national rural utilities cooperative finance corporation headquarters

sterling, va

project overview

building occupant | National Rural Utilities Cooperative Finance Corporation (NRUCFC)
type of building | Office Building
size | 120,000 GSF
number of stories | 3 above grade
construction dates | Nov. 2009- Sept. 2011
project cost | $45 million
project delivery method | Design-Bid-Build

project team

architect | Kishimoto.Gordon.Dalaya PC
interior architect | Fox Architects
landscape | EDAW
site/civil engineers | Dewberry
structural engineers | SK&A
mep engineers | Flack + Kurtz
leed consultant | Sustainable Design Consulting
general contractor | Whiting-Turner

mechanical system

- Four air handling units supplying VAV Boxes and Fan-Powered Boxes control the heating and cooling in the offices
- Two electric centrifugal chillers that utilize six "ice on coil" storage tanks during peak hours
- Three ground source heat pumps and radiant flooring control the heating and cooling in the atrium

architecture

- Traditional Virginia architecture while also incorporating modern architecture styles
- Three story atrium serves as both a main architectural feature and an area to showcase energy saving mechanical and electrical systems
- First floor houses the main lobby/atrium, a gym, a cafe, an executive lounge, and office spaces
- Second and third floors primarily office space

structural system

- Foundation consists of a combination of isolated column and strip wall footings and a 5" slab-on-grade
- Steel frame structure utilizes composite beams and slabs
- Arched trusses made of HSS members form a dome with an occulus

electrical | lighting system

- Two outdoor pad-mounted 600 kW emergency generators serve emergency power and required standyby service
- A 10'x10' photovoltaic arrary provides acts as an additional power source
- Two 65 kW mircoturbines serve the data center
- Daylight sensors and occupancy sensors control the lighting

National Rural Utilities
Cooperative Finance Corporation

maggie mcnamara | mechanical option

www.engr.psu.edu/ae/thesis/portfolios/2012/MLM5309/index.html