# NJDEP Technical Services
# Emission Measurement Section

Our Mission:

The Technical Services Emission Measurement Section (EMS) is responsible for overseeing the quality assurance/quality control of air emissions measurements in New Jersey. The Section's two primary programs include:

- Oversight and review of all single event stack emission tests conducted by source facilities.

- Certification of the accuracy and reliability of continuous emissions monitoring (CEM) systems.

# EMS Testing Activities

## Stack Test Program

- Protocol Reviews
- Test Observations
- Stack Test Report Reviews
- Approximately 200 per year

## CEMS Certification Program

- Equipment Protocol Reviews
- Certification Test Protocol Reviews
- Generally not observed
- Certification Test Report Reviews
- Approximately  30 per year

# Stack Test Quality Assurance Steps

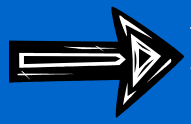
Protocol Review – Initial step. Ensures that not only the proper methods are selected, but that they are tailored to the source specific conditions.

Test Observation – The most critical step. Testing is complicated and often conducted in harsh conditions. Errors affecting the data quality could not be documented without direct observation.

Report Review – The final step. Includes calculation confirmation and review of laboratory data. Validated results can then be compared to Permit limits or other standards.

# Technical Manual for Stack Testing

- Technical Manual 1004 (TM1004)
  - "Guidelines for Compliance Stack Emission Test Programs"
  - www.state.nj.us/dep/bts (Look under Consultant Services)
  - Revision approved September 2009.
    - New protocol templates.
    - Updated protocol templates.
    - Safety.
    - NJ Certified Labs required.
    - Basis and Operation during testing.



Plan to revise again to incorporate electronic submittals (and add more templates.)

# Electronic Reporting to EMS

## EPA's Electronic Reporting Tool (ERT)

- Software to Standardize Source Test Planning, Reporting and Assessment.
- http://www.epa.gov/ttnchie1/ert/
- Enhancements made to improve and simplify ERT use based on EMS requests. ERT used for electronic submittals of protocols, stack test reports and CEMS PST reports to improve efficiency.

# Electronic Reporting to EMS

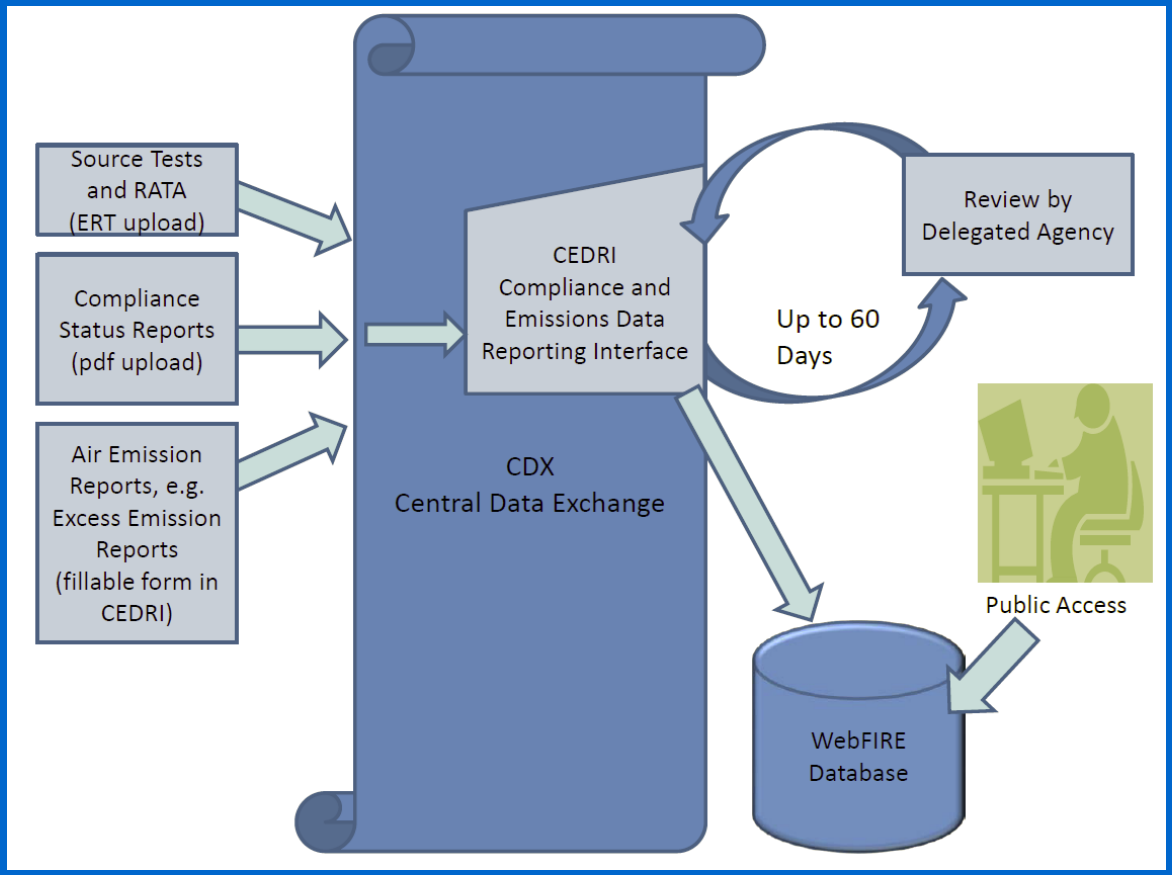
The Air Permitting Program began to include language in Permits approved on or after July 1, 2014 that required stack test protocols and stack test reports to be submitted to the Emission Measurement Section using ERT (unless otherwise approved by EMS.) This did not affect any tests where protocols were already submitted or approved, though ERT use is still encouraged for all tests.

Background

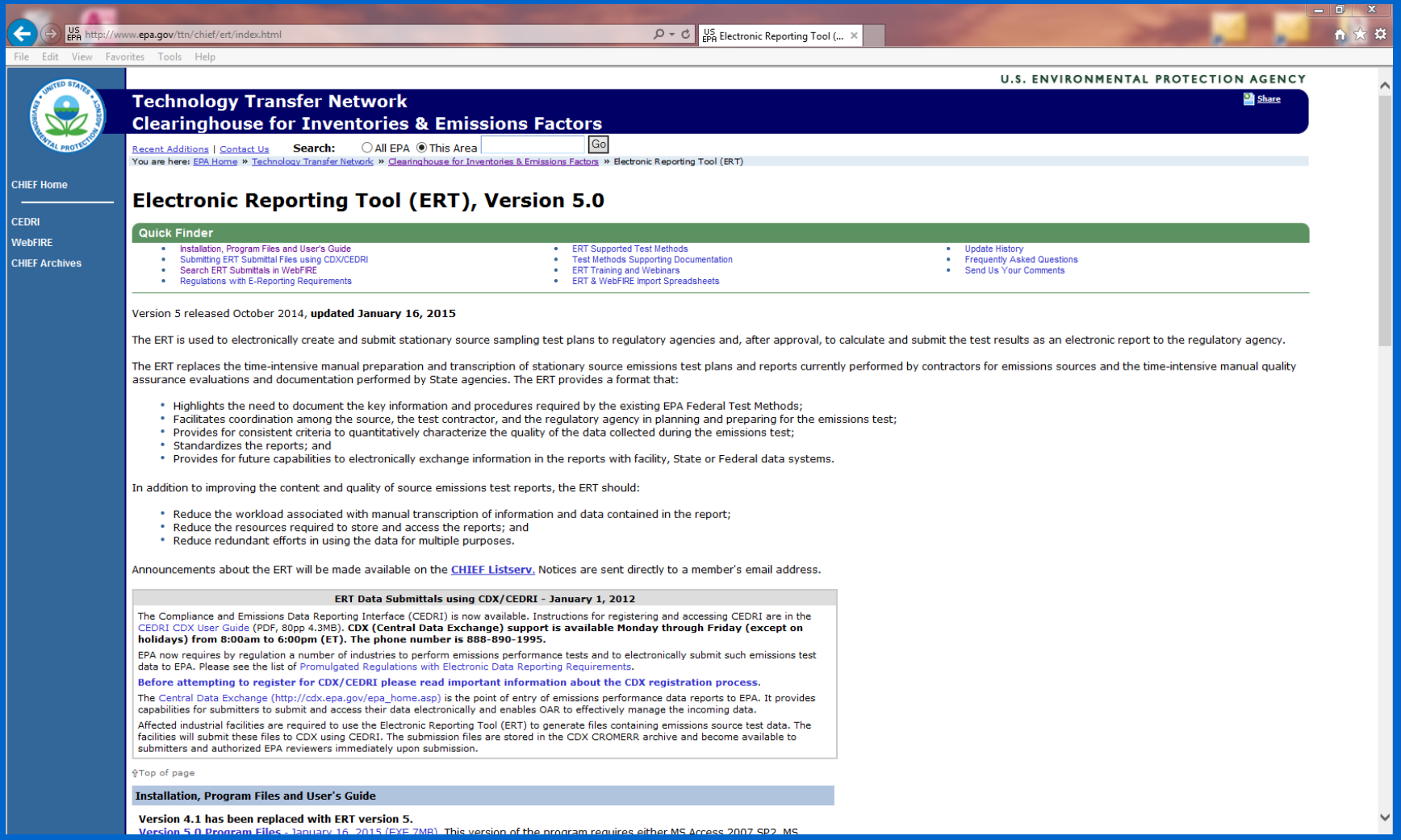
EMS has been interested in moving towards electronic submittals of stack test protocols and reports. The USEPA released Version 1 of ERT in 2006. The ERT is used to electronically create and submit stationary source sampling test plans to regulatory agencies and, after approval, to calculate and submit the test results as an electronic report to the regulatory agency. Beginning in 2007, EMS began encouraging Testers to use the program so that both they and we could gain experience with it, and as a way to suggest refinements and improvements. Since that time, enhancements have been made to ERT (including those made at our request), and EMS sponsored two hands-on training sessions. Future enhancements are also in the works. Throughout this period, we have also repeatedly stated our intention to move towards requiring the use of ERT, including stating this in Technical Manual 1004.

