Instructions for Establishing CEMS Connectivity, filling Checklists and Calibration Data
Software Requirements

1. Prerequisite: System Integration Test

Before starting data connectivity steps, the device must be ETS Compatible

    a) Pass system integration test

    b) Send sample text file to ETS team for verification

    c) Download ETS bridge on vendor computer and generate simulated data for transfer to Ascent server

    d) Rectify any issues if required

2. Steps for Establishing Data Connectivity

After the System Integration Test is passed, all remaining steps below for establishing data connectivity are carried out through the ETS software. To access the software page, complete the following steps:

    a) For **GPCB**, go to www.gpcb.gov.in:443/etsserver
       For **MPCB**, go to http://220.225.78.3:8080/etsserver/

    b) Use your login ID and password to access the software

    c) Click "Site Admin" on the top right side

Subsequently, follow the steps mentioned below:

2.1. CEMS Device Registration Using Login ID

2.1.1. Register DAS

    a) Click "DAS" on left panel

    b) Click "add"

    c) Create a name for the PC and select the Plant from the drop-down menu
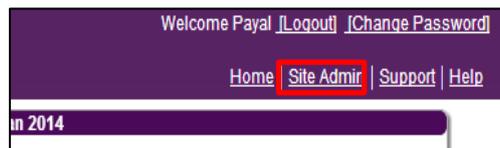
2.1.2. Register Stack

    a) Click "Stack" on left panel

    b) Click "Add"

    c) Select plant name from drop-down and fill in stack details for stack on which CEMS device is installed

2.1.3. Register CEMS device

    a) Click "device" on left panel

    b) Click "add"

    c) Select Plant Name, DAS name, and Stack Name

    d) Fill in device and vendor details

    e) A composite ID will be generated once you complete this step

2.2. Running CEMS Software

#### 2.2.1. Install CEMS Vendor Software on Industry PC

2.2.2. Obtain Composite ID number. Composite ID is automatically generated and displayed on screen after step 2.1.3 above

2.2.3. Input composite ID into CEMS software. Configuration must be done such that data files are outputted in an ETS compatible format (see CEMS guidelines for details)

2.3. ETS Bridge Download

2.3.1. Click "Download ETS bridge" in left panel

2.3.2. Select Plant Name and DAS to which data will be transferred

2.3.3. Download ETS bridge and open zip-file

2.3.4. Save ETS Bridge zip-file in same folder as CEMS software data files

2.3.5. Double-click start.bat Double-Click ETSBridge.exe

2.3.6. A black command box will open up and link up with the CEMS software to begin data transfer

2.3.7. Once device is connected, vendor must check full system to ensure data is being sent reliably and continuously
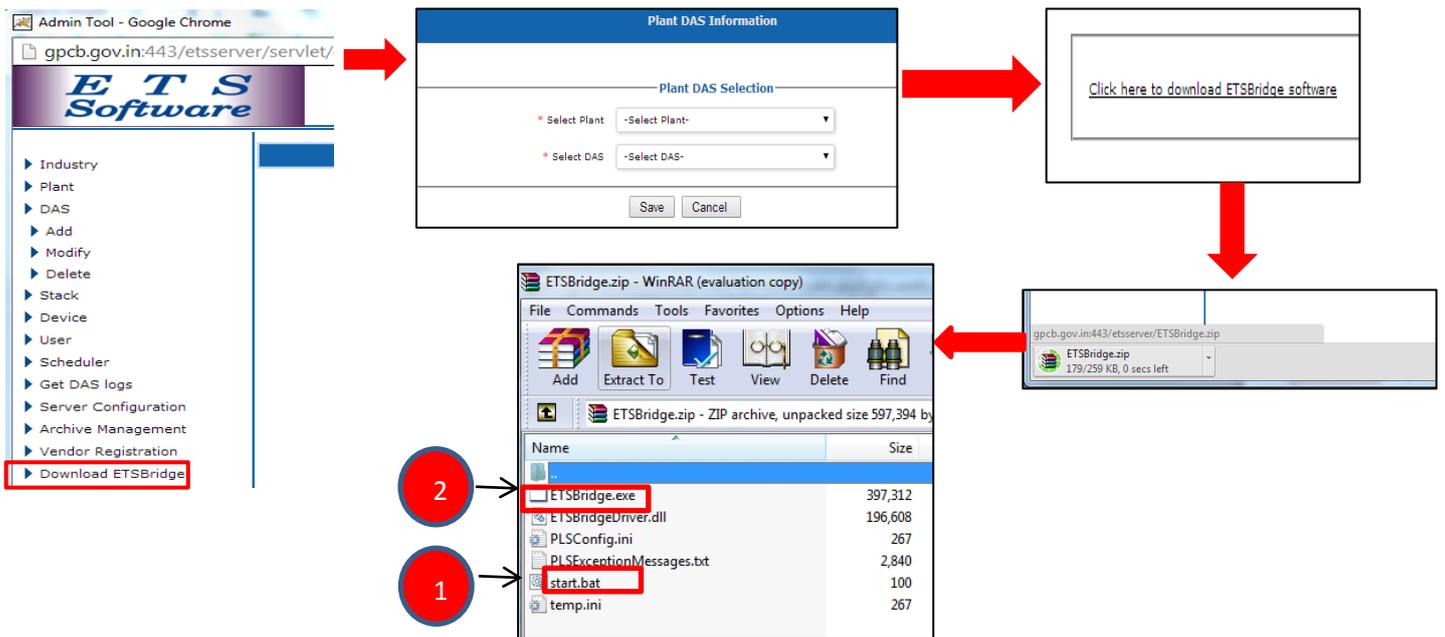
3. Multiple CEMS connections from one Industry

