

Title: Electronic recordkeeping and reporting aids compliance, Solutions!, Online Exclusives, November 2002

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ELECTRONIC RECORDKEEPING AND REPORTING AIDS COMPLIANCE

An electronic recordkeeping and reporting system will minimize time requirements and maximize accuracy for complying with the conditions of your Title V Permit.

By P. H. Haroz, Conversion Technology Inc.

Anyone at a mill that has received its Clean Air Act Amendments Title V Operating Permit knows that the recordkeeping and reporting is very labor-intensive. It puts significant pressure on the environmental staff with daily responsibility for recordkeeping, and on the environmental professionals responsible for report preparation (quarterly and/or semiannual). It also puts pressure on the "responsible official," the signing authority for the Title V permit application.

The first Title V certification can be a problem for many facilities. During the Title V's year of issuance, the facility is required to complete a compliance certification for the period from permit issuance through December 31. Even if a permit is issued in December, the facility must provide a compliance certification covering this period.

Recordkeeping challenges

The first problem is the labor-intensive process needed to maintain compliance with recordkeeping requirements. The following examples illustrate typical recordkeeping requirements for emission units:

Boilers burning wood waste:

- Quantity of wood waste or other fuel
- Oxygen value at the boiler exit recorded daily
- Any time that the oxygen level is outside of the established range in the most recent test
- The steam use shall be recorded daily
- Any time that the steam usage is greater than the 110% of the average steam usage established in the most recent test
- Shut down/startup time

Venturi scrubbers to control particulate matter (PM) emissions from the boiler:

- Any three-hour average measurement of the scrubber pressure drop that is less than or equal to 90 percent of the average value established during performance testing
- Any three-hour average measurement of the scrubbant flow rate that is outside the range of 80 to 120 percent of the average value established during performance testing
- Routine maintenance
- Shut down/startup time

Electrostatic precipitator (ESP) to control particulate matter (PM) emissions from the boiler:

- Any three-hour average measurement of the secondary voltage of each field that is less than 70 percent of the value established during performance testing
- Any three-hour average measurement of the secondary amperage of each field that is less than 70 percent of the value established during performance testing
- Routine maintenance
- Shut down/startup time

Baghouses:

- Perform a check to determine if visible emissions are present. The check shall be performed at least once for each day or portion of each day of operation of the process.
- If the baghouse is determined to be emitting visible emissions, the permittee shall determine the cause of the visible emissions and correct the problem in the most expedient manner possible. The permittee shall note the cause of the visible emissions, pressure drop, any other pertinent operating parameters, and the corrective action taken in the maintenance log
- Pressure drop across the baghouse and ensure that it is within the appropriate range
- Routine maintenance
- Shut down/startup time

Cyclones and/or multiclones:

- For each week or portion of each week of operation of the process, inspect the exterior of cyclones and/or multiclones for holes in the body or evidence of malfunction in the interior of the cyclones and/or multiclones. Any adverse condition discovered by the inspection shall be corrected in the most expedient manner possible
- Pressure drop across the multiclone
- Shut down/startup time

Dryers:

- Record on an hourly basis, the number of wet safer bin bottom belts that are moving as they relate to the dryers
- Routine maintenance

Regenerative thermal oxidizers:

- 8-hour average of combustion zone temperatures
- 12-hour average of gas stream pressure in the plenum
- 12-hour average of ID fan motor speed
- 24-hour average ID fan static pressure
- Routine maintenance
- Shut down/startup time

Thermal oil heater:

- Routine maintenance performed

Presses:

- Daily production rate from the press as finished product

Fugitive dust:

- Maintain a record of all actions taken to suppress fugitive dust from roads, storage piles, or any other source of fugitive dust. Such records shall include the date and time of occurrence and a description of the actions taken

Reporting requirements

Reporting required by the Title V includes quarterly and/or semiannual reports, annual compliance certification, annual emission fees and notices of emission limit exceedances. The following are examples.

Out of compliance notification reports:

- In addition to any other reporting requirements of the Permit, the permittee shall report to the State in writing, within seven (7) days, any deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning, or emissions control equipment for a period for four hours or more which results in excessive emissions.
- The Permittee shall submit a written report that shall contain the probable cause of the deviations(s), duration of the deviations(s), and any corrective actions or preventive measures taken.

