

SLEA DATA ACQUISITION SYSTEM & REPORTING SCOTT ROAD STATION REPLACEMENT RIVERBEND STATION REPLACEMENT SOMBRA LINE STATION PROPOSAL

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MOC Ref 20210817-A, B, C, D

Executive Summary

- Upgrade of entire data acquisition system, server, and website
- Upgrade of Scott Road and Riverbend stations with new equipment and away from nearby obstructions
- Upgrade Sombra Line station with new SO₂ unit

- Total capital investment (\$370K)
 - DAS – \$150K
 - Scott Road - \$80K
 - Riverbend - \$130K
 - Sombra Line - \$10K

MOC – 20210817-A

SLEA Data Acquisition System and Reporting

- In late 2020, baseline assessments of the SLEA Airshed Program were completed by vendors bidding on the O&M contract; all identified that the data acquisition and storage systems were outdated, unsupported and without back-up.
- In early 2021, following their initial transition, RWDI was asked to investigate options and generated a recommendation for a full system upgrade to address these gaps.

Level	Execution
Minimum 50%	Install a data acquisition system that is technically supported and able to route data to a modern server that is secure and backed-up
Target 100%	Route data from this server to a modern online reporting tool that provides members with real-time access to scrubbed reports and advanced analytics
Maximum 150%	Update CASA website to address data quality / user interface issues as identified by members of CASA and MECP

Scope

In Scope	Out of Scope
Replacement of data acquisition systems at Front, LaSalle, Riverbend, Moore, Scott, Rokeby, and Water Stations	Data acquisition of AirPointers is already state of the art and will remain as is.
Replacement of individual desktop server with a server maintained and backed up by the vendor	Integration with IEC cloud based server – this was reviewed and not selected as preferred option for storage or back-up of data
Use of vendor software to process data from the server into user-friendly reporting and data analytics tools that allow members to directly access scrubbed data	Annual reports are out of scope of this work Note - monthly reports already supplied from RWDI to SLEA and reviewed at monthly SLEA Tech Committee meetings
Updating of website to address audience feedback and removal of unscrubbed data currently accessed by the public/researchers	Current Rotech contract will be eliminated and drop from the scope of this project

Critical Success Factors

- Perception of change viewed positively by CASA / MECP
- Seamless transition from old system to new with minimal interruption
- Improved security and back-up of data by vendor with SLEA maintaining full ownership of data
- Improved reliability of system with enhanced remote access to equipment troubleshooting and repair
- Improved public access to scrubbed near real-time data with corresponding monthly reports posted for public review
- Restricted member access to fully scrubbed air and water monitoring information for analysis

MOC – 20210817-B

Scott Road Station Proposal

- In mid 2020, during siting of the SO₂ AirPointer unit, the MECP shared how the location of the Scott Road station was not compliant with all provincial requirements. In early 2021, RWDI confirmed this and investigated options.
- An acceptable location was identified just inside the fence of the Scott Road station. This location was reviewed and approved by MECP and by the landowner (IOL) who prefer this location.
- In addition to relocation, the station would be replaced with the existing SLEA mobile air monitoring station.

Level	Execution
Minimum 50%	Scott Road monitoring station to operate in compliance with MECP requirements (per prescribed setbacks)
Target 100%	Station located in a preferred location for the landowner that may not require SLEA vendor to cross controlled access if new fencing and separate access is installed.
Maximum 150%	Station integrity upgraded by an existing mobile unit that could be transported to site and installed as a replacement

Scope

In Scope	Out of Scope
Prepare new site including installation of fencing, tower base, and electrical utilities	IOL to support planning and issuing of safe work permits for excavation(s) and hot work planned at site.
Relocate mobile station from Western Research Park to new location and install	Repairs to bearings, brakes, tires, etc. required for road travel as station will be set on blocks.
Remove equipment from old station, transfer to new station, and commission.	Racks, manifold, computer, etc. will not be relocated if equipment within the mobile unit is deemed acceptable.
Procure new SO ₂ analyzer, install and commission.	Relocation and installation of SO ₂ AirPointer from Scott Road to Sombra Line station. Other analyzers (e.g. GC) to be part of capital proposal in 2022.
Procure new meteorological tower (with tilt access) and install on base.	
Safe out power supply to IOL requirements. Haul old station away for disposal. Rake gravel at old site to blend in with adjacent parking.	Removal of buried utilities as required by owner.

