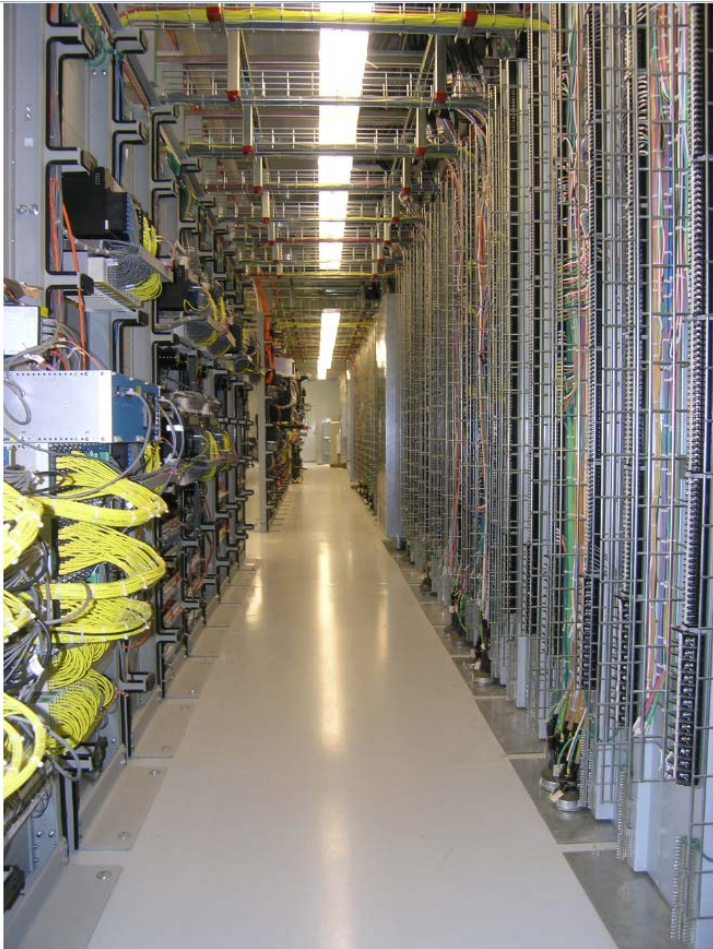


Terminal Blocks on the Walls



- Eliminated need for side panels
- Floor openings allowed field cables to be easily inserted and landed.
- Minimized cables in the ceiling cable trays
- Floor space utilization was greatly improved.
- Employees could no longer get “in” cabinets.
- Working space increased to 48”.

Rear View of the Racks



- Wide open
- Easy access
- No terminal blocks

Photograph Through Control Building



Key Points:

- Two rows of racks, Set A and Set B
- 5' wide, dead-front hallway down the center
- 4' Live-front hallway down each side with terminal blocks on the walls
- Lots of working room
- No close-clearance areas!

Main Features of all Control Buildings

- Protection and control equipment
- Telecommunications equipment
- DC system such as batteries, distribution panels and chargers
- Rest room facilities

- The complexity of the above items can vary significantly from site to site.

