DATASHEET

CyrusOne

OSK1

CyrusOne Data Center

2-2-7 Hikaridai, Seika Town
Sorakugun, Kyoto 619-0288, Japan

Introduction

CyrusOne KEP OSK1 is a brand-new state of-the-art data center strategically located on a 19,693 sqm (211,973 sq ft) plot in the Kansai area, Keihanna Availability Zone, which is a key data center hub.

The facility will ultimately deliver 48 MW of IT capacity (70 MVA utility power supply) to 11,562 sqm (124,452 sq ft) of world class technical space within a single building over four floors with a total of six 8 MW data halls. The development will be delivered in three phases, with the first phase operational by Q1 2028.

Overview

- 48 MW IT capacity delivered within a single building over four floors
- 11,562 sqm (124,452 sq ft) total technical space
- 70 MVA utility power supply at 77KV from a new grid connection and a dedicated substation serving the data center
- Photovoltaic (PV) cells situated on the roof will generate power for the office areas and other ancillary spaces
- Extensive additional acoustic treatment has been incorporated into the design to surround emergency back-up generators, chillers and air handling equipment
- The external architecture has been thoughtfully designed to conceal external equipment, including flues and generators, to create a neutral aesthetic in keeping with its surroundings
- Renewable energy sources and certification options are being evaluated for implementation

Aesthetics and Community

CyrusOne is committed to promoting biodiversity wherever possible and is guided by cultural sensitivity.

- Extensive additional acoustic treatment has been incorporated into the design to surround emergency back-up generators, chillers and air handling equipment. This is especially important to protect the interests of the Kansai-kan of the National Diet Library.
- The external architecture has been thoughtfully designed to conceal external equipment, including flues and generators, to create a neutral aesthetic in keeping with its surroundings.
- Green spaces will be planted with native pollinating shrubs and trees to create small biodiverse pockets where possible within the development.

Sustainable Design and Construction

- Best practice site waste management delivered through a Site Waste Management Plan (SWMP) and a Zero Waste to Landfill (ZWL) plan with the use of recycled aggregates.
- Utilizes building materials which provide optimum environmental performance with minimal environmental impact over the building's full life cycle.
- Staff and contractors sourced locally where possible to support the local economy.
- Provision of onsite electric vehicle charging.
- Protection of existing ecological features to mitigate the impact to the environment throughout the construction process.
- Best practice design for health, well-being, and occupancy ensuring thermal comfort, lighting and control, indoor air quality, and acoustic performance, and encouraging reduction in car travel through the provision of cyclist facilities.

Renewable Energy

- Photovoltaic (PV) cells situated on the roof will generate power for the office areas and other ancillary spaces.
- Renewable energy sources and certification options are being evaluated for implementation.

Technical Specifications

POWER

- Low PUE (<1.3) achieved through highly efficient design and equipment selections, utilizing free-cooling technology and optimized operating temperatures in accordance with ASHRAE standards
- Mains power supplied via 100% rated A&B 77 kV incomers active with a capacity of 70MVA
- All IT power metered and charged as consumed
- 8 MW block redundant topology with 6 independent and compartmentalized power blocks per data hall
- 99.999% reliability with the ability for concurrent maintainability
- IT power supplies are derived from primary and reserve feeds from each block via STS's creating a meshed IT distribution topology between all 6 blocks in an N+1 configuration
- Block redundant UPS topology with 1600KW UPS system per power stream
- Fully rated block redundant LV back-up generators with 48-hour fuel autonomy, capable of continuous running, paired with each power stream
- Re-fueling contracts to ensure timely replacement
- Integration of EV Chargers
- Available options for utilization of renewable energy sources or certificates

COOLING

- Low WUE achieved through utilization of closed loop chilled water system and no evaporative cooling
- N+1 free cooling air cooled chillers
- Critical cooling distributed via multiple pipework rings per data hall for maximum resilience
- Computer Room Fan Wall Units at N+2
- Chilled Water Circulation pumps N+1
- Cooling infrastructure individually managed and linked to BMS
- Independently regulated temperature and humidity within each hall
- Power supplies to cooling equipment for full redundancy configured in a block redundant topology

CONNECTIVITY

- Carrier neutral access and diverse fiber connectivity to active A&B Meet Me Rooms from multiple telecommunications providers
- Four diverse fiber routes onto site
- Diverse fiber rings around entire facility to permit multiple building/hall connectivity

FIRE DETECTION AND SUPPRESSION

- Three-stage fire detection systems into data halls and MMR's
- VESDA (Very Early Smoke Detection Apparatus) for early warning, then double knock 2 zone detection
- VESDA for early warning, in LV/UPS rooms
- Fire detection in all rooms, in air plenums and in voids as required and to meet local regulations
- Gas fire suppression system to data halls and MMR's
- Fire detection and suppression systems interconnected to central BMS for additional monitoring and alarms

BUILDING & ENERGY MANAGEMENT SYSTEM (BMS & EMS)

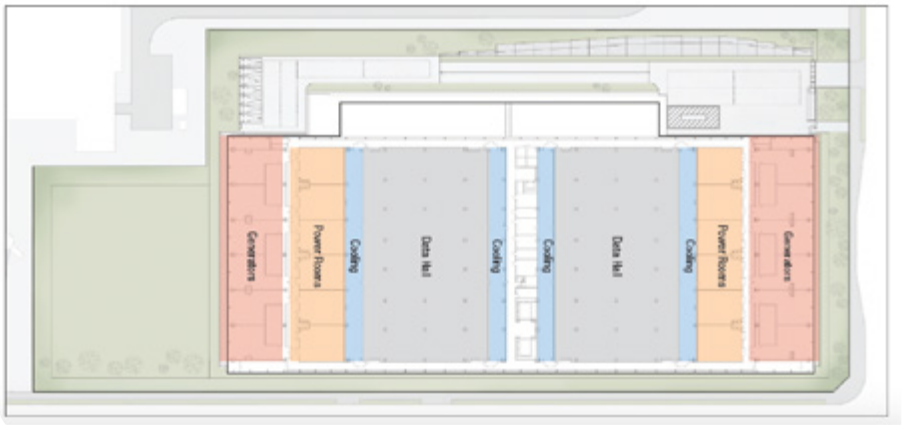
- Power and building monitoring systems to provide alarms and live visual graphics in command center
- Data collection and trend logging for reporting purposes and equipment condition monitoring
- Power surge management
- 24/7 year-round-on-site M&E engineers undertaking Planned Preventative Maintenance (PPM) programs
- Real-time monitoring of electrical and mechanical systems

OPERATED TO INTERNATIONAL STANDARDS

- ISO 14001 Environmental Management
- ISO 27001 Information Security Management
- ISO 9001 Quality Management
- ISO 50001 Energy Management

Site Plan

GROUND FLOOR



1ST, 2ND, 3RD FLOORS