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Integrated TECHNICAL MANAGEMENT

Walker FIRE PROTECTION

Retrofitting Heat Pumps

Navigating some of the challenges & Pitfalls

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Electrification in Buildings

Elimination of the use of Fossil Fuels:

- Gas Fired Heating Hot Water & Domestic Hot Water (10-30% of a building's Scope 1 Emissions)
- Cogeneration/Trigeneration Systems
- Commercial Cooking (Gas Appliances)
- Diesel Powered Standby Generators

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HHW Electrification Options

Heat Pumps:

- 2-pipe, low temp, air-sourced
- 2-pipe, high temp, air-sourced
- 4-pipe, low temp, air-sourced
- Air-sourced + Water Sourced booster arrangement
- VRF Systems

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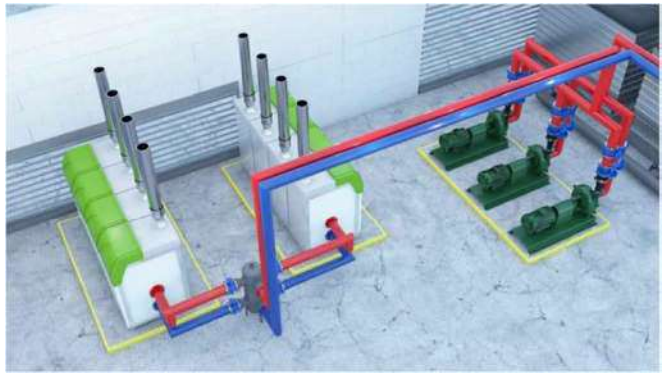
Plan Ahead

- Don’t wait until HHW systems have failed
- Are asset registers up to date?
- What’s the service life of existing plant?
- Best to prepare business case & options analyses



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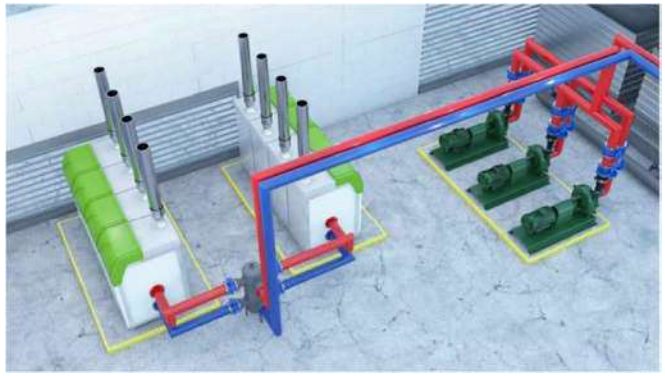
BMS Data

- Correct sizing is key, but complex exercise
- Legacy units likely oversizded
- “Like for Like replacement” for kW capacity probably excessive and $$
- Accurate trend data is invaluable
- Accuracy / calibration of field sensors and meters?
- Ideally several years of data
- Hourly trends



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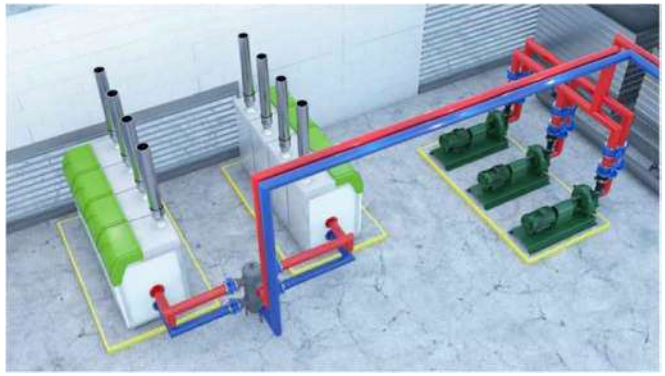
Switchboard Age?



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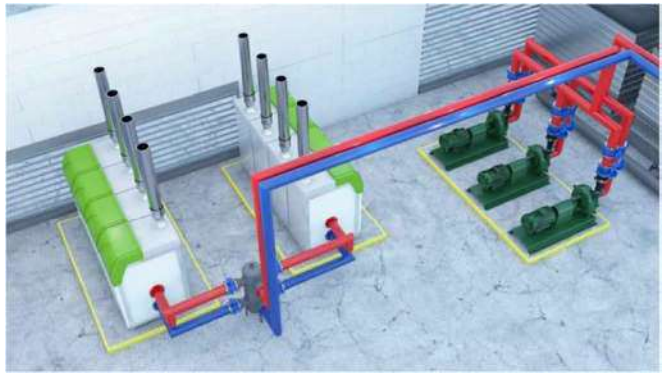
Switchboard Age?