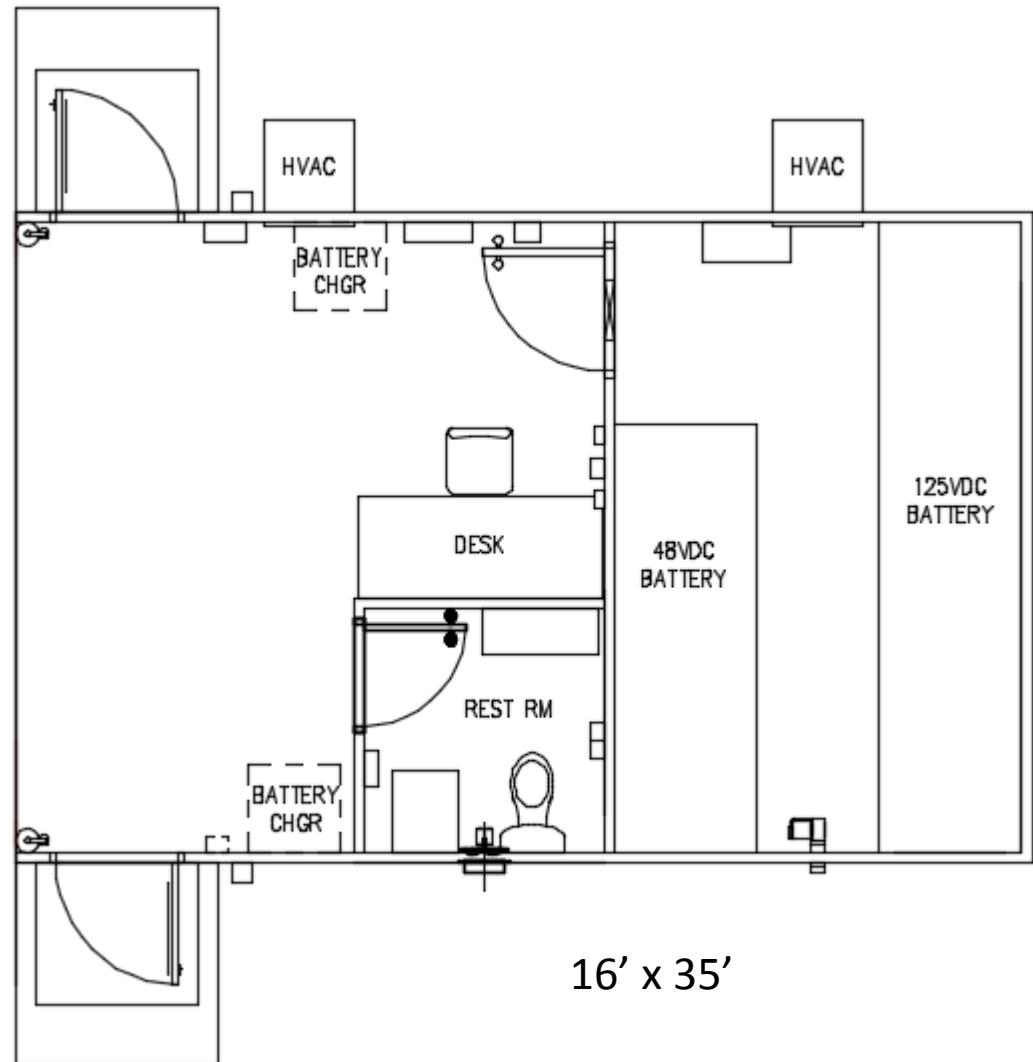
Sectional Modular Building

- TVA desired a future-proof building that could grow as the site needs grew.
- We desired standard building modules for each need: P&C, Telecom, battery room / restroom.
- TVA selected a 16' nominal, overall width for all modules.
- All modules have a standard mating surface to join with adjacent modules.
- TVA created nine standard modules capable of meeting all the control building needs at any site.

Command Module #1

Contents:

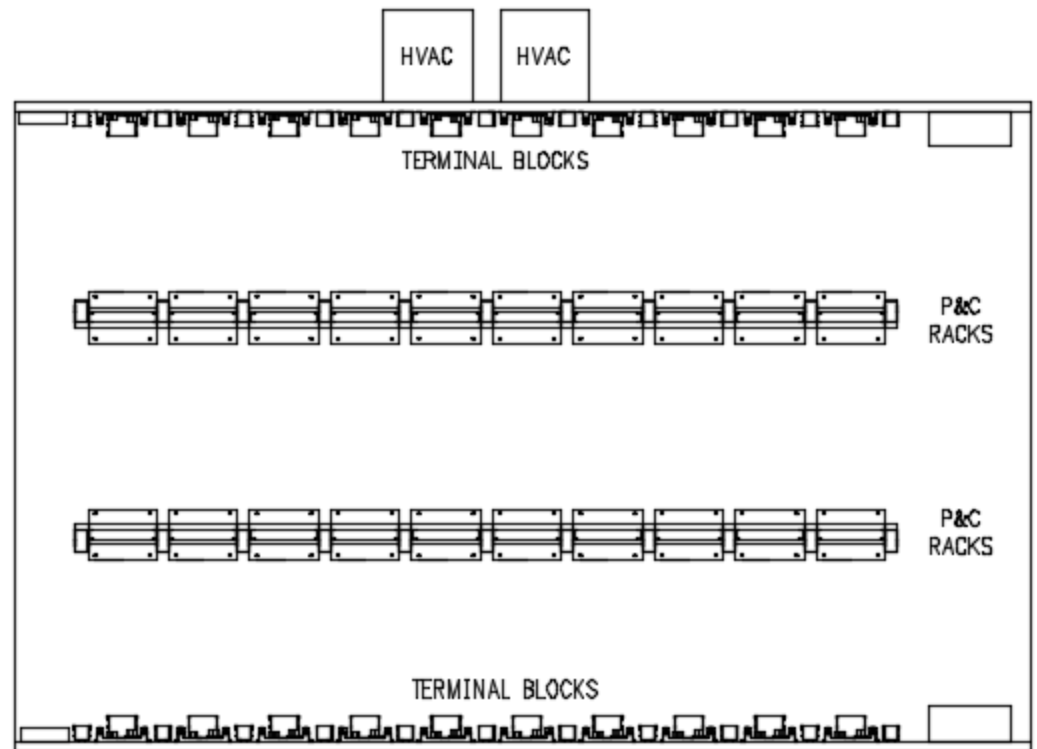
- Battery room
- 2 Battery chargers
- Restroom
- 2 Exit doors
- Desk
- Staging area
- HVAC
- Lighting controls
- Eye wash
- Hydrogen Fan



