Item No.:	7c_supp
Meeting Date:	December 9, 2014

Standby Power Facility

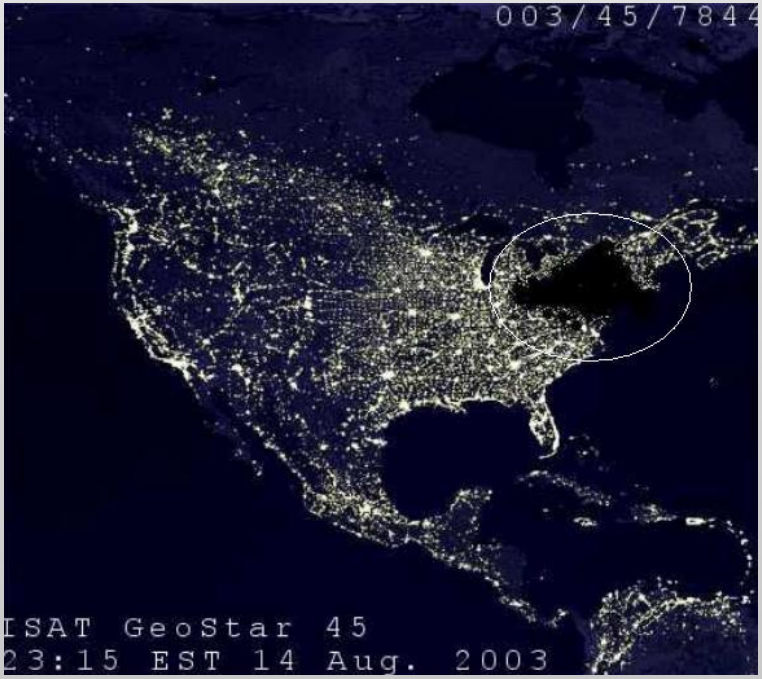
Seattle-Tacoma International Airport

Port of Seattle®

Passenger Experience

Problem

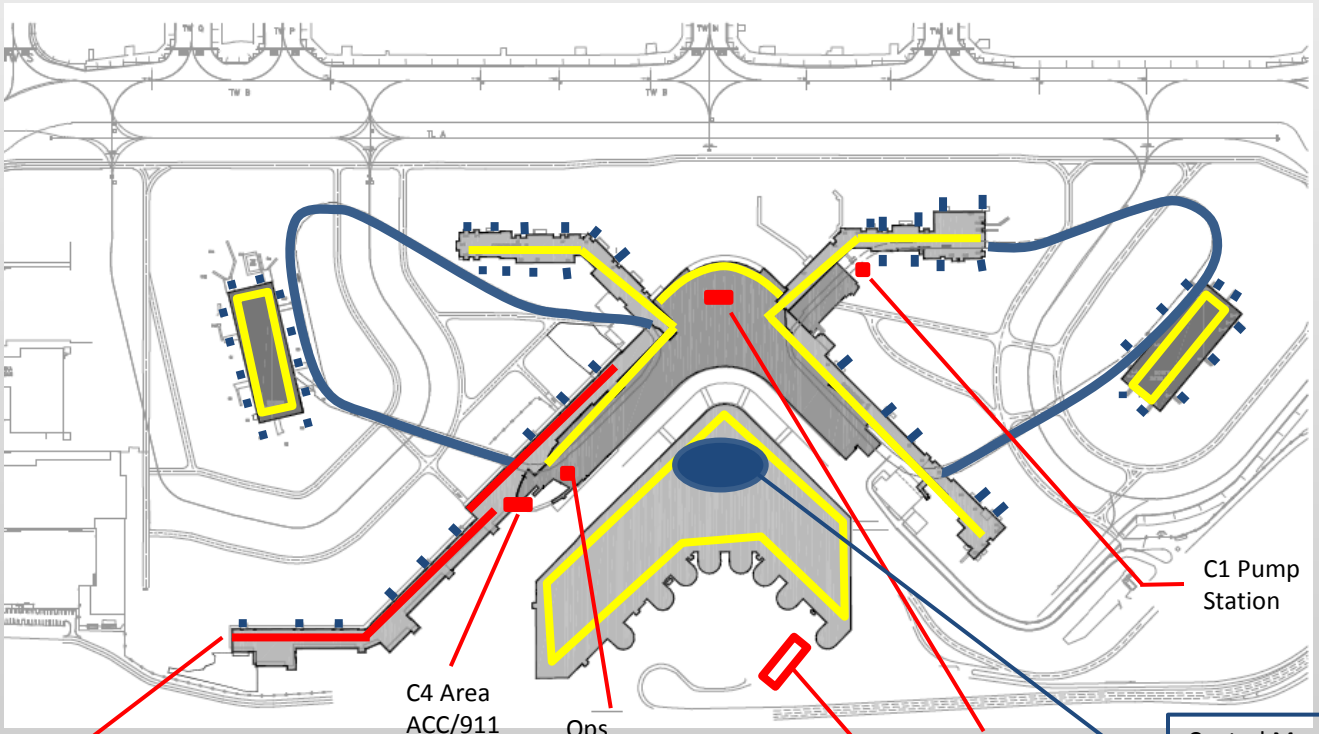
The Airport currently has backup generation capability for limited life/safety functions. During a precipitating event (man-made or natural), the vast majority of the airport's electrical functions cease to operate.