# Proposed Rule – Electronic Reporting for NSPS

Proposal published March 20, 2015. Effective 90 days after promulgation.
Requires use of ERT for nearly all NSPS test report submittals (amongst other things.)



# Electronic Reporting Tool Website



# ERT History

- Way to electronically receive source tests
- ERT v1 - 2006
- ERT v4 – 2011 (included EMS requested enhancements)
  - MS Access 2007; 2010; 2010 64bit
  - Data Entry Spreadsheets
  - Exports to Word
  - Custom Methods / Target Parameters
  - QA for Test Plan
  - Test Quality Questions
  - Performance Specification Tests
- Current version is ERT v5

# ERT In Progress / Future Updates

- **ERT Version 5** (released October 2014, updated January 2015) **-** Biggest change is adding a Submitter Completeness Checklist and Reviewer Checklist. Layout is also reorganized. Additional methods.

In the works:

- Lab Import
- New Methods
- Audit Sample / Blank Train Results
- Calculate Totals from Subcomponents
- Method Notes in Report
- Additional changes as requested during EMS training session

# ERT Overview

- ERT Application
  - Microsoft Access 2007 / 2010 / 2010 64bit
- Project Data Set
  - Contains all data for one test report
- Workflow
  - Many methods supported.  Custom method option for those not supported.
  - Test Plans (Protocol) – can also include attachments
  - Review / Approve
  - Test Report – can also include attachments
  - Review / Approve

# ERT – Methods Supported

- Methods 1 through 4
  Method 3A
  Method 5
  Method 5 @ 320ºF
  Methods 5B, 5F, 5G
  Method 6C
  Method 7E
  Method 8
  Method 10
  Method 12
  Methods 13A and 13B
  Method 17
  Method 23
  Method 25A
  Method 26
  Method 26A
  Method 29
  Method 30B
  Method 101
  Method 101A
  Method 102
  Method 103
  Method 104
  Method 108
  Method 201A
  Method 202
  Method 0011
  Method 0061
  Methods 306, 306A
  Method 315
  Method 316
  CARB 428
  CARB 429
  Performance Spec. 2
  Performance Spec. 3
  Performance Spec. 4
  *Custom test methods*

# ERT – Pollutants Quantified

- - Filterable Particulate Matter
  - Condensable Particulate Matter
  - Filterable PM10
  - Filterable PM2.5
  - Acetaldehyde
  - Formaldehyde
  - Carbon Monoxide
  - Chlorine, Chloride, Hydrogen Chloride, Total Chloride
  - Nitrogen Oxides (NOx)
  - Sulfur Dioxide
  - Sulfuric Acid
  - Sulfur Trioxide
  - Metals including Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Hexavelant Chromium, Lead, Manganese, Mercury, Nickel, Phosphorus (yellow or white), Selenium, Silver, Thallium and Zinc

- Total Fluoride
- Hydrogen Fluoride
- Hydrogen Bromide
- Total organic compounds (TOC) (as Carbon, Ethane, Methane, Propane)
- Dioxin/Furan Cogeners
- Coplaner PCB's
- PAH Compounds
- Dioxins / Furans

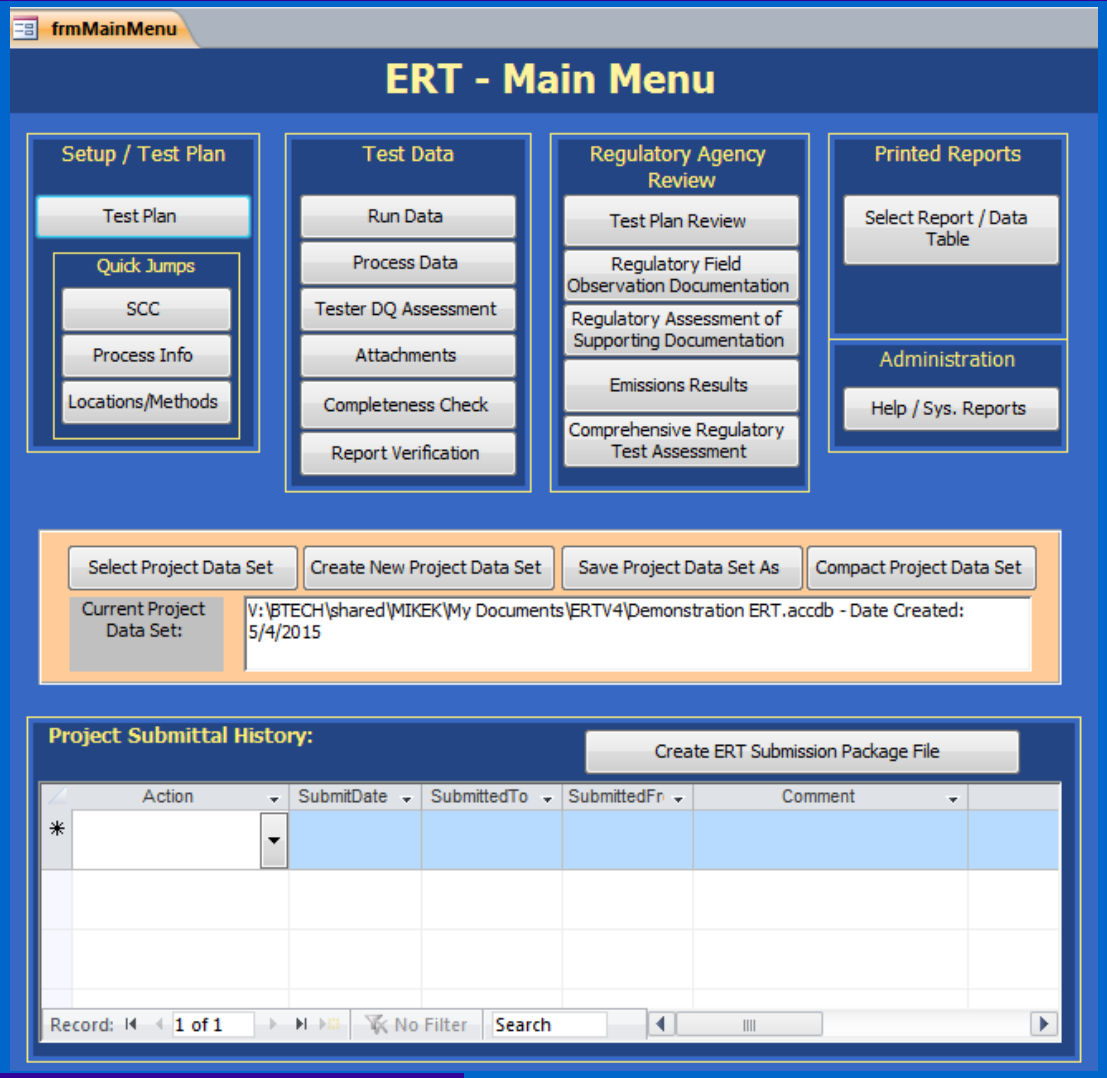
The CEMS Relative Accuracy Test Audits which can be documented include:

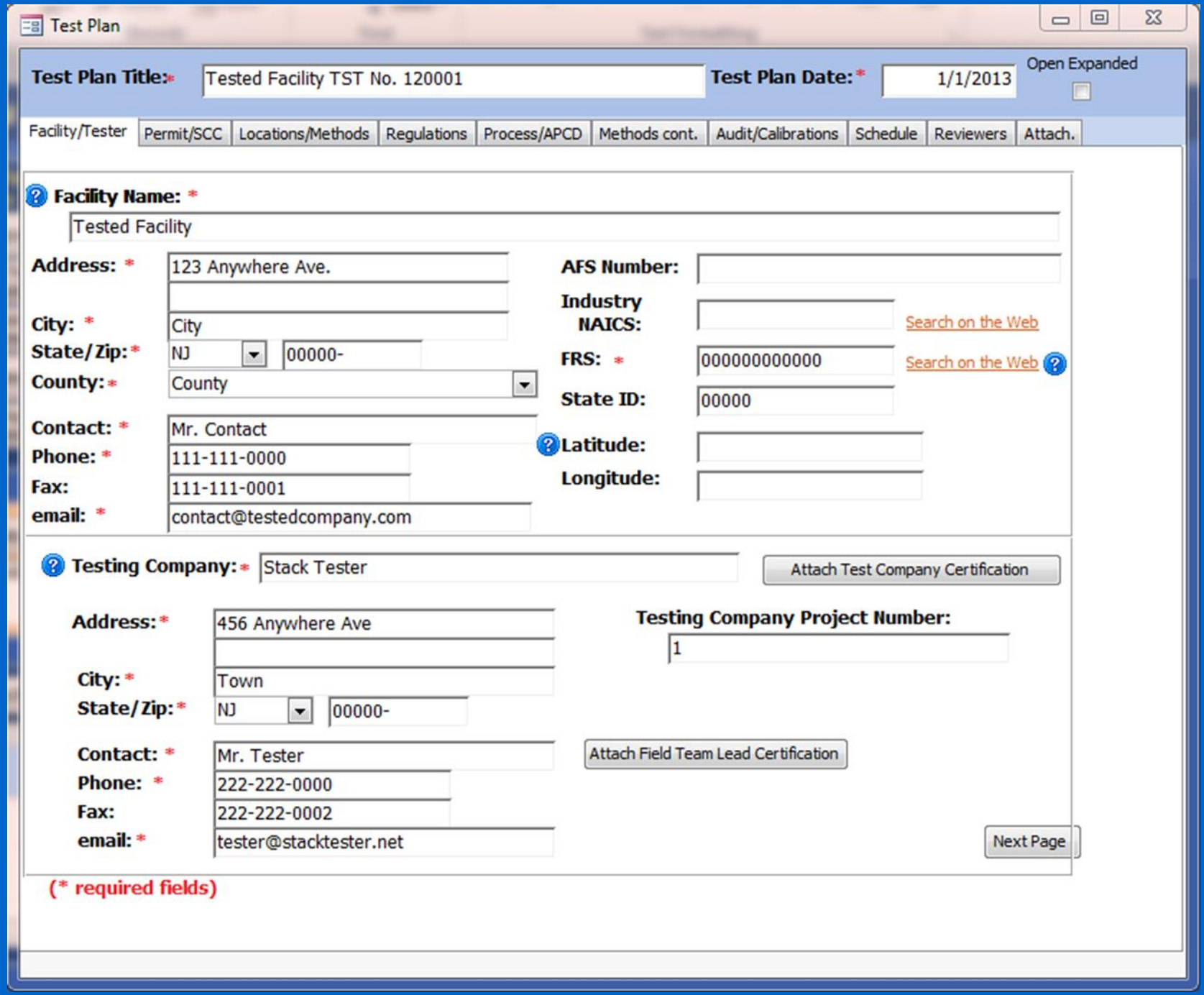
- Carbon Monoxide
- Carbon Dioxide
- Nitrogen Oxides
- Sulfur Dioxide
- Oxygen

