

5275 Leesburg Pike
Falls Church, Virginia

Architectural Features

Built: 2001
BOMA Rental: 426,742 sf
Floor Plate Size (Typical Floor): 72,208 sf
Finished Ceiling Height: 9'1"
Ability to add additional floors and additional elevators
Dual Elevator Cores—with restrooms, mechanical rooms and electrical rooms
Communication Equipment Rooms "CER" (2) are located in the core on each floor, rooms are approximately 420 sf each
4,000-pound freight elevator with access to all floors
First floor designed for 150 #/sf live load
66,652 sf of below grade research area (R&D)—research floors are designed for 250 #/sf live load
Loading Dock with load levelers—loading dock will accommodate three 55' tractor trailers
Fitness Facility—fully equipped—approximately 4,500 sf with men's and ladies locker rooms with showers
Conference Center
First floor training rooms with raised floor
First floor slab to slab height is 18'

Layout

A typical floor size of 72,208 sf includes two 420 sf Communication Equipment Rooms per floor
30' x 30' column bays
First floor and R&D slab to slab height is 18'

Elevators

Dual elevator cores are provided and a 4,000-pound capacity freight elevator can access all floors

Security Features

A self-contained Security Command Center
Optical turnstiles in the Lobby
Perimeter security barriers with guard booths at access points
4-mil security film on the windows
The Mailroom is designed to withstand a blast from two pounds of TNT
The below grade SCIF Data Center (66,562 sf) is a Sensitive Compartmented Information Facility (SCIF) with a raised floor served by self-contained heating, ventilation and air conditioning units and a Power Distribution Unit (PDU) electrical system. The space is 18' slab to slab with floors designed for 250 #/sf live load.

Communication

Dual incoming Verizon feeds, fiber optic communications availability and Cox cable availability

Fire Protection System

R&D Lab areas are protected by a water based pre-action system

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**Heating, Ventilation and
Air Conditioning**

4 Trane centrifugal water chillers utilizing R-123, a HCFC refrigerant
4 cooling towers serving the base building and tenant equipment
Circulating pumps
Floor-by-floor air-handling units (AHUs)
2 outside air supply air handlers with electric heat and exhaust/relief-air fans
The cooling towers utilize variable frequency drives
Primary HVAC equipment is located in the rooftop Mechanical Penthouse and in floor-by-floor Mechanical Rooms
Available cooling capacities provided by the base building cooling systems are approximately 237 sf/ton for the main building and 135 sf/ton for the Research Area

Cooling System

The mailroom has a separate HVAC delivery system and is not interconnected with the HVAC delivery system for the base building
The building is cooled utilizing a 2-pipe chilled water system
The air delivery system consists of 4 primary air handling units, located on each floor of the building
Each air handling unit is equipped with chilled water coils fed by centrifugal water chillers located in the Mechanical Penthouse
The conditioned air is distributed to variable air volume (VAV) boxes in the ceiling
Perimeter VAV boxes are fan-powered and equipped with electric heaters
The cooling system is available for service 24 hours a day, 7 days a week
Major equipment includes:

- 2 water-cooled centrifugal CVHE Trane chillers
- 3 chilled water pumps
- 3 condenser water pumps and a plate and frame heat exchanger for free cooling
- 2 Baltimore Air Coil cooling towers located in an enclosure next to the Mechanical Penthouse

Centrifugal Chillers

2,350-ton Trane CVHE chillers
The chillers serve the computer rooms and computer laboratories
One chiller is designated as an Emergency Chiller, offering 100% redundancy for the chilled water system

Cooling Towers

2,350-ton Baltimore Air Coil Model 33373 cooling towers
The cooling towers are connected by equalizing piping and share a water treatment and Lakos centrifugal separator system
The fan speed, for both cooling tower fans, is controlled by variable frequency drives

Ventilation

1 10,000 ft/minute (CFM) propeller type exhaust fan serves the Mechanical Penthouse Emergency Generator Room
The Battery Room and UPS Room has a 2,000 CFM in-line tubular centrifugal exhaust fan in each space

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Emergency Generators

2,900 kilowatt (kW) Caterpillar Model 3508 diesel-fueled emergency generators

Each generator is equipped with a day tank fed from two 6,000-gallon diesel fuel tanks and pump-set located on the G-2 level

