EMERGENCY / BACK-UP POWER INFRASTRUCTURE

Generators for Phase I-III:

Description:
12 x 2.25 MW standby generators for critical load; 2 x 2 MW standby generators for mechanical loads; 1 x 2.25 MW swing generator (31 MW total capacity) N+1

Number of Hours of On-Site Fuel:
36 hours per generator

Fueling Replenishment:
multiple refueling vendor sites under SLA supply contract

Fuel Storage Tanks:
every generator has a dedicated UL 142 double walled belly tank; 4,400 gallons capacity for 2.25 MW units; 3,800 gallon capacity for 2 MW units; 64,800 total gallons of on-site diesel

UPS / PDU SYSTEMS (PER 1.975 MW CRITICAL IT LOAD)

UPS Description:
4 x 825kVA Eaton Powerware 9395 UPS modules (99% efficient in ESS mode)

Batteries:
5-minute minimum run-time (can be extended). Automated battery monitoring by Intellibatt.

UPS Configuration:
distributed redundant

PDU Description:
8 x 400kVA; 480 volt primary 120/208 secondary with individually metered output breakers

PDU Configuration:
2N diverse paths to IT load in data center

COOLING INFRASTRUCTURE

Total Capacity All Phases:
6,900 tons

Basis of Design:
tier 3 availability; ability to isolate and provide maintenance at all levels of the closed loop system

Description:
contained hot/cold air system, shared air supply with direct isolated insulated returned air

Chilled Water Plant Phase I/II:
3,000 Tons @ N+1 Cooling, Primary and Secondary Pumping Systems at N+1, Plate and Frame Heat Exchanger

Chilled Water Plant Phase III/IV:
3,000 Tons @ N+1 Cooling, Primary and Secondary Pumping Systems at N+1, Plate and Frame Heat Exchanger

3-fold Water:
mechanical cooling, direct evaporative cooling, and water-side economization

Chilled Water Storage:
72 hours of on-site make-up water store, fed from 142,000 gallon tank

Air-handlers Phase I/II:
cold air delivered by 45 individual air-handlers, supplied by 2 sets of electrical switchgear (2N electrical distribution system); all air-handlers contribute to common plenum – contributes to very high redundancy

Air Temperature to Data Room:
commissioned to design load of 68 degrees

Redundancy:
concurrently maintainable

NETWORK / COMMUNICATIONS

MPOE:
2 diverse underground points of entry

Conduits:
fiber enters the site from two physically redundant pathways (SE and SW)

Carriers:
level 3, Zayo, CoastCom, Wave, CenturyLink, Spectrum Networks, Cogent, Comcast, TW Telecom, Frontier and Integra within building, other carriers (to include Tier 1 carriers) are at property line and readily accessible.

Backhaul to Pittock:
opus is able to extend circuits to any carrier at the Pittock

Backhaul to Westin (WBX):
coming soon - backhaul to all 250+ carriers available at the Westin Building Exchange in Seattle

Amazon Direct Connect:
4.4ms lowest latency to Amazon US-WEST-2 at 1Gbps or 10Gbps with core protection also available to EdgeConneX Hillsboro node and Pittock Node

Azure ExpressRoute / Google Cloud:
low latency connectivity available via PacketFabric and MegaPort to public hyperscale providers

Trans-pacific Cable System Access:
three cable-landing sites within a half a mile of the property

Meet-Me-Room Description:
three redundant meet–me–rooms, fault tolerant

SECURITY

Description:
multiple layers and methods of authentication, access control, and surveillance

Building and Perimeter:
cctv 24x7x365 monitored and recorded video surveillance of all entrances, building exterior, interior corridors and data room

Security Staffing:
guaranteed 100% on-site staff coverage. min. 2 FTEs on-site 24x7x365; security desk at customer entrance always manned. Staff trained for operations, fire, & life safety incident response.

Perimeter Fencing:
entire property securely fenced

Building Access Control:
proximity badge reader with photo ID system, mantrap with secondary proximity badge reader

Tenant Premise Access Control:
proximity badge reader with photo identification system, two-factor access systems (biometrics and keypad)
Maximize your performance, security, and scalability.

CUSTOM IT SOLUTIONS HOSTED ON HIGH-PERFORMANCE INFRASTRUCTURE INSIDE THIS LEED GOLD FACILITY.

Whether you need a single rack, or a full suite, we have the space you need and on-site engineers to keep you online at this Tier III facility. With unprecedented levels of efficiency, inexpensive and reliable power situated atop one of the most dense fiber networks in the Pacific Northwest. This combination translates as cost-savings to YOU.

Oregon has the best seismic profile of any of the West Coast states. And Hillsboro, in particular, has the most seismically stable soil in the greater Portland area. Additionally, the west coast has little to no lightening risk, the top cause of utility outages in the U.S.

