

Cold Storage

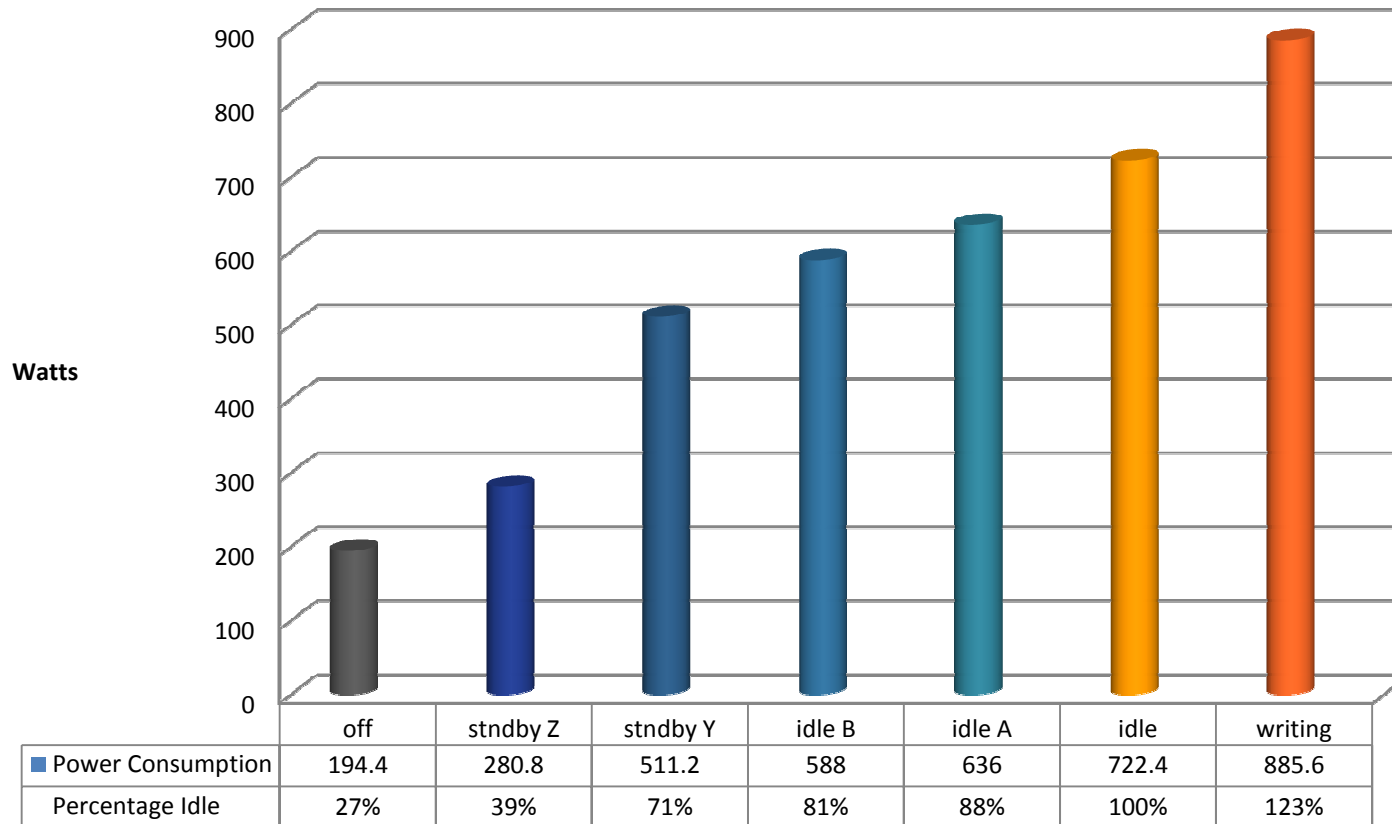
Joseph C. Nemeth
Technical Lead

What is Cold Storage?

- Power-Controlled Disk Storage
 - Reduces power costs when not in use
 - Reduces average facility cooling costs
 - Extends product life for disks
 - Allows use of less expensive drives

96-Disk Enclosure

Power Consumption (96 disks)



Firmware Power-Down

- Pros
 - No custom coding in DMF/OpenVault
 - Observes drive idiosyncracies
- Cons
 - Cannot perform full enclosure power-off
 - Limited to drives with auto power-down

Software Power-Down

- Pros
 - Can perform full enclosure power-off
- Cons
 - Requires custom DMF/OV coding
 - Limited to drives qualified by SGI
 - Enclosure power-off discovery issues

Constraining Peak Power

- COPAN model
 - power constrained in firmware
 - software has to avoid power thrashing
- JBFS model
 - power constrained in software

Periodic Health-Check

- Periodic power-up
- Periodic spin-up
- Periodic short read testing
- Periodic full read testing

S.M.A.R.T.

- Self-Monitoring, Analysis and Reporting Technology
 - Short and Long Self-Tests
 - Predictive failure analysis
 - Industry-wide base of experience