Semiannual reports:

- The permittee shall submit written reports of any failure to meet an applicable emission limitation or standard contained in the permit and/or any failure to comply with or complete a work practice standard or requirement contained in the permit which are not otherwise reported in accordance with conditions. Such failures shall be determined through observation, data from any monitoring protocol, or by any other monitoring which is required by the permit. The reports shall cover each semiannual period ending June 30 and December 31 of each year, shall be postmarked by the 30th day following the end of each reporting period, July 30 and January 30, respectively, and shall contain the probable cause of the failure(s), duration of the failure(s), and any corrective actions or preventive measures taken.
- The permittee shall submit a report containing any excess emissions, exceedances, and/or excursions as described in the permit and any monitor malfunctions for each semiannual period ending June 30 and December 31 of each year. All reports shall be postmarked by the 30th day following the end of each reporting period, July 30 and January 30, respectively. In the event that there have not been any excess emissions, exceedances, excursions or malfunctions during a reporting period, the report should so state. Otherwise, the contents of each report shall be as specified by the regulatory procedures for testing and monitoring sources of air pollutants and shall contain the following:
 - A summary report of excess emissions, exceedances and excursions, and monitor downtime, including any failure to follow required work practice procedures.
 - Total process operating time during each reporting period.
 - The magnitude of all excess emissions, exceedances and excursions computed in accordance with the applicable definitions as determined by the state, and any conversion factors used, and the date and time of the commencement and completion of each time period of occurrence.
 - Specific identification of each period of such excess emissions, exceedances, and excursions that occur during startups, shutdowns, or malfunctions of the affected facility. Include the nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.
 - The date and time identifying each period during which any required monitoring system or device was inoperative (including periods of malfunction) except for zero and span checks, and the nature of the repairs, adjustments, or replacement. When the monitoring system or device has not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- The permittee shall submit a semiannual report of the 12-consecutive month totals of product produced that are causing emissions with an annual limit by July 30 of the calendar year of record and by July 30 of the calendar year of record and by January 30 of the year following the calendar year of record, unless otherwise approved by the State.

Annual compliance certification:

- Certification by a Responsible Official that, based on information and belief formed after reasonable

inquiry, the statements and information in the report are true, accurate, and complete.

Annual emission fees:

- The permittee shall calculate the annual emissions of criteria pollutants and multiply it by the fee rates.

Maintaining records

The permittee needs to keep records such as those described below for five years.

Sampling of measurements:

- The date, place, and time of sampling or measurement;
- The date(s) analyses were performed;
- The company or entity that performed the analyses;
- The analytical techniques or methods used;
- The results of such analyses; and
- The operating conditions as existing at the time of sampling or measurement.
- Records describing the routine maintenance performed on all air pollution control equipment.
- Monthly records of the amount of products processed through some emission units necessary to confirm compliance with the production limit.
- Files of all measurements, including continuous monitoring systems, monitoring devices, and performance testing measurements; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices.
- Maintain records of all actions taken to suppress fugitive dust from roads, storage piles, or any other sources of fugitive dust.

Those are only a few examples of many different Title V Permit Conditions for maintaining compliance with emission operating limits, testing, monitoring, recordkeeping, and reporting requirements.

It seems impossible for one person to handle it all. In addition, the responsible person for the Title V at the facility must depend on operator and maintenance personnel to conduct periodical activities required by the conditions and record them correctly.

The electronic solution

The optimal solution for maintaining compliance with a facility's Title V Permit is an electronic recordkeeping and reporting system. A successful system should have the following characteristics:

- User friendly, so all employees responsible for upkeep of the Title V Permit can easily use it.
- Customized to address the facility's specific Title V permit conditions.
- Must allow for user input of the data to be recorded as required by the facility's permit such as pressure drops, visible emission, etc.
- Should generate all required reports and enable the responsible official to review the data electronically in a user-friendly mode.
- Alert the user of any non-compliance issues.
- Prevent the facility from being in non-compliance.
- Minimizing the recordkeeping time requirement.
- Maximizing the accuracy of the reports.
- Be affordable.

The SingleClick™ Title V electronic recordkeeping and reporting system developed by Conversion Technology Inc. is an example of an electronic system that makes compliance easier. The main screen (see **Figure 1**) provides buttons to access all recordkeeping and reporting requirement. "The Permit" button will open the Title V Permit. The "Emission Units" button will open the emission units that have conditions (see **Figure 2**). When clicking on the "Baghouses" button, it will open a screen with all the baghouses of the facility.

Each baghouse will have buttons for the required recordkeeping such as visible emissions, shut down and startup time, and preventive maintenance. The "Scrubbers" button will open a screen with all scrubbers and the buttons for their required conditions (see **Figure 3**). The "Reports" button will provide access to all the reporting requirements (see **Figure 4**). All the required reports retrieve the information from the recordkeeping database.