About Opus Interactive
Founded in 1996, Opus Interactive provides cloud hosting, managed services and colocation from Tier III+ data centers in Hillsboro, Portland, Silicon Valley, and Dallas.

Through close partnerships with industry-leaders and a commitment to customer satisfaction, Opus Interactive has earned a reputation for customized IT solutions that fit unique requirements for equipment, scalability, budget and future growth needs of its customers.

Headquartered in Portland, Oregon, Opus Interactive is an accredited member of the International Managed Services Provider Alliance and is PCI-DSS, HIPAA, and SSAE16 audited.

- Cloud Hosting
- Colocation
- DRaaS & Backup
- Hosting
- IaaS

For more information, please visit www.opusinteractive.com or connect with Opus Interactive on Twitter, Facebook, or LinkedIn.

ASK FOR A QUOTE!
sales@opusinteractive.com
(866) 678-7955
**BUILDING**

**Nearest Airports:** Portland International Airport – PDX; Portland-Hillsboro Airport – HIO (private)

**Building Size:** 345,000 square feet

**Floor Loading:** 2,500 lbs. / square foot

**Loading Docks:** multiple secure privately accessed loading docks, grade level and dock-high truck dock with dock levelers

**Parking:** 211 parking spaces

**Structure Enhancements:** Facility meets “Essential Facility” requirements of the 2010 Oregon Structural Specialty Code (OSSC). With a Structural Importance Factor (SIF) of 1.5, the facility meets or exceeds the OSSC requirements for:
- Stronger seismic forces (SIF = 1.5)
- Heavier roof snow load (SIF = 1.2)
- Greater wind pressure (SIF = 1.15)

**Flood Plain:** Outside of 500 year flood plain

**Office Space:** 60,000 square feet among first and second floors

**Fire Suppression:** Double interlock, pre-action dry pipe fire suppression system with VESDA system for data and electrical rooms; separate VESDA system for mezzanine level equipment

**Storage/staging:** Secure caged storage available for customer use

**POWER SYSTEM**

**Utility Provider:** Bonneville Power Administration (BPA), Direct Access Agreement

**Generation Mix:** On an annual basis, 100% energy from low/no carbon hydro/renewable sources

**Distribution Grid:** Designed and operated to SEMI 47 Standards (for semiconductor fabs in Silicon Forest). The area Grid carries a “high-reliability” designation, meaning that in addition to higher design standards, O&M procedures include annual IR scans for every feeder & vault with regularly scheduled shutdowns and maintenance.

**Substation:** Served by PGE’s Sunset Substation, which is in turn fed by triply redundant transmission lines from BPA’s Keeler Substation, PGE’s St Mary’s North in Beaverton and PGE’s St Mary’s South in Beaverton (each supply transmission line is capable of carrying 100% of the Sunset load).

**Performance history:** The Sunset substation has been in service for nearly two decades with no outages

**Facility Utility Service Feeds:** Dual, underground medium-voltage (12.47 KV) utility entrances supplying physically redundant dedicated feeds from PGE

**Redundancy:** Concurrent maintainability on all components

**DATA HALL SPECIFICATIONS**

**Description:** Each data hall provides 100% usable, unencumbered space with no electrical or mechanical infrastructure on the data hall floor. Each data hall has dedicated electrical and mechanical infrastructure.

**Allocated Power and Space for All Phases:**
- 24MW Critical IT Power
- Total data hall: 110,000 sq. ft
- Average Energy Density: 5kW per cabinet (supports up to 20kW per cabinet)

**Power Delivery:** Power is delivered to redundant Starline Bus then redundant metered cabinet PDU’s

**Flooring:** Slab on grade concrete throughout facility, anti-static vinyl composition tile (VCT) throughout data rooms / corridors

**Ceiling Height:** 11’ above finished floor

**Ceiling Infrastructure:** 2 x 4 ceiling T-bar grid system to support customer’s overhead infrastructure, ceiling infrastructure houses a return air plenum. The air handling systems are located on a segregated equipment mezzanine above the data rooms.

**Cooling:** Cold-Aisle containment required

**BASIS OF DESIGN FOR CRITICAL POWER SERVICE**

**Tier 3 Availability:** Dual cord power to the rack; ability to isolate and provide maintenance at all levels of the power distribution system

**Total Capacity:** 24 MW of critical power

Three electrical rooms built out with one additional for Phase 4 each with:
- Distributed Redundant UPS Configuration
- 8UPS/8PDU Respectively
- 2N Diverse Path to Critical IT Power via PDU
- 32 x 400 kVA PDUs
- Individually Metered Output Breakers

Each separate UPS/PDU system served by a dedicated 480V critical power switchboard, backed up by a dedicated generator as well as a common reserve generator.
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