Protection & Control Module #1

Contents:

- 20 P&C racks
- Terminal blocks on walls
- DC Distribution
- HVAC

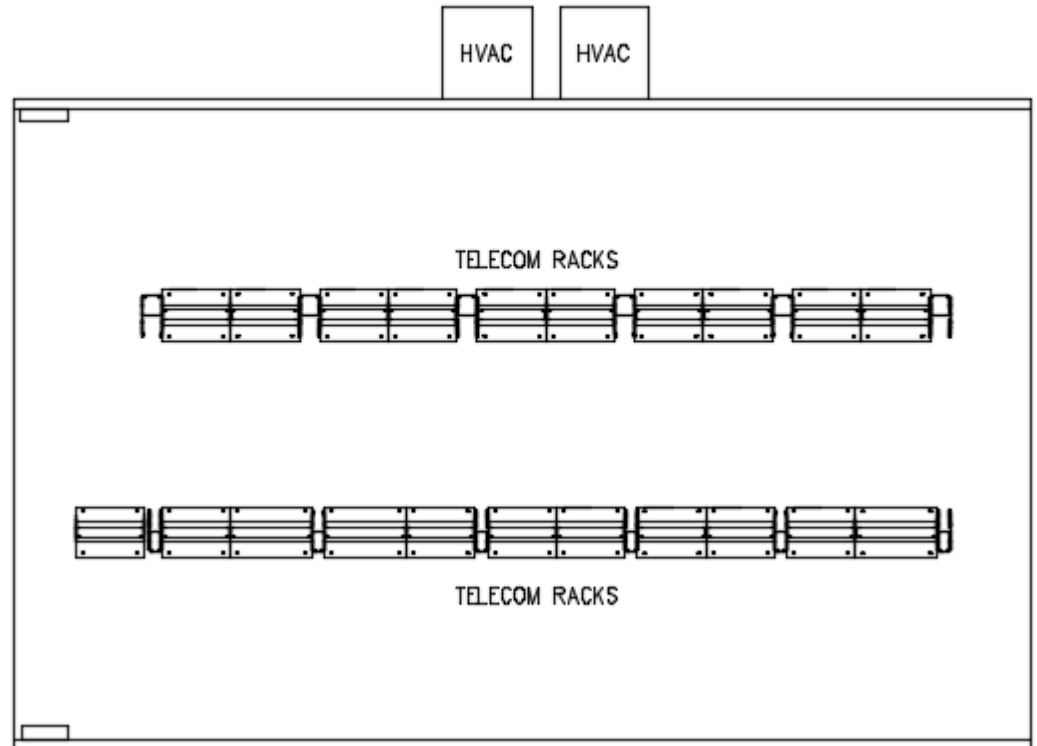


16' x 26'

Telecom Module #1

Contents:

- 17 Telecom 19" racks
- 3 Telecom 23" racks
- 1 Microwave rack
- HVAC

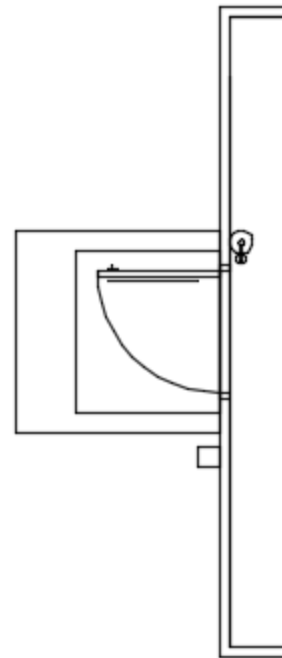


16' x 25'

End Cap Module

Contents:

- Exit door
- Fire extinguisher
- Lighting control



16' x 2'

Small, Medium, & Large

3 modules



4 modules



8
modules



Foundations & Cable Trenches

- Simple pier foundations with embedded plates
- Building welded to plates
- Trenches are placed slightly under building for cables to enter below the terminal blocks.



Summary

- We utilized commercially available racks for the relay and control mounting structure.
- We placed dead-front fuses on the front of the racks.
- We provided enough dead-front test switches in a small space to isolate all circuits to each relay.
- We moved the terminal blocks to the walls of the control building to allow us to retire side panels.
- We created nine modules capable of meeting the control building needs at any site.
- We increased our working space to 48" and minimized employee exposure to live terminals.

Questions?