- - Performance testing
- Tests during unoccupied hours
- Test scripts concise to facilitate conclusions



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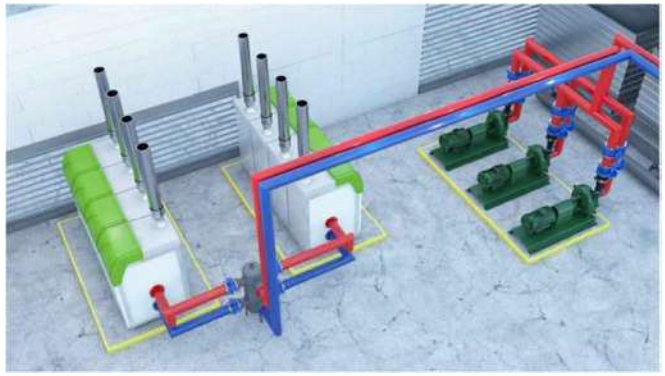
Staging

- Masterplan the works
- Fund manager / owners might value option to spread the cost
- Take advantage of tenant vacancies



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Questions to Ask

- Can we replace building heating coils?
- Is there sufficient and reliable historic BMS trend data and energy metering available?
- Does the building rely on cogen/trigen?
- Is there rooftop real-estate available?

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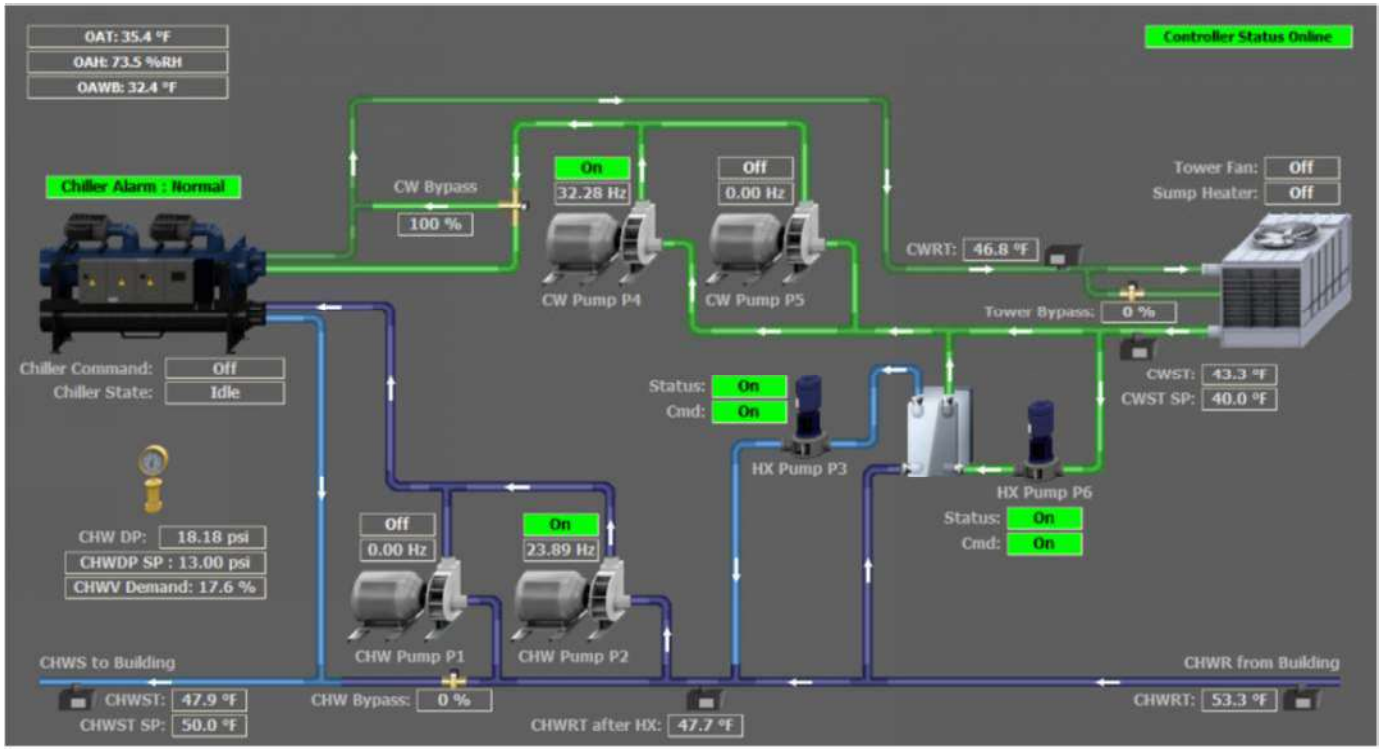
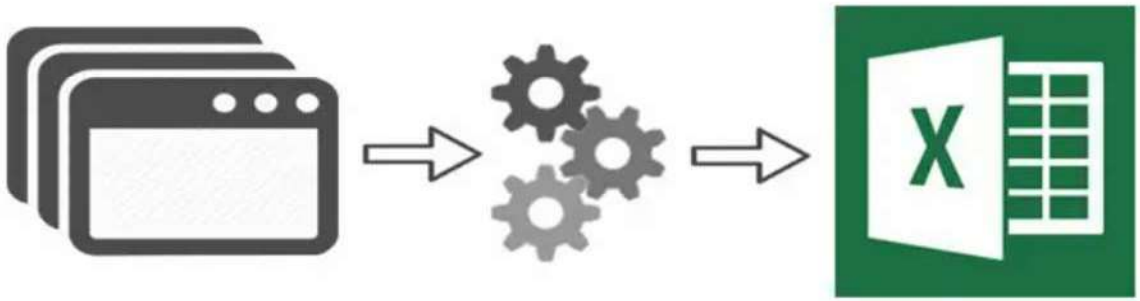
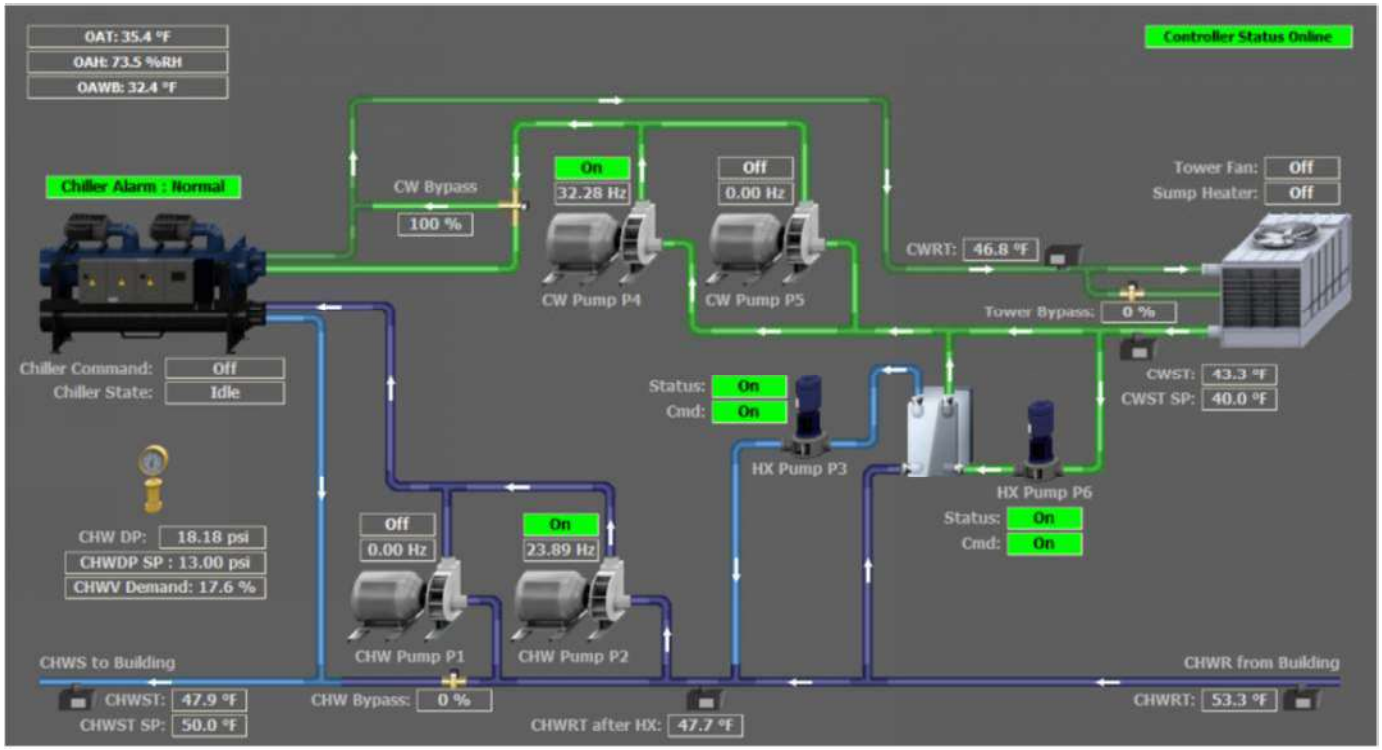
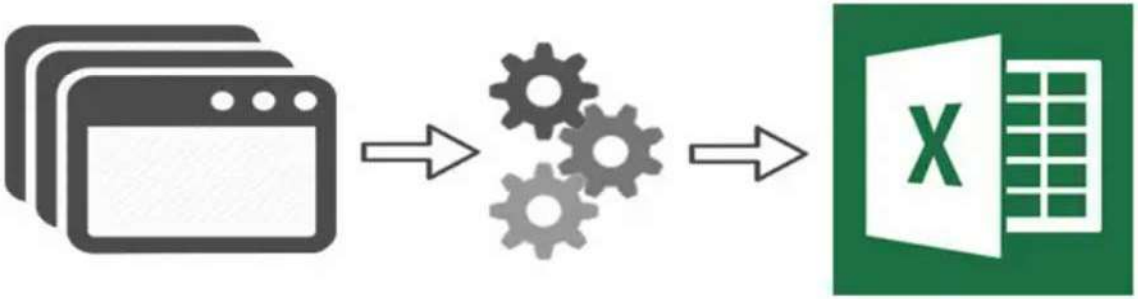