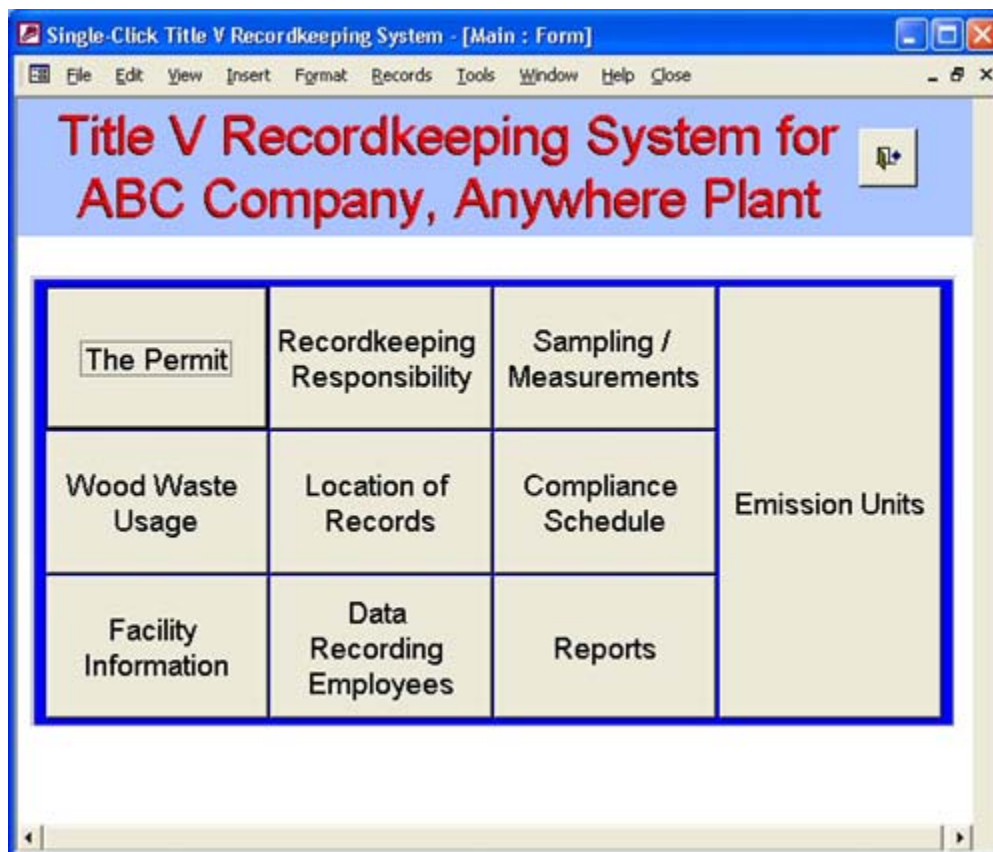
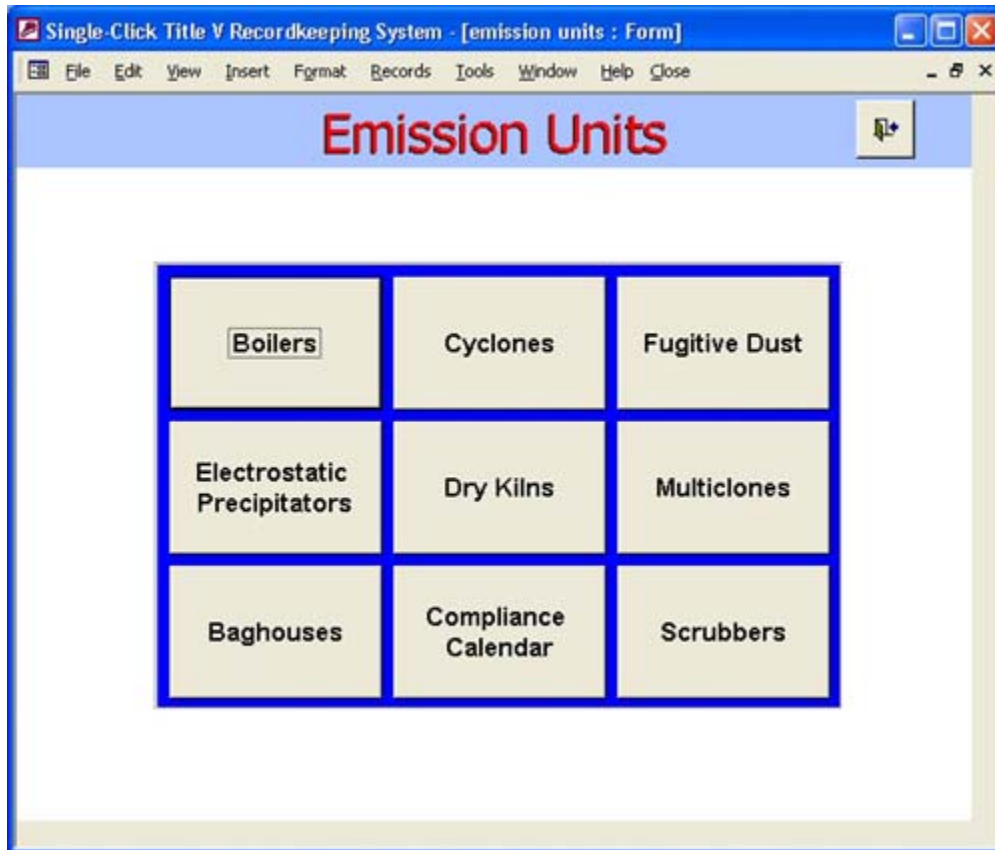


