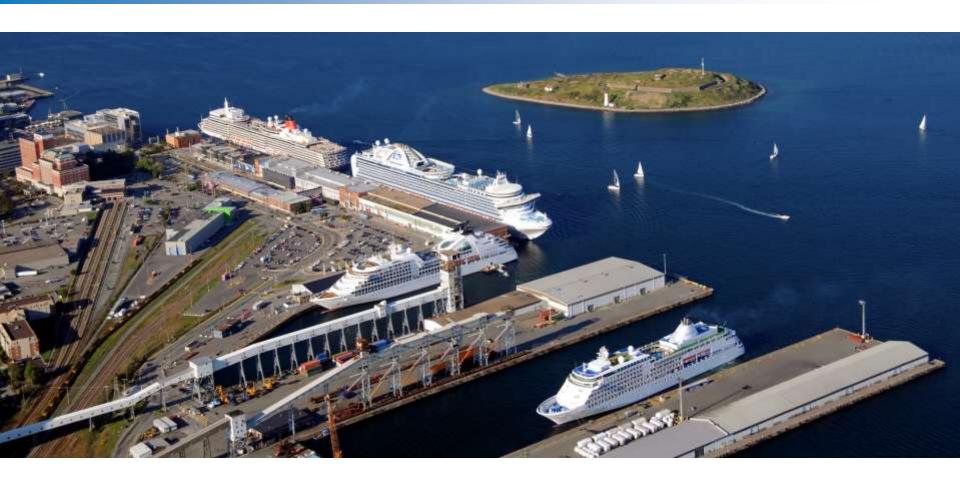
Port of Halifax

Shore Power System for Cruise Vessels

February 2015



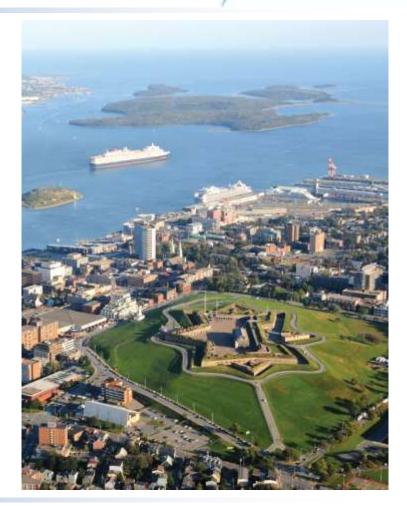




Cargo · Cruise · Seaport

Cruise Business

- May October
 - Peak season is Fall
- 17 lines calling
- 130 vessels
- Over 225,000 passengers



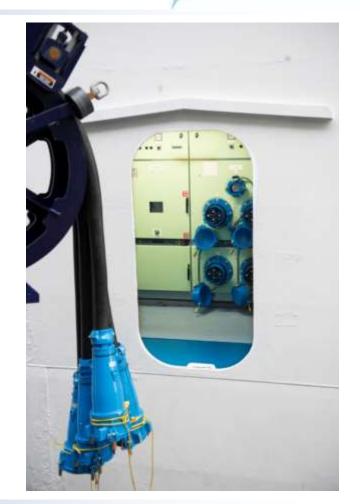




Cruise Vessel Shore Power Energy Requirements

Vessels calling Port of Halifax with shore power systems

- 6MW 14MW Energy
- Most of the cruise lines agreed on a standard







Drivers

- Emissions Control Area (ECA) Regulations
 - Provide alternative option to meet new regulations
 - Atlantic Canada Ports 100% in ECA
 - Average sailing distance was over 1500 nm

- Energy Company Support
 - Nova Scotia Power





Drivers

- Energy Supply Nova Scotia Power
 - Load / Capacity Available
 - Affordable Energy costs- Interruptible Rate
 - Design a new rate for shore power
 - Environmental Emissions Reductions
 - Reduction in Provincial Emissions





Drivers

- Local Environmental Groups Support
 - Reviewed environmental benefits of system
 - Supported the shore power program
- Partnership Funding
 - Federal Government Funding
 - Provincial Government
- Cruise Line Agreements
 - Maintenance and, usage fees, insurance, etc.





Evaluation of Systems

System designed to meet needs of the cruise lines

- Safe and reliable
- Cost effective and efficient system
- Standardized
- Preliminary design and estimate









Implementation

\$10 Million system

- Infrastructure for 2
- Installed one system
 - Cochran Marine
- Construction
 - Plan was 1 year
 - Actual 7.5 months
 - March October
- First Connection
 - October 2015









