

**WESTERN REGIONAL
AIR PARTNERSHIP**

**EMISSIONS DATA
MANAGEMENT SYSTEM**

**Close Out Document
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I. INTRODUCTION

The Emissions Data Management System (EDMS) was developed by Pechan and housed by UNC in 2004 under the WRAP contract #30204-78. Modifications 2 through 8 of the contract provided for ongoing support, operation, maintenance and data loading activities of the EDMS. This report provides details of the status of the data in the EDMS upon system turnover to the WRAP.

II. SYSTEM STATUS AS OF SYSTEM TURNOVER

The following table, WRAP EDMS Inventory Table, describes the status of each of the inventories contained in the Pechan/UNC version of the EDMS at the time of the system turnover. The table provides the EDMS internal inventory number, inventory version number, a description and the status of the inventory. The inventories listed in the table are the inventories in the EDMS that were accessible to the users depending on the individual inventory's disposition.

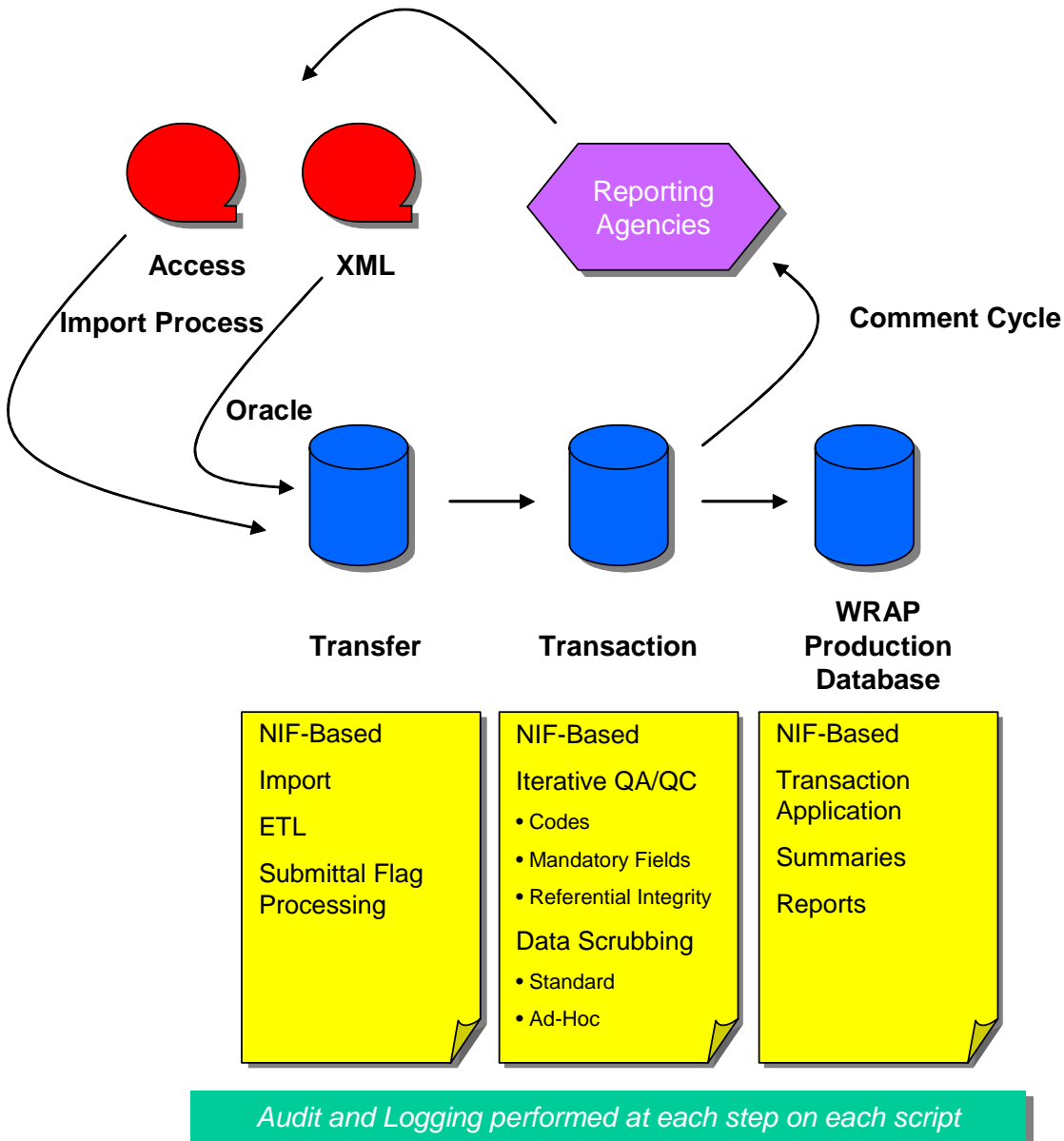
WRAP EDMS Inventory Table

Inventory Number	Version Number	Description	Status	Locked	Disposition
1		EPA Preliminary	Loaded on Production database.	Yes	Private
2	1.0	2002	Loaded on Production database.	No	Public
3		EPA Version 3	Loaded on Production database.	Yes	Private
4			Not being used.		
5		Training	Loaded on Production database.	Yes	Public
6	.9	2002	Loaded on Production database.	No	Private
7	1.1	2002	Loaded on Production database.	No	Public
8	1.2	2002	Loaded on Production database.	No	Public
9	2.0	2002 Final	Currently loaded into Production database. Additional tribal data has been received, but not loaded.	Yes	Public
10	1.0	2018	Currently loaded into the development database, the application points to the development server to retrieve this information for users.	Yes	Private

III. STAGING VS. PRODUCTION

There are four data areas in the EDMS, as shown in the Figure below: Transfer, Transaction, Staging, and Production. The Transfer data area is where raw data are directly imported into the EDMS from the WRAP EDMS on-line application.