Figure 1.



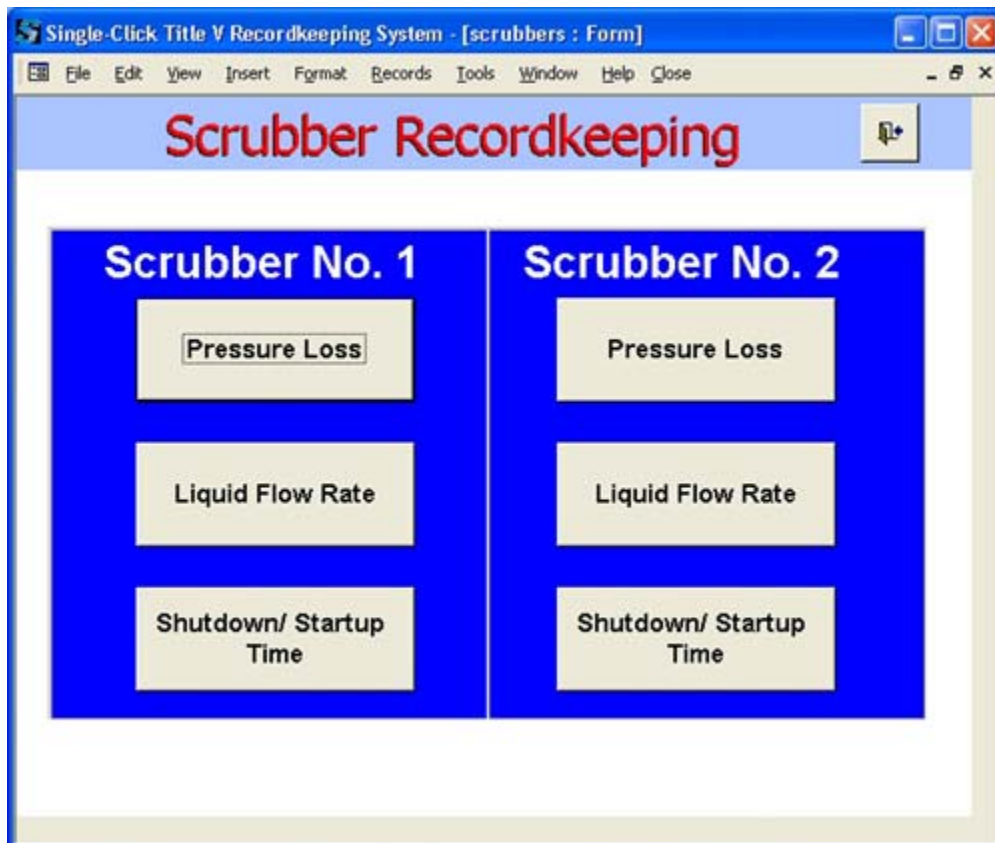
Single-Click Title V Recordkeeping System - [emission units : Form]

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Emission Units

Boilers	Cyclones	Fugitive Dust
Electrostatic Precipitators	Dry Kilns	Multiclones
Baghouses	Compliance Calendar	Scrubbers

Figure 2.



Single-Click Title V Recordkeeping System - [scrubbers : Form]

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Scrubber Recordkeeping

Scrubber No. 1	Scrubber No. 2
Pressure Loss	Pressure Loss
Liquid Flow Rate	Liquid Flow Rate
Shutdown/ Startup Time	Shutdown/ Startup Time

Figure 3.