Other Considerations

- Acoustics and 24/7 operation?
- Refrigerant type implications wrt reporting





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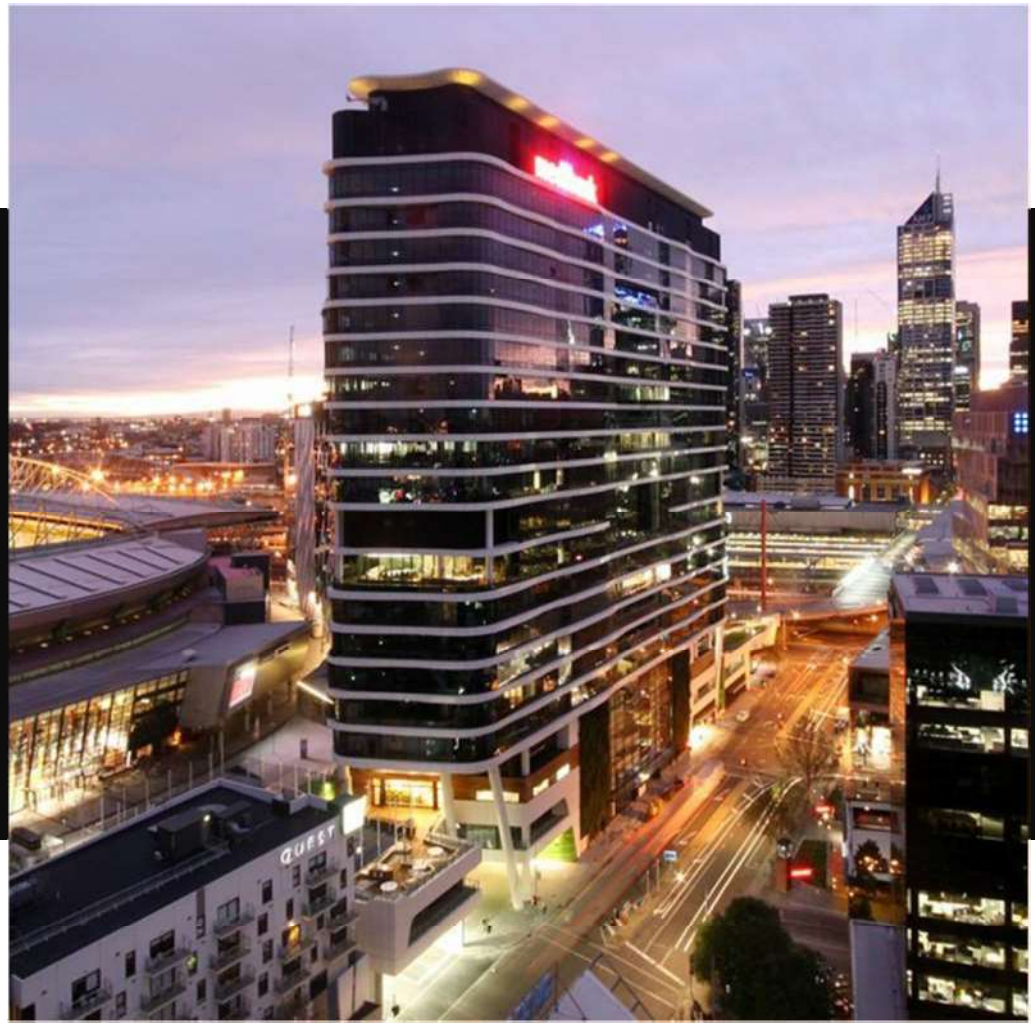
Additional Resources



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