade.

Partner: Air Water Power (AWP).

Vertiv Services Deployed:

- Vertiv Managed Services.
- Critical infrastructure operation, monitoring, and maintenance.
- Project planning and risk management.
- Contractor coordination and site supervision.
- Temporary cooling and power resilience.
- Commissioning and handover support.



Solution

Vertiv Managed Services led the delivery of a staged condenser water system upgrade designed for a live data centre environment. Taking full responsibility for planning, risk management, and on-site coordination, Vertiv oversaw each phase of the works to maintain cooling redundancy, manage safety, and control execution while the facility remained operational.

Project Execution

Site assessment and planning

Vertiv completed condition assessments and site reviews across the chillers, pumps, condenser water systems, and electrical infrastructure. Planning focused on stakeholder alignment, workshop engineering, scheduling around critical operational windows, and defining risk controls appropriate for a live data centre.

Design and engineering

The solution was engineered to maintain redundancy and long-term resilience. Vertiv reviewed and approved all drawings, safety documentation, and Method of Procedures, supported by factory acceptance testing prior to delivery.

Installation and live environment management

Works were executed within a live data centre under strict access, safety, and sequencing controls. Temporary chiller and generator systems were installed via a quick-connection point on the chilled water loop, with continuous on-site supervision by Vertiv and AWP.

Coordination and compliance

Vertiv coordinated mechanical, electrical, and specialist contractors, managing permits, licensing, WHS requirements, and site access. Active communication and issue management supported controlled delivery throughout the project.

Commissioning and handover

Vertiv oversaw commissioning of the new chillers, pumps, switchboards, and EMS, with handover documentation completed to support ongoing Managed Services delivery.



Results

The project was delivered without disruption to live operations. End-of-life condenser water infrastructure was replaced under controlled conditions, maintaining cooling redundancy and site stability throughout the works and supporting the continued reliability of the data centre environment.

Key outcomes:

- Seamless staged replacement within a live data centre.
- Continuous cooling redundancy maintained throughout execution.
- Zero impact on technical space operations.
- Improved resilience and future-ready mechanical and power infrastructure.
- Enhanced energy transparency through EMS integration.
- Reduced operational risk through proactive planning and temporary resilience measures.

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