# ERT Overview - Main Menu

- Menu Items
  - Test Plan
  - Test Report
  - Review
  - Printing
- Project Data Set Selection
  - Select / Create / Save as / Compact
- Submittal History
  - Shows PDS history

# Let's Take a Look at ERT Screens




Test Plan
Test Plan Title:*
Tested Facility TST No. 120001
Test Plan Date:*
1/1/2013
Open Expanded
Facility/Tester
Permit/SCC
Locations/Methods
Regulations
Process/APCD
Methods cont.
Audit/Calibrations
Schedule
Reviewers
Attach.
Facility Name: *
Tested Facility
Address: *
123 Anywhere Ave.
City: *
City
State/Zip:*
NJ
00000-
County:*
County
Contact: *
Mr. Contact
Phone: *
111-111-0000
Fax:
111-111-0001
email: *
contact@testedcompany.com
AFS Number:
Industry NAICS:
Search on the Web
FRS: *
000000000000
Search on the Web
State ID:
00000
Latitude:
Longitude:
Testing Company:*
Stack Tester
Attach Test Company Certification
Address:*
456 Anywhere Ave
City:*
Town
State/Zip:*
NJ
00000-
Contact: *
Mr. Tester
Phone: *
222-222-0000
Fax:
222-222-0002
email:*
tester@stacktester.net
Testing Company Project Number:
1
Attach Field Team Lead Certification
Next Page
(* required fields)

Test Plan

**Test Plan Title:*** Tested Facility TST No. 120001 **Test Plan Date:*** 1/1/2013 Open Expanded

Facility/Tester | Permit/SCC | Locations/Methods | Regulations | Process/APCD | Methods cont. | Audit/Calibrations | Schedule | Reviewers | Attach.

**Air Permit Number:** PCP120001

**Permitted State Source ID/Name:** U1 BOILER NOS. 1, 3 AND 4

**Permitted Maximum Process Rate:** 32.1, 20.92 and 20.92 MMBtu/hr respectively

**Maximum Normal Operation Process Rate:**

**Target Process Rate for Testing:** 95% of maximum

**Operational Hours Per Year:** 8760

**Source Classification Code:**

Select SCC from list

**SCC/Desc.:** *

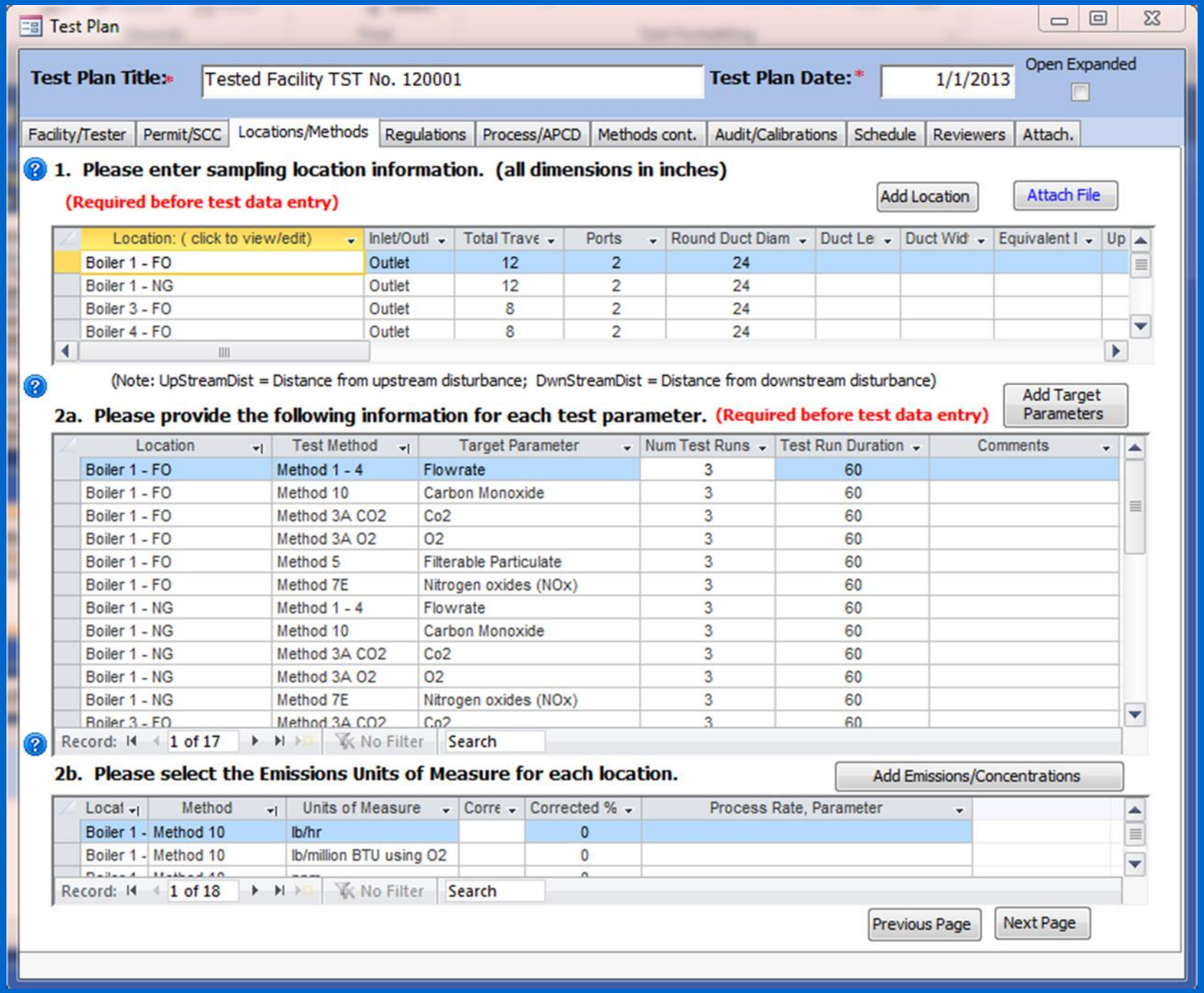
**Target Parameter:** **Process Rate:**

**Pollutant Unit of Measure:**

**Target Parameter Description (if needed):**

Previous Page Next Page

(* required fields)


Test Plan
Test Plan Title:*
Tested Facility TST No. 120001
Test Plan Date:*
1/1/2013
Open Expanded
Facility/Tester
Permit/SCC
Locations/Methods
Regulations
Process/APCD
Methods cont.
Audit/Calibrations
Schedule
Reviewers
Attach.
1. Please enter sampling location information. (all dimensions in inches)
(Required before test data entry)
Add Location
Attach File
Location: ( click to view/edit)
Inlet/Outl
Total Trave
Ports
Round Duct Diam
Duct Le
Duct Wid
Equivalent I
Up
Boiler 1 - FO
Outlet
12
2
24
Boiler 1 - NG
Outlet
12
2
24
Boiler 3 - FO
Outlet
8
2
24
Boiler 4 - FO
Outlet
8
2
24
(Note: UpStreamDist = Distance from upstream disturbance; DwnStreamDist = Distance from downstream disturbance)
2a. Please provide the following information for each test parameter. (Required before test data entry)
Add Target Parameters
Location
Test Method
Target Parameter
Num Test Runs
Test Run Duration
Comments
Boiler 1 - FO
Method 1 - 4
Flowrate
3
60
Boiler 1 - FO
Method 10
Carbon Monoxide
3
60
Boiler 1 - FO
Method 3A CO2
Co2
3
60
Boiler 1 - FO
Method 3A O2
O2
3
60
Boiler 1 - FO
Method 5
Filterable Particulate
3
60
Boiler 1 - FO
Method 7E
Nitrogen oxides (NOx)
3
60
Boiler 1 - NG
Method 1 - 4
Flowrate
3
60
Boiler 1 - NG
Method 10
Carbon Monoxide
3
60
Boiler 1 - NG
Method 3A CO2
Co2
3
60
Boiler 1 - NG
Method 3A O2
O2
3
60
Boiler 1 - NG
Method 7E
Nitrogen oxides (NOx)
3
60
Boiler 3 - FO
Method 3A CO2
Co2
3
60
Record: 1 of 17
No Filter
Search
2b. Please select the Emissions Units of Measure for each location.
Add Emissions/Concentrations
Local
Method
Units of Measure
Corre
Corrected %
Process Rate, Parameter
Boiler 1 -
Method 10
lb/hr
0
Boiler 1 -
Method 10
lb/million BTU using O2
0
Record: 1 of 18
No Filter
Search
Previous Page
Next Page

Test Plan

**Test Plan Title:*** Tested Facility TST No. 120001 **Test Plan Date:*** 1/1/2013 Open Expanded

Facility/Tester | Permit/SCC | Locations/Methods | Regulations | Process/APCD | Methods cont. | Audit/Calibrations | Schedule | Reviewers | Attach.

