BENEFITS AND OVERVIEW OF THE ELECTRONIC REPORTING TOOL (ERT)

Paul Baker
MACTEC
Overview

- Introduction
- Emissions Reporting Tool Overview
- Conclusions
Introduction

- Test Plan
- Test Report
- Emission Factor Development
- Why ERT
What is ERT

- Microsoft Access Application
- Methods
- Pollutants
  - Filterable PM, Condensable PM, PM10, PM2.5, CO, Chlorine, Chloride, HCl, Total Chloride, NOx, SO2, Metals (Sb, As, B, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, P, Se, Ag, Th and Zn), TOC (as C, CH4, C2H6, C3H8)
- Electronic Test Report
ERT Provides

- Key information
- Coordination
- Data quality
- Standards
ERT Reduces

- Workload
- Required resources
- Redundancy
How ERT is used by the Source

- Test plan
- Test report
Test Plan – Facility/Tester Screen

Facility Name:
Environ Mental Conscientious Furniture Co.

Address:
665 E 35th St N Ave

City:
Boisenberry

State/Zip:
NC 27854-4865

Contact:
Enviro M. Conscious

Phone:
(919) 666-2020

Fax:
(919) 666-6262

email:
enviro.conscientious@environconscientious.com

Testing Company:
Emissions Factors & Policy Applications Group

Address:
EPA Office of Research & Development (C312-02)

City:
Research Triangle Park

State/Zip:
NC 27711

Contact:
Ronald E. Myers

Phone:
(919) 541-5407

Fax:
(919) 541-1065

email:
myers.ron@epa.gov
Test Plan – Permit/SCC Screen

Test Plan Title: Emissions Testing of Wood Chip Dryer 2
Test Plan Date: 5/25/2005

Air Permit Number: NC666-1234

Permitted State Source ID/Name: DR2

Permitted Maximum Process Rate: 175 Tons per Hour
Maximum Normal Operation Process Rate: 150 Tons per Hour
Target Process Rate for Testing: 125 Tons per Hour

SCC:

Select SCC from list

SCC/Desc.: 30701001 Industrial Processes - Pulp and Paper and Wood Products - Oriented Strandboard (OSB) Manufacture - Direct Wood-fired Rotary Dryer, Unspecified Pines

Target Parameter: Oven-dried Wood Produced
Process Rate: Tons/million BTU using C2H2
U (+/-): 0
Pollutant Unit of Measure: lb/million BTU using O2
U Desc.:
Test Plan – Attachments Screen

[Image of computer screen with Test Plan window open showing attachment details]

- Test Plan Title: Emissions Testing of Wood Chip Dryer 2
- Test Plan Date: 5/22/2007

Please enter attachments:

<table>
<thead>
<tr>
<th>Attachment Description</th>
<th>Attachment (right click to insert file)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source/Process Flow Diagram</td>
<td>Package</td>
</tr>
<tr>
<td>Alternate Method Requests and Approval (Item 9) (optional)</td>
<td>Adobe Acrobat 7.0 Document</td>
</tr>
<tr>
<td>EPA Method 1 Location Supporting Documentation (Item 9) (optional)</td>
<td>Adobe Acrobat 7.0 Document</td>
</tr>
<tr>
<td>Cylonic Flow Absence Supporting Documentation (Item 10)</td>
<td>Adobe Acrobat 7.0 Document</td>
</tr>
<tr>
<td>Pre-Test Meter Boxes/DGMs Calibrations</td>
<td>Package</td>
</tr>
<tr>
<td>Post-Test Meter Boxes/DGMs Calibrations</td>
<td>Package</td>
</tr>
<tr>
<td>Nozzle Calibrations</td>
<td>Package</td>
</tr>
<tr>
<td>Pitots Calibrations</td>
<td>Package</td>
</tr>
<tr>
<td>Thermocouples Calibrations</td>
<td>Package</td>
</tr>
<tr>
<td>Sampling Locations Dimensions and Point Locations</td>
<td>Package</td>
</tr>
<tr>
<td>Run Field Data Sheets</td>
<td>Package</td>
</tr>
<tr>
<td>Moisture Recovery</td>
<td>Package</td>
</tr>
<tr>
<td>Lab Data</td>
<td>Package</td>
</tr>
<tr>
<td>Chain-Of-Custody</td>
<td>Package</td>
</tr>
<tr>
<td>Observer Comments</td>
<td>Package</td>
</tr>
<tr>
<td>APCD Diagram</td>
<td>Package</td>
</tr>
</tbody>
</table>