The emergency generators serve 3 automatic transfer switches; a 400-ampere electric riser, a 600-ampere North Elevator service, an 800-ampere service for the #3 centrifugal chiller system

An 800-ampere manual switch serves the #4 centrifugal chiller system

Each generator is rated at 900 kW, 3 phase, 4 wire, 480/277 volts, 60 cycles

Diesel Fuel Storage Tanks

2 Highland Tank, 6,000-gallon insulated, double-wall, steel, diesel fuel, above ground storage tanks are located in a fire-rated vault on the G-2 level

Diesel Fuel Booster Pump-sets

2 Hydronic Modules Corporation pump-sets serving the generators are located on the G-2 level

The 4 gear type pumps utilize 1/3 horsepower motors and operate with 115 volts

Pumps

3 30 horsepower chilled water pumps

3 25 horsepower condenser water pumps serve the chillers

The chilled water and condenser water pump groups consist of 2 primary water delivery pumps and one standby pump for emergencies

Plate and Frame Heat Exchanger

1 700-ton Superchanger plate and frame heat exchanger provides free cooling capability during cold ambient temperatures

Cooling Tower Back-up Pumps

A Tigerflow pump-set, located on the G-1 level, serves the cooling towers in a back-up capacity

Each pump is rated at 3 horsepower and delivers 40 gallons/minute water flow at 110 ft of head

The pump-set operates on 3 phase, 480 volts

Automatic Transfer Switches

The emergency generators serve 3 automatic transfer switches; a 400-ampere electric riser, a 600-ampere North Elevator service, an 800-ampere service for the #3 centrifugal chiller system

An 800-ampere manual switch serves the #4 centrifugal chiller system

Emergency Power Distribution Panel

A 3,000-ampere, 3 phase, 4 wire, 480/277 volt, 60 cycle paralleling generators and distribution panel is located in the Penthouse Generator Room

Grid of poke-thrus providing power and communications to the systems furniture without the need for power poles

Uninterrupted Power Supply (UPS)

A 1,000 kVA non-generator back-up and a 600 kVA with generator back-up system are located on the G-2 level

The 1,000 kVA parallel-for-capacity system operates at 480 volts, 3 phase input and output with a 15 minute battery backup

The 600 kVA parallel-for-capacity system operates at 480 volts, 3 phase input and output with a 15 minute battery backup with generator back-up and a 1,200-ampere automatic transfer switch

Both systems incorporate a power distribution unit. 4 14-foot, 3-tiered battery racks and 4 15-foot, 3-tiered battery racks serve the UPS

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Computer Room Air Conditioning Units

27 CRAC units serve the Research Level, 2 units serve the UPS Room and 1 unit serves the Battery Room

The 9 Telephone/Data Rooms are located on the tenant floors and are cooled by individual CRAC units

The nominal capacity of the CRAC units ranges from 4 to 25 tons. Electric reheat is provided in all the CRAC units except for the Battery Room unit

Computer Room Air Condition (CRAC) Units service the Research Area, Telephone/Data Rooms, UPS Room and Battery Room

Chilled water is supplied by the centrifugal chillers located in the Mechanical Penthouse

Electric Power

Electric power is supplied by Dominion Power to 4 switchboards: SWBD #1 is rated at 4,000 ampere, 480/277 volts, 3 phase; SWBD #2 is rated at 5,000 ampere, 480/277 volts, 3 phase; SWBD #3 is rated at 4,000 ampere, 480/277 volts, 3 phase and SWBD #4 is rated at 3,000 ampere, 480/277 volts, 3 phase

A typical floor's electrical capacity is 35 watts/sf design rated as 8 watts/sf for HVAC, 2 watts/sf for lighting, 5 watts/sf for receptacles and 20 watts/sf for special requirements such as C.E.R. rooms

The SCIF Data Center's electrical capacity is 67 watts/sf design rated as 34 watts/sf for HVAC, 2 watts/sf for lighting, 3 watts/sf for receptacles and 28 watts/sf for special requirements such as areas with raised floors

Power Distribution Units

19 Power Distribution Units, with shielded isolation dry-type transformers designed for 3 phase, 60 cycle, 480-208/120 volts, serving various areas

5 100 kVA, 1 125 kVA, 2 30 kVA, 2 50 kVA and 7 75 kVA transformers