In case an industry has to connect multiple CEMS devices, a subset of steps mentioned in 2 above will have to be followed. There could be two variations in connecting multiple CEMS. The variations with required steps are:

3.1. Multiple CEMS connected to one DAS:
Repeat steps 2.1.2 (Register Stack), 2.1.3 (Register Device) and 2.2 (running CEMS software) for each new device and restart ETS Bridge every time a new device is added to the DAS.

3.2. Multiple CEMS connected to multiple DASs:

3.2.1. Repeat step 2.1.1 (Register DAS) for each DAS added.

3.2.2. Repeat steps 2.1.2 (Register Stack), 2.1.3. (Register Device) and 2.2 (running CEMS software) for each device added to the DASs.

3.2.3. Repeat step 2.3. (ETS Bridge Download) for each DAS.

4. Installation and Functional Checklists

4.1. Installation Checklist

4.1.1. Click on Installation Checklist on the left panel

4.1.2. Fill Installation Checklist for each CEMS device registered for your plant

4.1.3. Provide appropriate reasons for deviations (if any)

4.2. Functional Checklist

4.2.1. Click on Functional Checklist on the left panel

4.2.2. Fill out functional checklist for each CEMS device registered for your plant. Please note that you can fill functional checklist only after you have filled installation checklist for the device.

4.2.3. Provide appropriate reasons for deviations (if any)

5. Calibration

5.1. Isokinetic Sampling Data from Env. Lab

5.1.1. Once the Environmental Lab has completed isokinetic sampling as per the guidelines, they should fill the isokinetic sampling sheet (which will be shared by the SPCB) and submit it to industry/vendor.

5.1.2. Vendor should ensure that the data is filled in required units and doesn't include absurd looking data

5.2. Sampling Input Sheet

5.2.1. Click on Calibration on the left panel. Then click on Sampling Input Sheet

5.2.2. Fill in the sampling data on the portal. **Pay special attention to units of various data**

5.2.3. Fill all the data in one go. You cannot change the data once you press SUBMIT button

5.2.4. Once submitted, the data will go to admin for approval.

5.2.5. The admin may **reject** admin data if there are errors in the data or if required number of valid samples is not there. If the data is **rejected**, the industry should fill **correct and valid** data again.

5.3. Calibration Result

5.3.1. Once the admin **approves** sampling data, calibration calculations will be performed and calibration factors (CF_m and CF_c) will be calculated. A **post calibration test** will be conducted which the device will either pass or fail.

5.3.2. If the device **passes** the test, calibration factors can be seen under **Calibration Result** tab. The calibration factors should be entered in the vendor software.

5.3.3. If the device **fails**, industry should refer to **Industry Guidelines** to take corrective action.

Functional CheckList

Plant Device Information
- * Select Plant -Select Plant-
- * Select Device -Select Device-

Details who is performing Functional Test
- * Date of Functional Test
- * Person Name
- * Person Designation
- * Company Name
- * Mobile Number
- * Email Id

Alignment and Cleanliness

INSTRUCTIONS
1. Fill in this form AFTER the CEMS device is installed and BEFORE the device is calibrated
2. Write a response for EVERY question
3. Use the appropriate units, listed in the question
4. Duplicate Industry ID, name, SRM, and lab name for each sample number

Site Information
- *Plant Name Select Plant
- *Device Select Device

Reading Information
- Standard Reference Method (SRM) Used*
- Lab which performed the sampling*
- For Zero Reading Load* Select Zero Reading Load

'No Zero Reading' signifies that no raw measurement for Zero Reading was taken. 'Zero Reading from device' signifies that raw measurement from device is available for zero load. Please specify the time duration for raw measurement for Zero Load.

Calibration Result
- Plant Name
- Device Name STACK-1_DCEM2100
- Composite ID
- Type of Confuguration PM Mass Concentration
- Name of Lab
- Date of Sampling 01-04-2014
- SRM Used Isokinetic Method IS:11255(Part 1):1985.RA:2003
- Number of samples taken
- Number of Valid Samples
- Calibration Factor 'm' 97.189
- Calibration Factor 'c' 6.803
- Root Mean Square Percentage Error 24.736
- Post Calibration Performance Test Result Pass
- Calibration factors suitable for use Yes
- Valid Calibration Range 0 mg/m3 to 97.702 mg/m3