To add an attachment:
- Right click on the filename
- Select "insert object"
- Select "create from file"
- Browse to the folder containing the file and select the file

[Finished button]
Test Report – Field Data Spreadsheet
Test Report – Results Screen

[Image of a computer screen displaying a test report with various parameters and data.]
**Test Report – Emissions Screen**

The image shows a software screen for testing emissions data. The screen is titled `Run Data Details` and includes several tabs and fields for data entry. The selected method is `Method 29` for a run labeled `Run 1` on `12/23/2004`. The table below lists the emissions data for different compounds:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Fwt (mg)</th>
<th>Mass (mg)</th>
<th>lb/dscf</th>
<th>gr/dscf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium</td>
<td>52</td>
<td>20.00</td>
<td>1.2329425E-06</td>
<td>0.00863</td>
</tr>
<tr>
<td>Lead</td>
<td>207.19</td>
<td>20.00</td>
<td>1.2329425E-06</td>
<td>0.00863</td>
</tr>
<tr>
<td>Manganese</td>
<td>54.94</td>
<td>20.00</td>
<td>1.2329425E-06</td>
<td>0.00863</td>
</tr>
<tr>
<td>Nickel</td>
<td>65.71</td>
<td>20.00</td>
<td>1.2329425E-06</td>
<td>0.00863</td>
</tr>
<tr>
<td>Silver</td>
<td>107.87</td>
<td>20.00</td>
<td>1.2329425E-06</td>
<td>0.00863</td>
</tr>
<tr>
<td>Zinc</td>
<td>65.38</td>
<td>20.00</td>
<td>1.2329425E-06</td>
<td>0.00863</td>
</tr>
</tbody>
</table>
How ERT is used by EPA

- Test plan review
- Test report
- Data quality evaluation
ERT Test Plan Review

1. Describe below or attach complete documentation of all modifications and/or deviations to the applicable test methods. If alternative methods requested, attach documentation of request and approval, including dates.

   Instead of using the procedures prescribed in NC rule 25NC7725-3, we propose using a combination of Method 202 and Method 515 procedures. These include purging with Nitrogen and the use of Methane Chloride as the extractant. In addition, we propose to use argon as a finish solvent following the Methane Chloride.

2. Does the proposed sampling location meet the minimum acceptable measurement sites? Please list below any additional documentation.

3. Has absence of cyclonic flow been verified per EPA Method 200? If not, absence of cyclonic flow must be verified prior to sampling.

   Cyclonic flow will be determined as part of the initial velocity test by...

4. Select the method that will determine the oxygen content.

   MBA-instrumental
ERT Data Quality Questions

<table>
<thead>
<tr>
<th>ID</th>
<th>Question</th>
<th>Value (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Is the post-test leak check presented for each run and does it meet the criteria of &lt; 0.02 cm?</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Is annual and post-test DGM calibration data included in the report? Does DGM calibration data meet the QA specifications?</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Is the isokinetic sampling ratio between 0.9 and 1.1?</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Is nozzle calibration data included in the test report? If so, do the nozzle calibrations meet the required QA specifications?</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Is the raw field data included in the test report?</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Are copies of laboratory data included in the test report, and are the laboratory reports complete and correct?</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Are the sample custody records included in the test report?</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>USE A GRADUATED SCALE BASED ON MGs?? - Is the 3-run or grouped runs RPD &lt; 30% (50%)?</td>
<td></td>
</tr>
</tbody>
</table>

Use buttons below to change runs:

State Review Run Status:
ERT Test Report Review

[Image of a software interface for testing reports]
Source Benefits

- Streamlined test plans
- Standard Report
States Benefits

- Standard report
- Q/A
- Improved emission factors
ERT Data Applications

- WebFire
- Non-emission factor data flow
- Legacy systems
- AIRS/AFS
- Emission inventory
- Emission standards data
- State limits (non-Federal, SIP)
- Federal NSPS, MACT, NSR/PSD
Planned Improvements

- ANPR electronic submission requirements
- Data definition standards
- CDX
- CROMERR
- Expanded test methods
Conclusions

- Paper replacement
- Critical data
- Communication
- Standards
- Efficient
- Improved emission factors