

Building Controls Upgrade

CIP# C800944

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AV PMG - Infrastructure

Project Scope and Location

- Replace obsolete control panels (Approx. 100)
 - Renewal and Replacement
- Expand the fiber backbone with required network equipment
 - Concourse A completed 2015



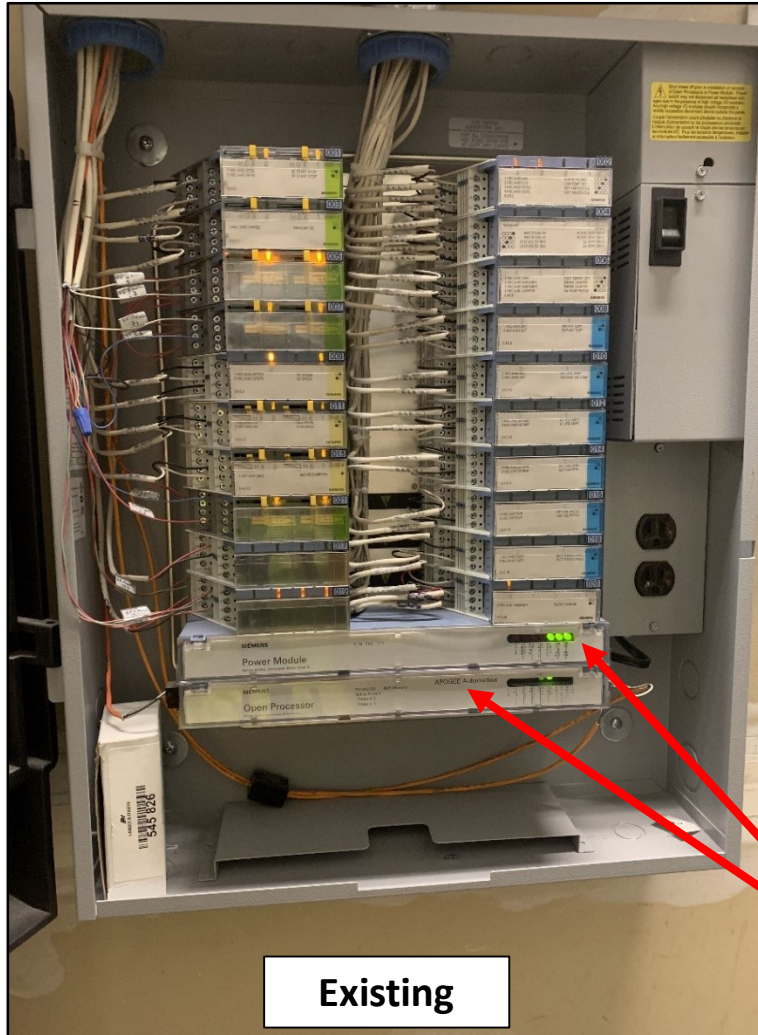
Building Controls Background



- HVAC Systems
- Safety interlocks in tenant/restaurant kitchens
- Metering of usage for domestic water, natural gas, and other utilities