**3. What is the specific purpose, Data Quality Objectives and Data Quality Indicators for the proposed testing?**

- Part 60 (NSPS)
- Part 61 (NESHAP)
- Part 63 (MACT)
- Part 65 (MACT)
- RATA
- NSR/PSD
- SIP
- Section 114
- State Rule
- Other (describe:)

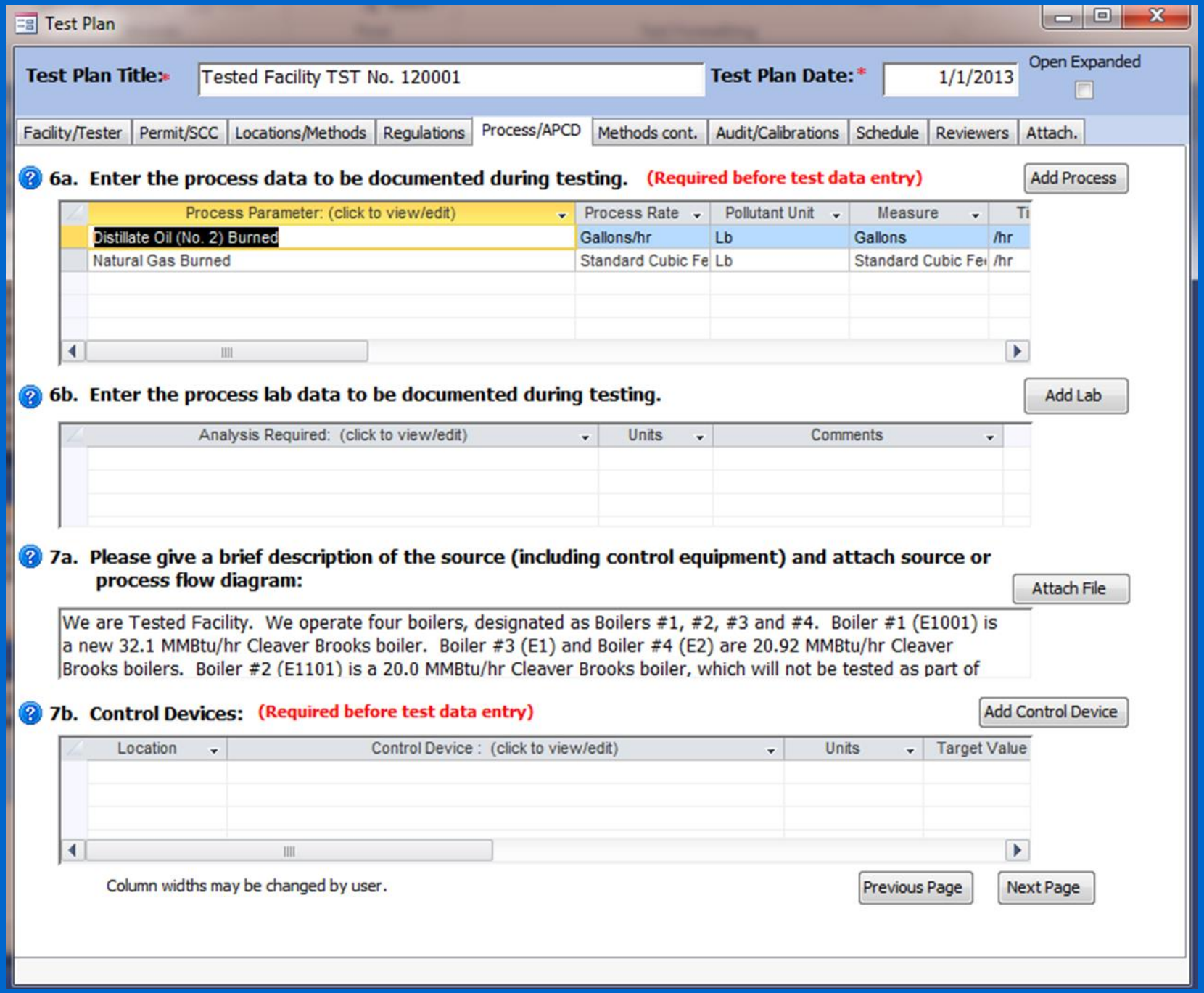
The purpose of this test program is to demonstrate compliance with the emission limits listed in the facility's operating permit.

**4. List all state and federal regulations that apply to the proposed testing:** Add Regulation

| Part-SubPart | Non Part 60/63 Rule Description: (click to edit) | Compound: | Unit of Measure | Limit |
|---|---|---|---|---|
| | Boiler 1 - FO | Filterable Particulate | lb/hr | 0.73 |
| | Boiler 1 - FO | Filterable Particulate | lb/million BTU using | 0.02 |
| | Boiler 1 - FO | Nitrogen oxides (NOx) | lb/hr | 3. |
| | Boiler 1 - FO | Nitrogen oxides (NOx) | lb/million BTU using | 0.1 |
| | Boiler 1 - FO | Carbon Monoxide | lb/hr | 1. |

**5. Will the test results be used for other regulatory purposes (e.g., emission inventories, permit applications, etc.) beyond that stated above? If yes, explain.**

Previous Page | Next Page


Test Plan
Test Plan Title:*
Tested Facility TST No. 120001
Test Plan Date:*
1/1/2013
Open Expanded
Facility/Tester
Permit/SCC
Locations/Methods
Regulations
Process/APCD
Methods cont.
Audit/Calibrations
Schedule
Reviewers
Attach.
6a. Enter the process data to be documented during testing. (Required before test data entry)
Add Process
Process Parameter: (click to view/edit)
Process Rate
Pollutant Unit
Measure
Ti
Distillate Oil (No. 2) Burned
Gallons/hr
Lb
Gallons
/hr
Natural Gas Burned
Standard Cubic Fe
Lb
Standard Cubic Fe
/hr
6b. Enter the process lab data to be documented during testing.
Add Lab
Analysis Required: (click to view/edit)
Units
Comments
7a. Please give a brief description of the source (including control equipment) and attach source or process flow diagram:
Attach File
We are Tested Facility. We operate four boilers, designated as Boilers #1, #2, #3 and #4. Boiler #1 (E1001) is a new 32.1 MMBtu/hr Cleaver Brooks boiler. Boiler #3 (E1) and Boiler #4 (E2) are 20.92 MMBtu/hr Cleaver Brooks boilers. Boiler #2 (E1101) is a 20.0 MMBtu/hr Cleaver Brooks boiler, which will not be tested as part of
7b. Control Devices: (Required before test data entry)
Add Control Device
Location
Control Device : (click to view/edit)
Units
Target Value
Column widths may be changed by user.
Previous Page
Next Page

Test Plan

**Test Plan Title:*** Tested Facility TST No. 120001 **Test Plan Date:*** 1/1/2013 Open Expanded

Facility/Tester | Permit/SCC | Locations/Methods | Regulations | Process/APCD | Methods cont. | Audit/Calibrations | Schedule | Reviewers | Attach.

**8. Describe below or attach complete documentation of any non standard test method used. Describe all modifications and/or deviations from published methods. Attach dated documentation of ALL non verbal request AND approval for modifications and/or alternative methods requests.** Attach File

See attached protocol.

**9. Does the proposed sampling location meet the minimum EPA Method 1 criteria for acceptable measurement sites? Please list below or attach the supporting documentation.** ☑ Yes ☐ No Attach File

See attached protocol.

**10. The absence of cyclonic flow must be verified by prior to testing {40CFR60.8 (h) or 40CFR63.7(d)(ii)}. An assessment of stratification of emission gases must also be performed {40CFR60.8 (h)}. Will you use EPA Method 1 and/or EPA Method 7E for these assessments? If not, explain how you will make the assessments and attach documentation supporting your assessment.** ☑ Yes ☐ No Attach File

**11. Select the method that will determine the oxygen concentration :**

M3A-instrumental

Previous Page Next Page

Test Plan

**Test Plan Title:*** Tested Facility TST No. 120001 **Test Plan Date:*** 1/1/2013 Open Expanded ☐

Facility/Tester | Permit/SCC | Locations/Methods | Regulations | Process/APCD | Methods cont. | Audit/Calibrations | Schedule | Reviewers | Attach.

**12. Do any of the proposed test methods require analysis of EPA audit samples? If yes, you must contact an AASP to arrange for the purchase and delivery of an audit sample.** ☐ Yes ☑ No

**13. Has all testing equipment been calibrated within the past 12 months? If no, please explain.** ☑ Yes ☐ No

**14. Will all calibration gases be certified by EPA Traceability Protocol procedures? If No, describe certification procedure below.** ☑ Yes ☐ No ☐ N/A

**15. Is a dilution system (via EPA Method 205) proposed?** ☐ Yes ☐ No ☑ N/A

**16. If applicable, list the expected calibration gas concentrations for all proposed instrumental test methods. Include as much information as is known at this time.**

Attach Calibration Gas Certificates

| CylID | Compound(Analyt | CertProcedure | CertVal | UncertainPerce | CertDate | ExpDate |
|---|---|---|---|---|---|---|
| CC114007 | NO2 | EPA Protocol | 49.7 | 2 | 4/12/2012 | 4/12/2014 |
| CC114118-CO2 | CO2 | EPA Protocol | 10.03 | 1 | 12/6/2012 | 12/7/2020 |
| CC114118-O2 | O2 | EPA Protocol | 9.95 | 1 | 12/6/2012 | 12/7/2020 |
| CC131164 | CO | EPA Protocol | 48 | 1 | 4/3/2012 | 4/23/2015 |

Record: 1 of 26 | No Filter | Search

Previous Page | Next Page

Test Plan

**Test Plan Title:*** Tested Facility TST No. 120001 **Test Plan Date:*** 1/1/2013 Open Expanded

Facility/Tester | Permit/SCC | Locations/Methods | Regulations | Process/APCD | Methods cont. | Audit/Calibrations | Schedule | Reviewers | Attach.

**17. What is the proposed test schedule?**

Testing has been scheduled with Mr. Michael Klein of the NJDEP for XXXXX. Testing is expected to start daily between 8:00 am and 9:00 am.