- Risk of Power Outage is Not Quantifiable
- Impact of Outage is Very High
- Frequency of Power Outage is Low

- 2009 Howard Hansen Dam Incident
- 2008 Car Pole Accident
  - South Main Substation lost
- 2006 Windstorm
  - South Main Substation lost
  - PSE lost 10 percent of transmission
- Power into Sea-Tac has a single point of failure at the (230kV) Maple Valley BPA Substation.

30 – 60 Min After Power Loss



Emergency Power (3 MW)

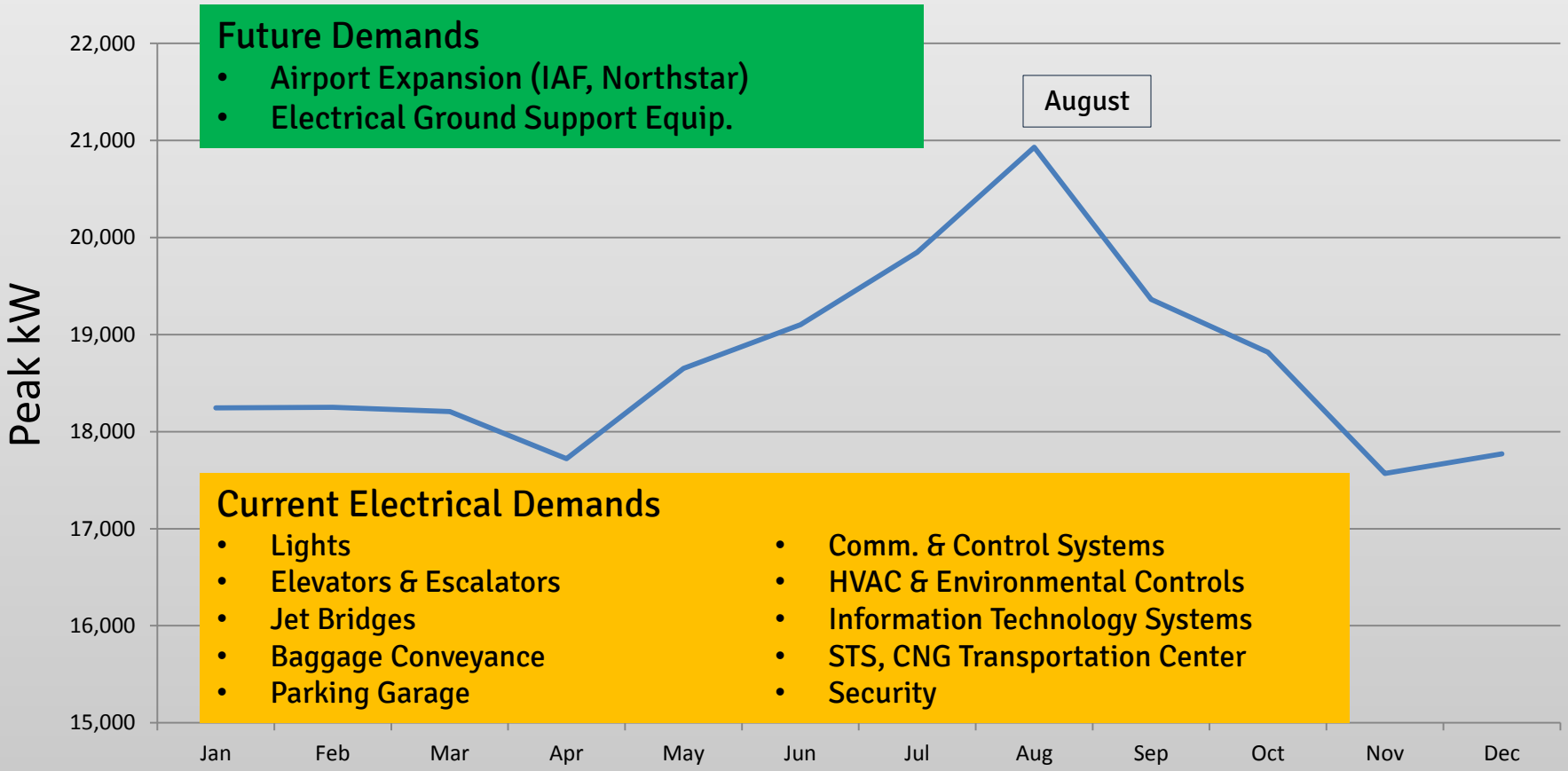
Emergency Egress Lighting

Areas Dark No Power

- Communication rooms shutting down due to high heat (~1hr)
- Capable of 1 Jet Bridge on Concourse A

- Emergency Lighting Only
- Equipment on UPS shutting down
  - IT Equipment (Port & Airline)
  - TSA Screening Machines
  - Bathroom Egress Lights

2013 STIA Peak Load (17.5 – 21 MW)



STIA Peak Electrical Load by Month

Back-up Power at Other Airports

Atlanta (Hartsfield Jackson)	New terminals and operational buildings 100% Back-Up, All others life/safety
Boston (Logan)	40% Back-Up with redundant utility power
Chicago (O'Hare)	100% Back-Up with redundant utility power