WRAP EDMS Database Setup



Once an import is deemed successful, the data are moved to the Transaction data area where the data are subjected to QA/QC for required fields, referential integrity and valid codes. If data scrubbing is to occur, it will occur in the Transaction data area. Once the data have passed the Transaction data area steps, the data are moved to the Staging area where it is readied for Production release. The Staging area is actually the Production tables, but access to it is controlled by a switch in the application database Inventory table. The Production data area houses all data that is viewable by the EDMS. At the time of system turnover, there were no items in the Staging database area that await transition to the Production data area.

IV. ITEMS NOT IN PRODUCTION

In addition to the four data areas described above, the Pechan/UNC WRAP EDMS installation included a Development/Test implementation of the EDMS in addition to the Production implementation of the EDMS. The Production implementation of the system was the public site that was accessed via the URL www.wrapedms.org. The development/test implementation of the EDMS was to place code changes on for testing and approval before installing them on the Production site.

Because of database disk space constraints, the data loads of the 2018 (Inventory 10) and the additional 2002 Tribal data for Inventory 9 that were received by Pechan after Inventory 9 was deemed complete were loaded onto the development/test database. The production application was modified to “look” into the development/test database for these data. It is suggested that these data be moved to the Production database and the application be modified to retrieve these data from the Production database once the data move is complete.

V. 2018 DATA LOAD ISSUES

The 2018 data were loaded into the Development/Test database due to lack of space availability on the Production database. The 2018 particulate emissions data was submitted as PM10 and PM25, so Pechan scrubbed the data and updated it to PM10-PRI and PM25-PRI. This is consistent with the treatment of similar 2002 data when received in this form. There are no other known issues with the 2018 data load. The Steering Committee decided that the 2018 data load performed this fall would not include the point source 2018 emissions data pending completion of corrections to this data set.

VI. FIRE

The amount of the fire data that was stored in the EDMS created processing problems for the EDMS ad-hoc reports and NIF exports. The Fire data were submitted in point source format and were stored in the point source data tables. The first 7 EDMS inventory data versions (1 through 7) of the point emissions tables with no Fire data contain 2.8 million records. With the introduction of 2002 Fire data into 2 versions (EDMS inventory versions 8 and 9) the record count in the point emissions table totaled 73 million records (the equivalent of *over 150 years* of point source data). The storage of more Fire data for historical years as well as future year inventories (e.g., 2018) in the EDMS was required.

While the EDMS can store that much information and provide reports on it, processing that amount of data for export caused database timeouts due to lack of sufficient storage resources. The ad-hoc and NIF exports require record-level access to the data, whereas the GIS and preformatted reports access summarized views of the data. While the Fire data was provided in a readable NIF point format, it does not follow the convention for reporting of emissions data as expected by the EDMS. More specifically, the Fire emissions were reported in hourly time periods, where point source emissions are typically reported as an annual value. The EDMS reports and displays emissions data on the reports and GIS using data values divided by state,

county, tribe and annual delimiters. The most direct solution to the timeout problem was to reduce the number of fire data records in order for the system to work for users as designed.

The Production database point source tables were initially backed up, and then the Fire data was removed from EDMS Inventories 8 and 9. The original raw Fire data files were placed on the Pechan FTP server. These files should be placed on the new WRAP EDMS site as documents for interested parties to download. The original Fire data files were provided to the EDMS by a WRAP contractor - Air Sciences.

Pechan, the WRAP and Air Sciences were to meet and reach agreement on the level of fire data to be sent to the EDMS, but the meeting never occurred. Annual data is the desired temporal breakdown for the EDMS, as the application and reports all display annual information.

VII. 2002 LOAD STATUS

The 2002 data load status for Inventory version 9 (Final 2002) is essentially complete and the database has been made public. The data scrubbing that was performed on Inventory 9 includes:

For Phelps Dodge - Miami Smelter (Facility ID 0400701391)

1. Add SIC= 3331
2. Add NAICS Code=331411
3. Change the SCC code from what was a 102 to 30300599

It is our understanding that Eastern Research Group (ERG) is working to correct a problem of there being duplicate facility identifiers for some of the electricity generating units (EGU) in the 2002 point source file that they supplied. Once these corrections are received from ERG, the 2002 point source file should be revised.

There were several tribal data sets provided after inventory 9 was deemed complete. With the project closeout and turnover tasks, those data were not loaded onto the Production site. The status of the tribal data is discussed in more detail in the next section.

VIII. TRIBAL DATA SUBMITTED BUT NOT PROCESSED

The following tribal data has been loaded to the Production data area on the Development/Test server database:

Fort Mojave
Salish Kootenai
Yakama Nation
Northern Cheyenne
Nez Perce
Navajo Nation

It is recommended that these data be moved to the Production data area of the Production database.

The following file was received, but not processed by Pechan/UNC due to labor hour constraints:

Spirit Lake Nation

This submittal will need to be loaded into Inventory 9. Once the tribal data load is completed, the Inventory Description Documents will need to be updated and placed on the EDMS site.

All raw tribal data files have been placed on the Pechan transition ftp site in the "Tribal Data" folder under the original Production database export folder.