**18. Additional comments:**

**19. Required Personal Protection Equipment:**

Previous Page Next Page

Test Plan

**Test Plan Title:*** Tested Facility TST No. 120001 **Test Plan Date:*** 1/1/2013 Open Expanded

Facility/Tester | Permit/SCC | Locations/Methods | Regulations | Process/APCD | Methods cont. | Audit/Calibrations | Schedule | Reviewers | Attach.

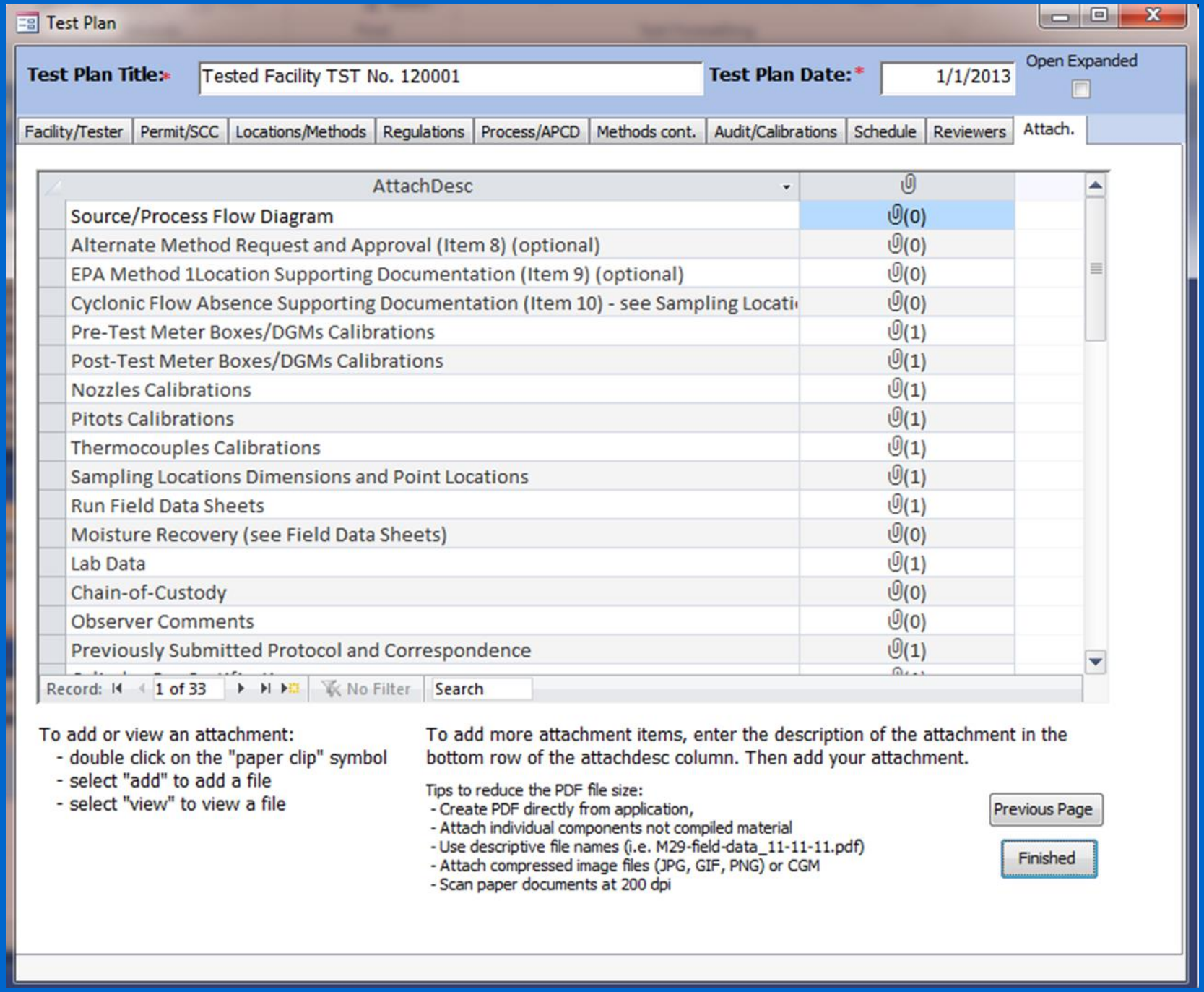
**Permitted Facility Representative**

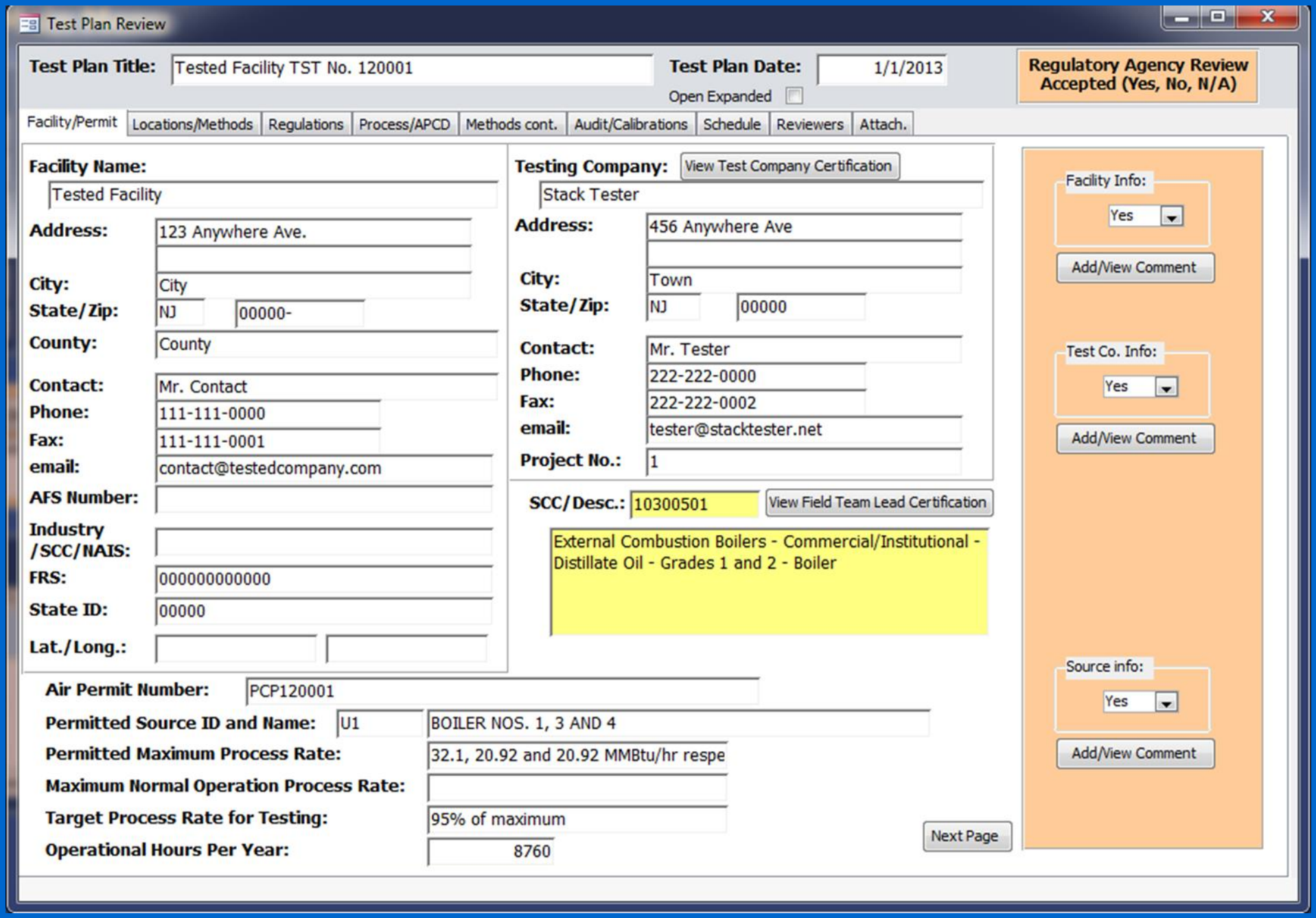
| | |
|---|---|
| **Name:** | Mr. Contact |
| **Email:** | contact@testedcompany.com |
| **Title:** | Facility Director |
| **Company:** | Tested Company |
| **Date Reviewed:** | 1/1/2013 |