Critical Success Factors

- Compliance with MECP requirements
- Perception of change viewed positively by CASA
- Seamless transition from old station to new without interruption
- Improved station access without access to IOL operating site
- Improved station integrity associated with structural upgrade
- Improved station security
- Improve SO₂ analyzer reliability
 - Move SO₂ AirPointer to Sombra Line to address aging equipment (MOC 20210817-D)

MOC – 20210817-C

Riverbend Station Proposal

- In late 2020, the MECP shared how encroachment onto Riverbend station impacts confidence in station readings.
- An alternate location was identified within 100's of meters from the original Riverbend location. This location was assessed by RWDI as compliant with MECP requirements.
- A presentation was made to St Clair Township Council (as landowner) who unanimously approved this location and shared how it could benefit the community and become part of curriculum in nearby school.

Level	Execution
Minimum 50%	Riverbend monitoring station to operate in compliance with MECP requirements (per prescribed setbacks)
Target 100%	Station integrity upgraded by a new air monitoring station transported and installed
Maximum 150%	Station located in a preferred location for the landowner to promote environmental awareness and emergency preparedness

Scope

In Scope	Out of Scope
Prepare new site including installation of pad and electrical utilities.	St Clair Twp to support planning and issuing of building permits and excavation(s) at site.
Procure and locate new station to new location and install.	Previous work to source air monitoring trailer should be used to identify vendor and unit specifications.
Remove equipment from old station, transfer to new station, and commission.	Racks, manifold, computer, etc. will not be relocated unless equipment is not provided in the new unit. Other analyzer upgrades may be part of capital proposals for 2022.
Haul old station away for disposal. Rake gravel at old site to blend in with adjacent parking.	Removal of buried utilities unless required by owner.

Critical Success Factors

- Compliance with MECP requirements
- Perception of change viewed positively by CASA
- Seamless transition from old station to new with minimum interruption
- Improved station access
- Improved station integrity associated with structural upgrade
- Improved station awareness in community
- New real-time air quality information available to school and CAER responders that is more representative of these receptors

MOC – 20210817-D

Sombra Line Station Proposal

- Proposals for capital work across the SLEA Network have been submitted (MOC 20210817-A,B,C) to the SLEA Tech Committee for review and technical endorsement. Investment in new equipment at Scott Rd station creates an opportunity for the SO₂ AirPointer to upgrade the current SO₂ analyzer at Sombra Line station. This investment is further justified as the Sombra Line station structure is in disrepair, the analyzer is old, and the DAS is unsupported and in need of replacement.

Level	Execution
Minimum 50%	Sombra Line monitoring station to continue to operate reliably and in compliance with MECP requirements
Target 100%	Station integrity upgraded by an existing SO ₂ AirPointer unit that could be transported to site and installed as a replacement
Maximum 150%	Station relaying data as part of the upgraded DAS/Server system as significant cost savings

Scope

In Scope	Out of Scope
Prepare new site including installation of pad and electrical utilities	Replacement in kind with minimal interaction with landowner
Construct and install brackets for AirPointer installation at existing building	No new station would be constructed as AirPointer would be used instead
Relocate existing AirPointer station to new location following successful commissioning of new SO2 unit at Scott Road	No visible change at the Sombra Line station so no need to engage with landowner beyond normal

Critical Success Factors

- Compliance with MECP requirements
- Perception of change viewed positively by CASA
- Seamless transition from old station to new with minimal interruption
- Improved station integrity associated with modern equipment
- Full integration of unit with upgraded DAS/Service/Reporting system