Dallas Fort Worth	10% Back-Up for Life/Safety only
Denver International	10% Back-Up for Life/Safety only
Los Angeles (LAX)	Bradley Terminal 50% - Two new terminals 100% Back-Up
Las Vegas (McCarran)	100% Back-Up with redundant utility power
Honolulu	100% Back-Up with load shedding
Newark	75% Back-Up with more planned
Portland	60% Back-Up with load shedding
San Francisco	10% Life/Safety Only
St. Louis	100% Back-Up with load shedding

Standby Power Facility

Scope:

- 25 MW Standby Power Facility
- Expandable to 30MW
- 48 hour fuel tanks
- Dual fuel capable
- 5 minutes to full capacity

Preliminary Cost Estimate: $37.2 M

Project Delivery Strategy

- Delivery Methodology: Building Engineering Systems
  - RCW 39.04.290
  - 2 step RFQ/RFP Performance Specification
- Benefits
  - Turn-key solutions available
  - Promotes innovative solutions from Industry
  - Majority of cost is generation equipment
  - Schedule: Ordering of long lead items during design
- RFQ / RFP Development: 3rd QTR 2015 – 4th QTR 2015
- Design: 1st QTR 2016 – 2nd QTR 2016
- Construction: 3rd QTR 2016 – 2nd QTR 2017