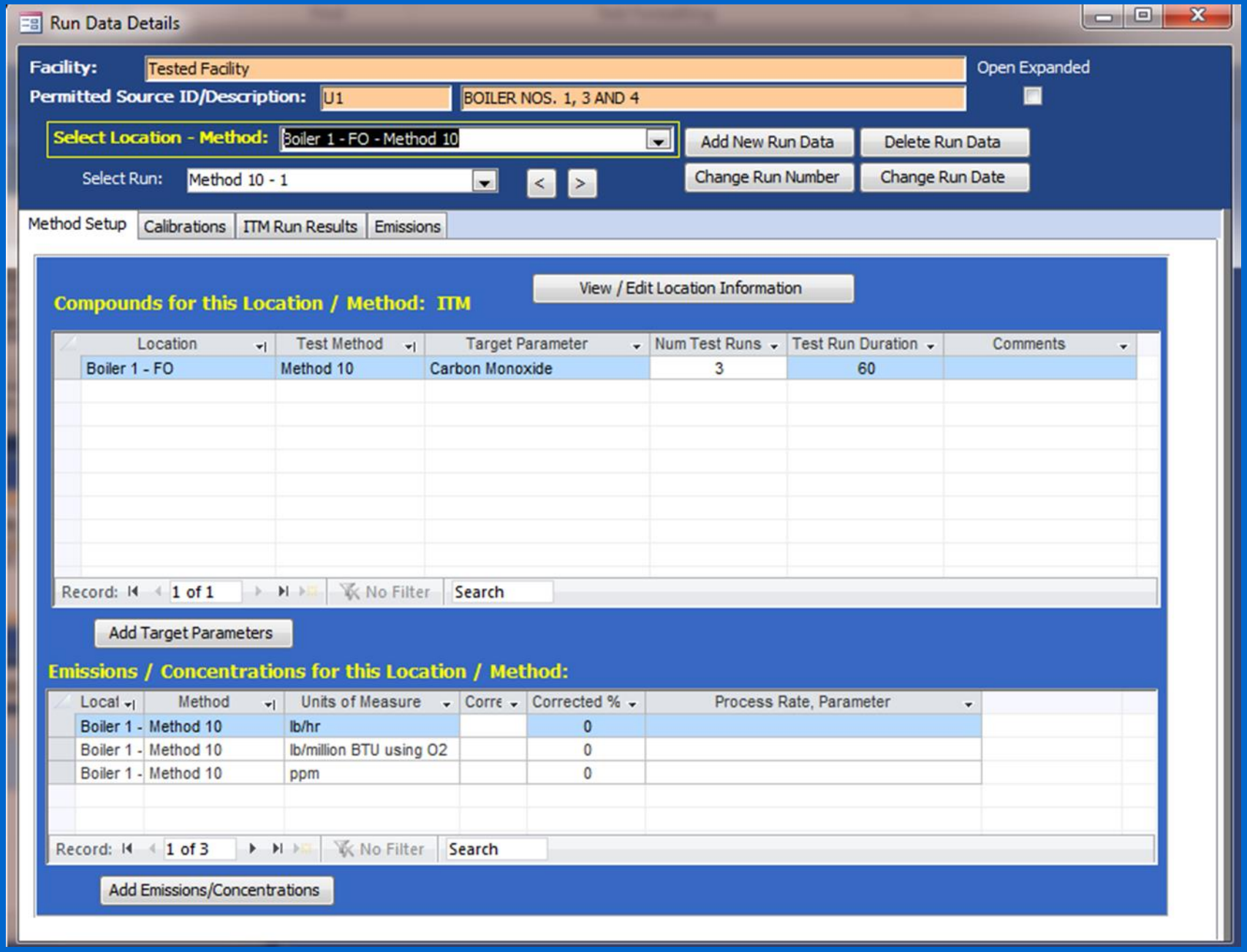
**Testing Company Representative**

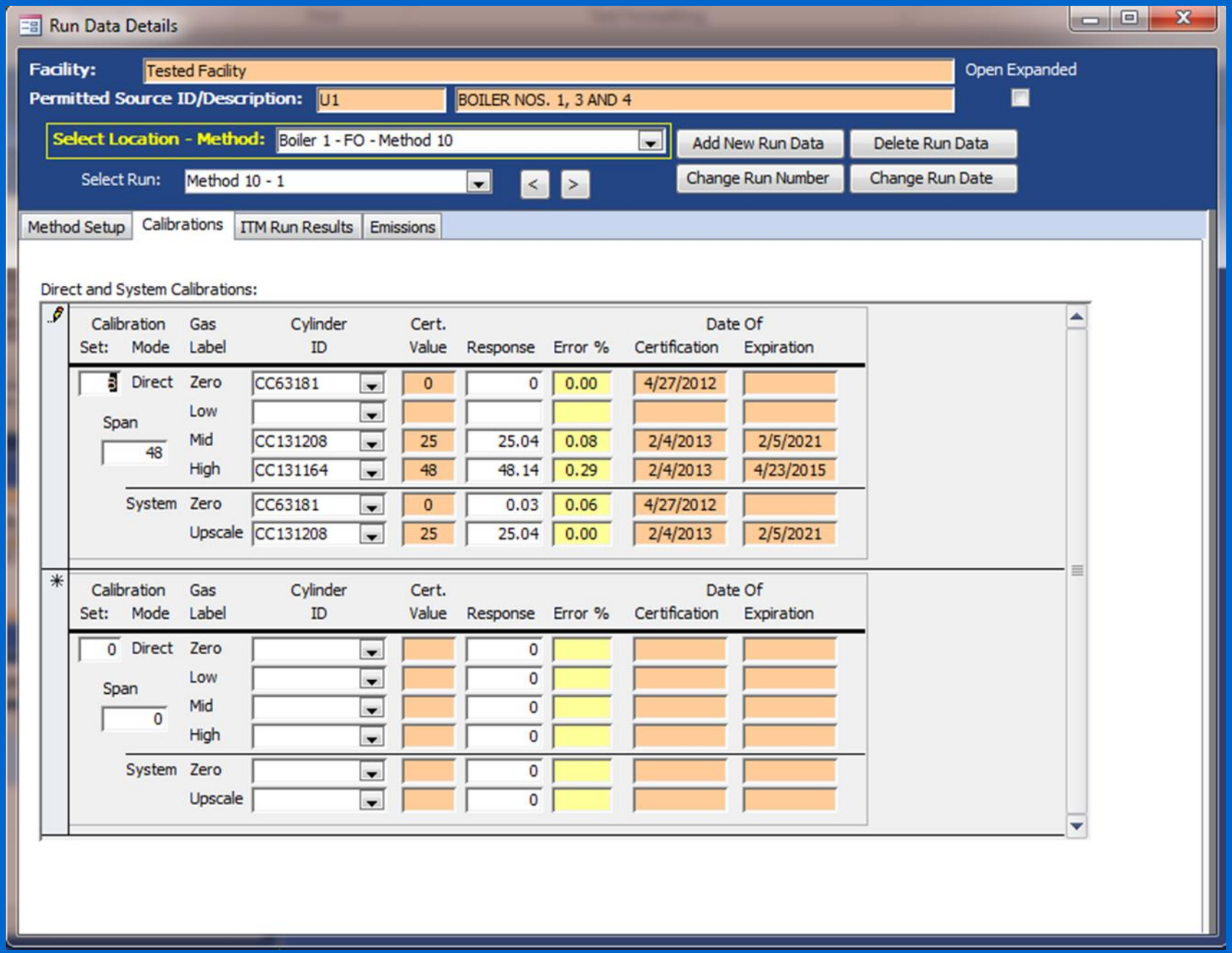
| | |
|---|---|
| **Name:** | Mr. Tester |
| **Email:** | tester@stacktester.net |
| **Title:** | Assistant Quality Manager |
| **Company:** | Stack Tester |
| **Date Reviewed:** | 1/1/2013 |