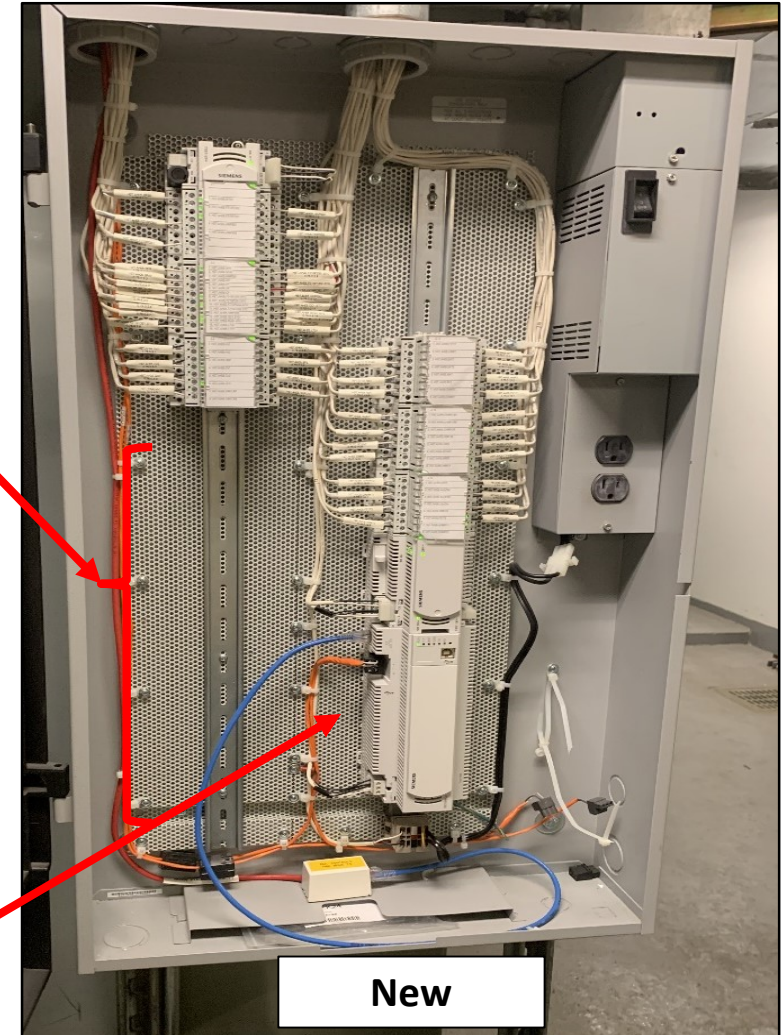


Replacing Control Panels



Room for Future Expansion

Control Processor



Schedule

- Advertise for Design 1st Quarter 2020
- Award Design 3rd Quarter 2020
- Design complete 1st Quarter 2021
- Construction Authorization 2nd Quarter 2021
- Construction start 3rd Quarter 2021
- Substantial completion 3rd Quarter 2022

Risks

- 1. Regulated Material Management (RMM)** – Replacement and rebalancing of the control panels may require some panels to be relocated to an area that requires RMM abatement.

Mitigation: The design team will consult the Good Faith Surveys that are available followed up with field investigations of the panel locations and potential fiber pathways.

- 2. Existing As-builts and ongoing construction** – The fiber pathways connecting the control panels will need to be designed. The potential pathways will be routed through existing infrastructure and potentially through ongoing construction areas.

Mitigation: The design team will work with the latest existing drawings to conduct field investigations. The team will need to coordinate with ongoing construction to validate drawing existing and future pathways.

Risk

3. Commissioning – The replaced panels will require systems to be shut down for a period of time to complete the tie in and start up of the new panels.

Mitigation – These outages will be coordinated and scheduled to minimize the impact to passengers and tenants.

Appendix

- Building Control System Background
- Alternatives

Building Control System Background

- The mechanical controls system at STIA dates back to the 1990's
- Monitors and Controls Mechanical Equipment
 - Heating, Ventilation, and Cooling (HVAC); chilled water, steam, hot water and Pre-Conditioned Air (PC Air)
 - Equipment that is customer and tenant facing
 - Equipment in critical spaces: port and tenant data centers, electrical rooms, C4 area
 - Integrated with fire alarms to perform smoke control operations
 - Safety interlocks in tenant/restaurant kitchens
 - Metering of usage for domestic water, natural gas, and other utilities

Alternative 1

- Do not proceed with the renewal and replacement project.
- Cost Estimate: \$0

Pros

- No Capital funding would be required at this time.

Cons

- Panel failure will have a negative effect on the passenger and tenant experience at STIA.
- Future projects will be limited on expansion capabilities until the panels and fiber network are replaced.
- Future projects will be required to change panels out adding time, complexity, and cost to their scopes.
- Replacing panels on a project by project basis will increase the unit cost of the panel replacement.
- The fiber network will not be extended into Concourse B, C, and D.
- The issue of intermittent data loss will not be addressed.

This is not the recommended alternative.

Alternative 2

- Replace the obsolete control panels only.
- Cost Estimate: \$6,500,000

Pros

- Lower capital investment
- Replaces obsolete equipment and failing control panels.

Cons

- The existing copper backbone will limit the expansion capabilities of the control panels and the ability to add additional panels for future expansion.
- The issue of intermittent data loss will not be addressed.
- The fiber network will not be extended into Concourse B, C and D.

This is not the recommended alternative.

Alternative 3

- Replace the obsolete control panels and expand the fiber backbone throughout concourse B, C, and D.
- Cost Estimate: \$10,000,000

Pros

- Replace obsolete equipment and failing control panels.
- Extends the fiber network into concourse B, C, and D.
- Provides infrastructure for future build outs with greater data requirements and the ability to add additional capacity with new panels.
- Mitigates existing data capacity issues on the copper backbone

Cons

- This is the highest capital investment.

This is the recommended alternative