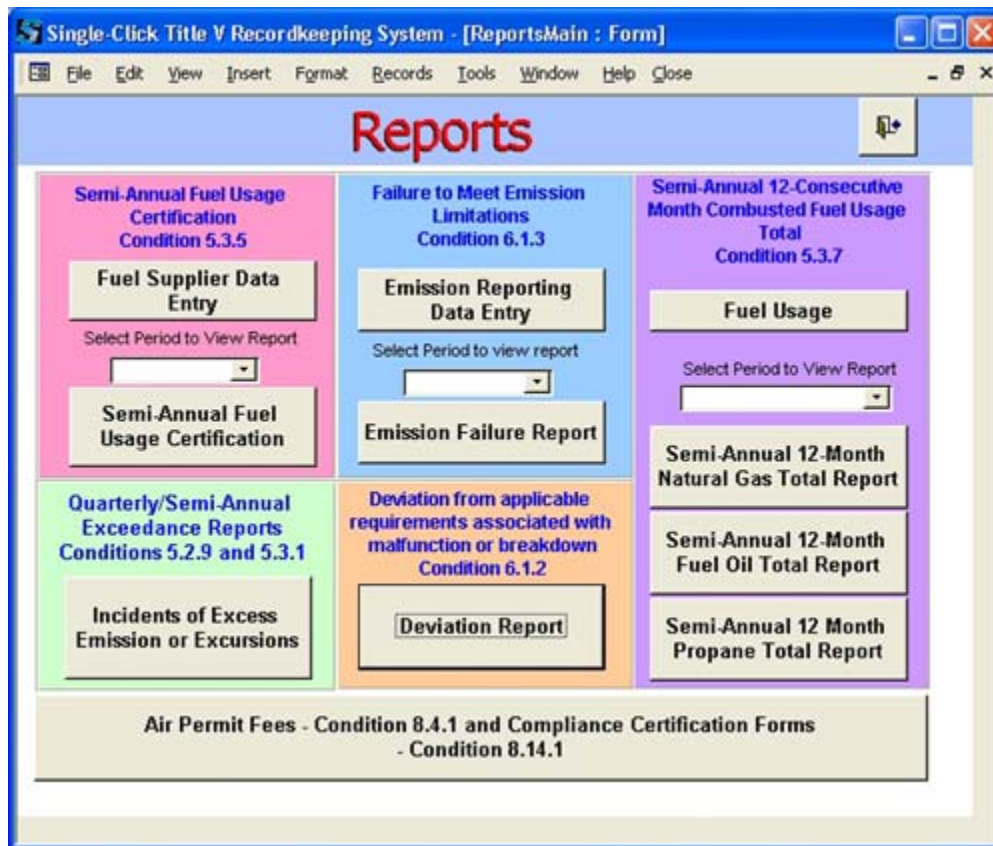


Figure 4.

Other features provided by the systems are:

- Drop down menus that allow users to choose entries from a pre-selected list, such as:
 - Documenting proper operation of equipment.
 - Cause of excursions and other pertinent operating parameters and the corrective actions taken.
 - Operating conditions existing at the time of sampling or measurements.
 - Adjustment and maintenance performed on the various systems and devices.
 - Description of routine maintenance performed on all air pollution control equipment.
 - Description of actions taken to suppress fugitive dust.
- Out of compliance warning provided for such entries as:
 - Any twelve consecutive month total emissions from sources.
 - Any one-hour period during which the average emissions from any source are equal to or greater than the limits.
 - Any period during which the sulfur content of the fuel fired in any source exceeds 0.5 weight percent.
- Location of records—a database showing the location of paper records.
- Compliance schedule—provides compliance due dates, list of actions to be done on hourly, daily, weekly, etc. basis for the facility to stay in compliance with the Title V Conditions.

Conclusion

The complexity of the recordkeeping and reporting requirements of most Title V's is overwhelming. An electronic recordkeeping and reporting system eases the operator's task to input the data, can help environmental managers to report, and will provide alarms when the system approached emission limit exceedances. An electronic system will prepare the required reports and provide responsible officials a better comfort level prior to compliance certification of the annual reports.

About the author:

P. H. Haroz is senior partner at Conversion Technology Inc. in Norcross, Georgia, USA. He received his Bachelors of Science in Mechanical Engineering from the University of Texas and his Master of Science in Mechanical Engineering from the Georgia Institute of Technology.

Haroz is specialist in air quality permitting, air pollution systems, wastewater treatment systems, hazardous waste handling, and environmental, health, and safety auditing and management. He can be reached by phone at (770) 263-6330 and by email at ph@conversiontechnologyinc.com.

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