Previous Page | Next Page

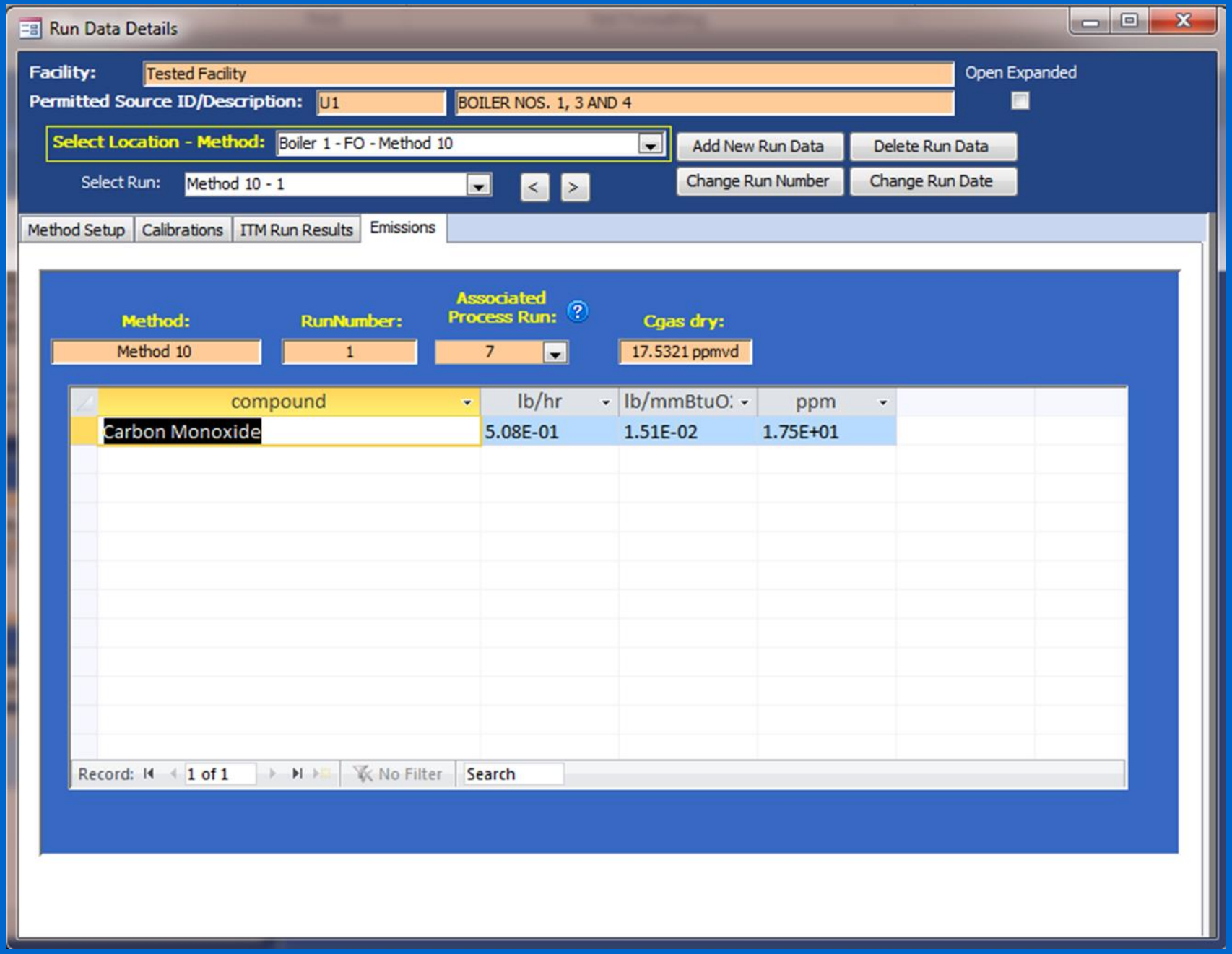

Test Plan
Test Plan Title:*
Tested Facility TST No. 120001
Test Plan Date:*
1/1/2013
Open Expanded
Facility/Tester
Permit/SCC
Locations/Methods
Regulations
Process/APCD
Methods cont.
Audit/Calibrations
Schedule
Reviewers
Attach.
AttachDesc
Source/Process Flow Diagram (0)
Alternate Method Request and Approval (Item 8) (optional) (0)
EPA Method 1Location Supporting Documentation (Item 9) (optional) (0)
Cyclonic Flow Absence Supporting Documentation (Item 10) - see Sampling Locati (0)
Pre-Test Meter Boxes/DGMs Calibrations (1)
Post-Test Meter Boxes/DGMs Calibrations (1)
Nozzles Calibrations (1)
Pitots Calibrations (1)
Thermocouples Calibrations (1)
Sampling Locations Dimensions and Point Locations (1)
Run Field Data Sheets (1)
Moisture Recovery (see Field Data Sheets) (0)
Lab Data (1)
Chain-of-Custody (0)
Observer Comments (0)
Previously Submitted Protocol and Correspondence (1)
Record: 1 of 33
No Filter
Search
To add or view an attachment:
- double click on the "paper clip" symbol
- select "add" to add a file
- select "view" to view a file
To add more attachment items, enter the description of the attachment in the bottom row of the attachdesc column. Then add your attachment.
Tips to reduce the PDF file size:
- Create PDF directly from application,
- Attach individual components not compiled material
- Use descriptive file names (i.e. M29-field-data_11-11-11.pdf)
- Attach compressed image files (JPG, GIF, PNG) or CGM
- Scan paper documents at 200 dpi
Previous Page
Finished


Test Plan Review
Test Plan Title: Tested Facility TST No. 120001
Test Plan Date: 1/1/2013
Open Expanded
Regulatory Agency Review Accepted (Yes, No, N/A)
Facility/Permit
Locations/Methods
Regulations
Process/APCD
Methods cont.
Audit/Calibrations
Schedule
Reviewers
Attach.
Facility Name:
Tested Facility
Address: 123 Anywhere Ave.
City: City
State/Zip: NJ 00000-
County: County
Contact: Mr. Contact
Phone: 111-111-0000
Fax: 111-111-0001
email: contact@testedcompany.com
AFS Number:
Industry /SCC/NAIS:
FRS: 000000000000
State ID: 00000
Lat./Long.:
Testing Company:
View Test Company Certification
Stack Tester
Address: 456 Anywhere Ave
City: Town
State/Zip: NJ 00000
Contact: Mr. Tester
Phone: 222-222-0000
Fax: 222-222-0002
email: tester@stacktester.net
Project No.: 1
SCC/Desc.: 10300501
View Field Team Lead Certification
External Combustion Boilers - Commercial/Institutional - Distillate Oil - Grades 1 and 2 - Boiler
Facility Info:
Yes
Add/View Comment
Test Co. Info:
Yes
Add/View Comment
Source info:
Yes
Add/View Comment
Air Permit Number: PCP120001
Permitted Source ID and Name: U1 BOILER NOS. 1, 3 AND 4
Permitted Maximum Process Rate: 32.1, 20.92 and 20.92 MMBtu/hr respe
Maximum Normal Operation Process Rate:
Target Process Rate for Testing: 95% of maximum
Operational Hours Per Year: 8760
Next Page


Run Data Details
Facility:
Tested Facility
Open Expanded
Permitted Source ID/Description:
U1
BOILER NOS. 1, 3 AND 4
Select Location - Method:
Boiler 1 - FO - Method 10
Add New Run Data
Delete Run Data
Select Run:
Method 10 - 1
Change Run Number
Change Run Date
Method Setup
Calibrations
ITM Run Results
Emissions
View / Edit Location Information
Compounds for this Location / Method: ITM
Location
Test Method
Target Parameter
Num Test Runs
Test Run Duration
Comments
Boiler 1 - FO
Method 10
Carbon Monoxide
3
60
Record: 1 of 1
No Filter
Search
Add Target Parameters
Emissions / Concentrations for this Location / Method:
Local
Method
Units of Measure
Corre
Corrected %
Process Rate, Parameter
Boiler 1 -
Method 10
lb/hr
0
Boiler 1 -
Method 10
lb/million BTU using O2
0
Boiler 1 -
Method 10
ppm
0
Record: 1 of 3
No Filter
Search
Add Emissions/Concentrations


Run Data Details
Facility: Tested Facility
Open Expanded
Permitted Source ID/Description: U1 BOILER NOS. 1, 3 AND 4
Select Location - Method: Boiler 1 - FO - Method 10
Add New Run Data
Delete Run Data
Select Run: Method 10 - 1
Change Run Number
Change Run Date
Method Setup
Calibrations
ITM Run Results
Emissions
Direct and System Calibrations:
Calibration Set: Mode Gas Label Cylinder ID Cert. Value Response Error % Date Of Certification Date Of Expiration
3 Direct Zero CC63181 0 0 0.00 4/27/2012
Span 48 Low
Mid CC131208 25 25.04 0.08 2/4/2013 2/5/2021
High CC131164 48 48.14 0.29 2/4/2013 4/23/2015
System Zero CC63181 0 0.03 0.06 4/27/2012
Upscale CC131208 25 25.04 0.00 2/4/2013 2/5/2021
Calibration Set: Mode Gas Label Cylinder ID Cert. Value Response Error % Date Of Certification Date Of Expiration
0 Direct Zero 0
Span 0 Low 0
Mid 0
High 0
System Zero 0
Upscale 0


Run Data Details
Facility: Tested Facility
Open Expanded
Permitted Source ID/Description: U1 BOILER NOS. 1, 3 AND 4
Select Location - Method: Boiler 1 - FO - Method 10
Add New Run Data
Delete Run Data
Select Run: Method 10 - 1
Change Run Number
Change Run Date
Method Setup
Calibrations
ITM Run Results
Emissions
(Run Id's if selected from another run)
Run: 1
Run Date: 4/3/2013
Start Time: 9:30:00 AM
End Time: 10:31:00 AM
Flow Rate, SCFM: 6642.1
Moisture, %: 9.75
CO2, %: 12.0281
O2, %: 4.7012
Fo:
Boiler 1 - FO - Method 5 - 1
Boiler 1 - FO - Method 5 - 1
Boiler 1 - FO - Method 5 - 1
Boiler 1 - FO - Method 5 - 1
ANALYZER
Make:
Model:
S/N:
OPERATING PARAMETERS
Operating Range: 0
Units(%,ppm,ppb): PPM
No. Readings/Avg.: 240
Time Interval of Avg.: 60
Fuel Type: Oil
Fd: 9190
Fw: 10320
Fc: 1420
Calibration Set: Mode Gas Level Cylinder ID Cert. Value System Response System Bias % Drift %
8 Pre Zero CC63181 0 0.03 0.06
Upscale CC131208 25 25.04 0
Post Zero CC63181 0 0.03 0.06 0
Upscale CC131208 25 24.94 -0.21 0.21
Cavg: 17.534 ppmvd Units
Cgas: 17.532 ppmvd Units


Run Data Details
Facility:
Tested Facility
Open Expanded
Permitted Source ID/Description:
U1
BOILER NOS. 1, 3 AND 4
Select Location - Method:
Boiler 1 - FO - Method 10
Add New Run Data
Delete Run Data
Select Run:
Method 10 - 1
<
>
Change Run Number
Change Run Date
Method Setup
Calibrations
ITM Run Results
Emissions
Method:
Method 10
RunNumber:
1
Associated Process Run:
7
Cgas dry:
17.5321 ppmvd
compound
lb/hr
lb/mmBtuO:
ppm
Carbon Monoxide
5.08E-01
1.51E-02
1.75E+01
Record:
1 of 1
No Filter
Search

Test Quality Questions

## Quality Assessment Questions

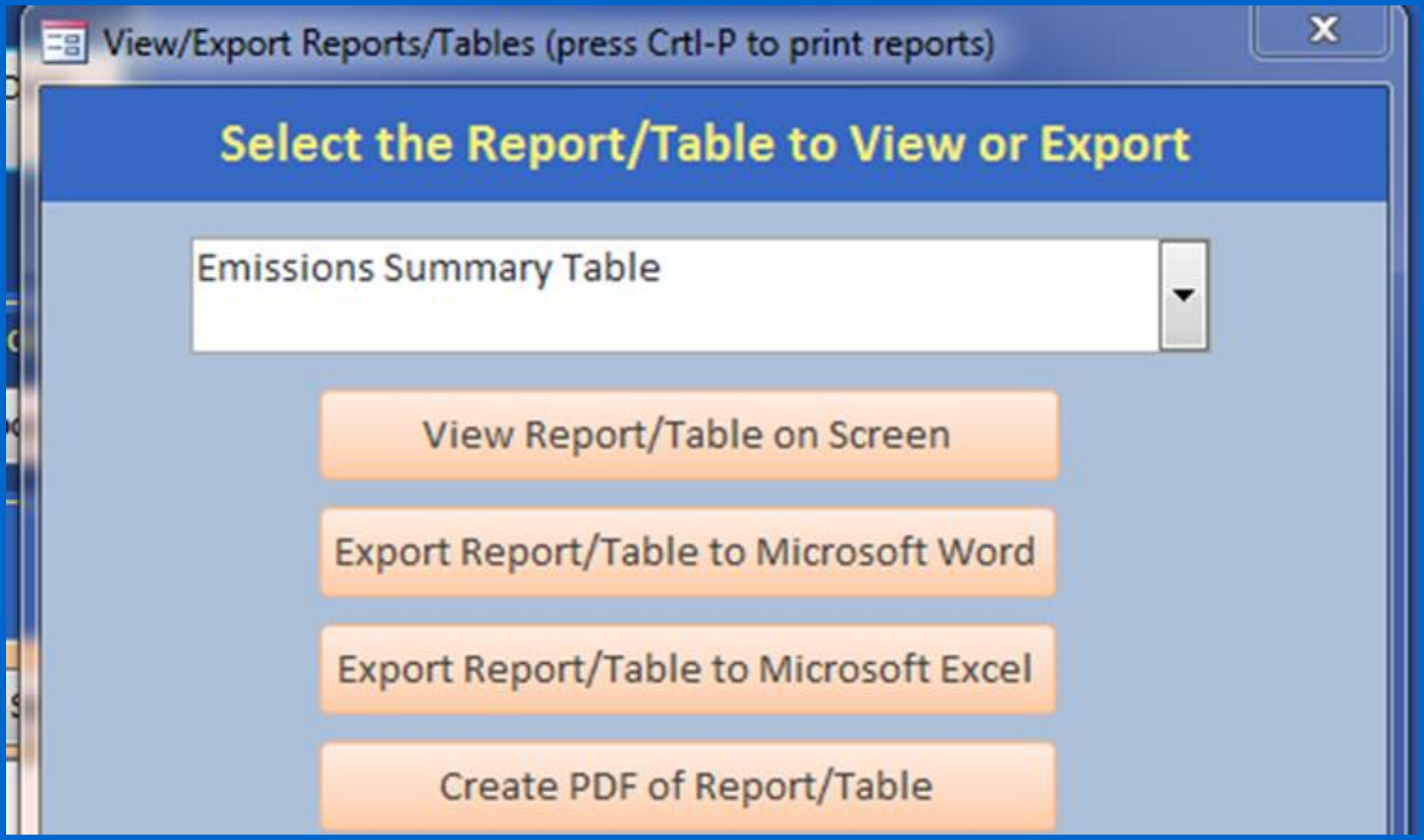
Open Expanded

Completeness

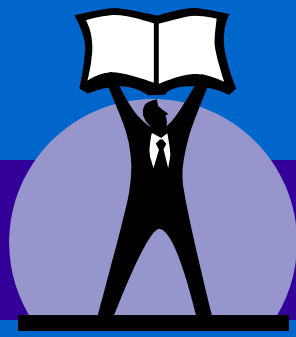
Note: ERT will answer the salmon colored Completeness questions with a "Yes" or "No" based on the response is provided in the applicable area or a file is attached in the applicable line. Clicking in the "Click to Show ERT Data" column will show the applicable area or attachment. Selecting the "Update Completeness Answers" button will refresh the answers based on any new content entered into ERT. The Completeness answers can only be changed by entering data into the applicable areas or adding attachments. Only the Source or Testing Company can add or edit data in the Project Data Set.

Update Completeness Answers

| Question | Answer | Comment | Click to Show |
|---|---|---|---|
| As described in ASTM D7036-12 Standard Practice for Competence of Air Emission Testing Bodies, does the testing firm meet the criteria as an AETB or is the person in charge of the field team a QI for the type of testing conducted? A certificate from an independent organization (e.g., Stack Testing Accreditation council (STAC), California Air Resources Board (CARB), National Environmental Laboratory Accreditation Program (NELAP) or self | No | | Review certificat |
| Is a description and drawing of test location provided? | Yes | | (Test Plan Item 1 Attachment) - Re dimensions and c |
| Has a description of deviations from published test methods been provided, or is there a statement that deviations were not required to obtain data representative of typical facility operation? | Yes | | (Test Plan Item 8 Attachment) - Re method documer |
| Is a full description of the process and the unit being tested (including installed controls) provided? | Yes | | (Test Plan Item 7 Attachment) - Re documentation. |

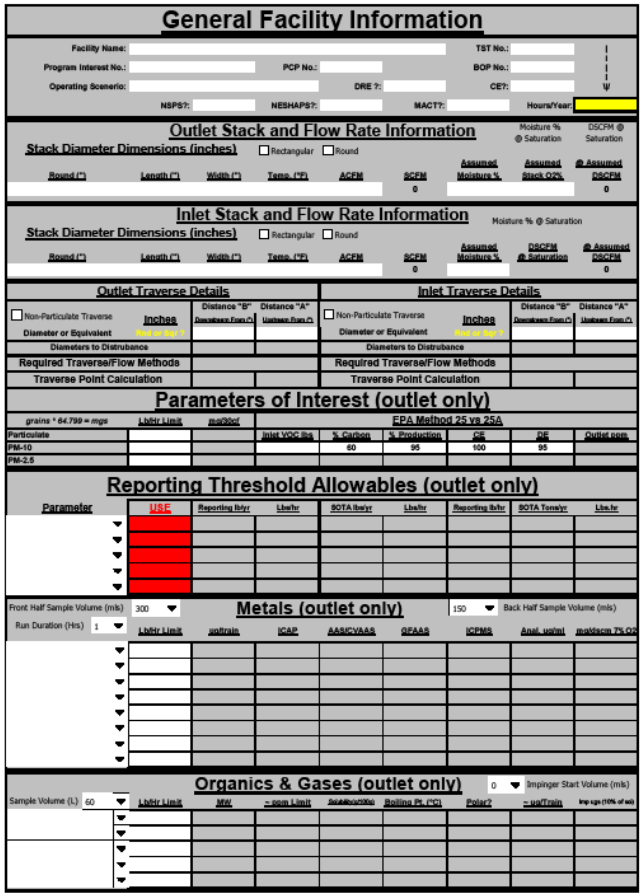

View/Export Reports/Tables (press Crtl-P to print reports)
Select the Report/Table to View or Export
Emissions Summary Table
View Report/Table on Screen
Export Report/Table to Microsoft Word
Export Report/Table to Microsoft Excel
Create PDF of Report/Table

# Protocol Templates



- Standardized procedures for commonly used methods developed by EMS. They have fill-ins and check boxes to make source-specific.
- Using Templates greatly reduces the EMS protocol review time.
- Currently have 17 Protocol Templates available for use.
- Developing an additional 10 Protocol Templates for incorporation into TM1004.
- Planning to require the use of Protocol Templates for any method that has one available.
- Protocol Templates will be incorporated into NJ ERT submittals as attachments.

# Protocol Preparation Tool



General Facility Information

Facility Name: TST No.:
Program Interest No.: PCP No.: BOP No.:
Operating Scenario: DRE ?: CE?:
NSPS?: NESHAPS?: MACT?: Hours/Year:

Outlet Stack and Flow Rate Information

Stack Diameter Dimensions (inches) Rectangular Round

Round (") | Length (") | Width (") | Temp. (°F) | ACFM | SCFM | Assumed Moisture % | Assumed Stack O2% | @ Assumed DSCFM
0 0

Inlet Stack and Flow Rate Information

Stack Diameter Dimensions (inches) Rectangular Round

Round (") | Length (") | Width (") | Temp. (°F) | ACFM | SCFM | Assumed Moisture % | DSCFM @ Saturation | @ Assumed DSCFM
0 0

Outlet Traverse Details

Non-Particulate Traverse | Inches | Distance "B" Downstream From (") | Distance "A" Upstream From (")
Diameter or Equivalent
Diameters to Distrubance
Required Traverse/Flow Methods
Traverse Point Calculation

Inlet Traverse Details

Non-Particulate Traverse | Inches | Distance "B" Downstream From (") | Distance "A" Upstream From (")
Diameter or Equivalent
Diameters to Distrubance
Required Traverse/Flow Methods
Traverse Point Calculation

Parameters of Interest (outlet only)

grains * 64.799 = mgs | Lb/Hr Limit | mg/dscf | EPA Method 25 vs 25A | Inlet VOC lbs | % Capture | % Destruction | DE | RE | Outlet ppm
Particulate | 60 | 95 | 100 | 95
PM-10
PM-2.5

Reporting Threshold Allowables (outlet only)

Parameter | USE | Reporting lb/yr | Lbs/hr | SOTA lbs/yr | Lbs/hr | Reporting lb/hr | SOTA Tons/yr | Lbs.hr

Front Half Sample Volume (mls) 300 | Run Duration (Hrs) 1

Metals (outlet only)

150 Back Half Sample Volume (mls)

Lb/Hr Limit | ug/train | ICAP | AAS/CVAAS | GFAAS | ICPMS | Anal. ug/ml | mg/dscm 7% O2

Organics & Gases (outlet only)

Sample Volume (L) 60 | 0 Impinger Start Volume (mls)

Lb/Hr Limit | MW | ~ ppm Limit | Solubility | Boiling Pt. (°C) | Polar? | ~ ug/Train | mg/dscm (10% of std)

- Calculates many of the items needed for a protocol submittal.

- Currently available from EMS website:

http://www.state.nj.us/dep/bts/consult.html

- The functions of this spreadsheet have been incorporated into ERT.

# Stack Test Quality Assurance Audits

- Audits (blind samples) formerly provided by EPA free of charge. Funding ended in 2010; audits stopped in May 2010.
- Regulation revisions approved in September 2010 to **require** purchase of audits from private Accredited Audit Sample Providers (AASP) from an approved audit program, if available.
- The NELAC Institute (TNI) developed consensus standards for a privatized audit program (http://www.nelac-institute.org/ssas) and is an EPA-approved audit program.
- Two AASPs must be available before purchase of audits is required by the regulation. Two (ERA and Sigma Aldrich) are now approved (but not for all methods) in the TNI program. Audits were required starting on June 16, 2013.

# Stack Test Quality Assurance Audits

## TNI Audit Process

- Facility (or Authorized Representative) provides Regulatory Agency sufficient information to determine type(s) and concentration(s) of needed audits, plus details on selected Provider (V1M3 §4.1.1.) In NJ, this information is in the Protocol.
- Facility orders audits from Provider.
- Provider contacts Regulatory Agency to allow for input.
- Regulatory Agency has 15 days to provide input.
- Provider ships audits to Facility/Tester to be on-site during test.
- Tester ships audits with stack samples to Laboratory.
- Laboratory reports audit results to Provider, **and** simultaneously reports audit and sample results to the Regulatory Agency.