



DATA MANAGEMENT

The Final Destination

Chemicals Management Services Workshop
October 12, 2010

Vickie L. Mecsey – General Motors

Background on Chemical Management

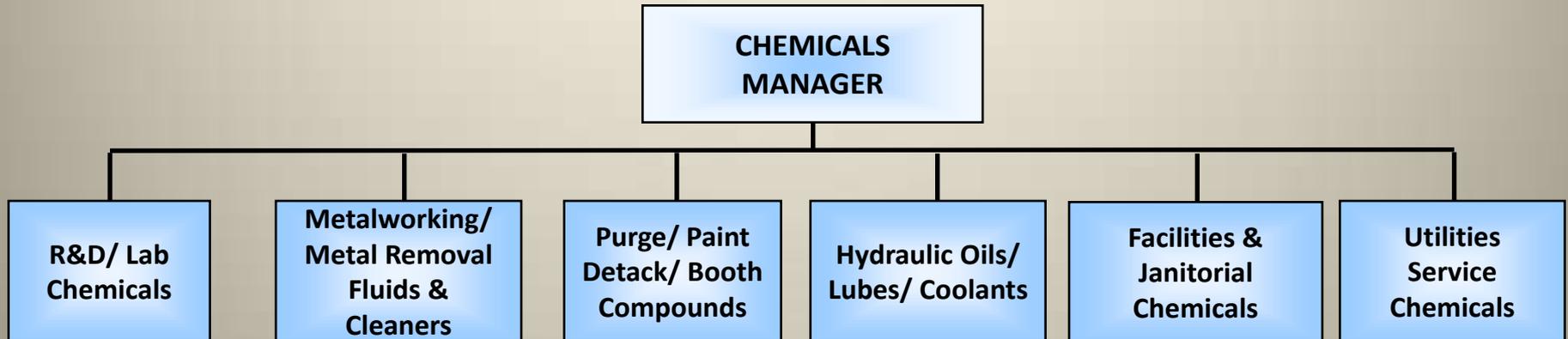
Chemicals Management was Developed to Achieve:

- Better environmental compliance
- Cost reduction
- Reduction of number of chemicals used
- Process improvement
- Standardization of process

Chemicals Management Program Scope

DEFINITION:

Under chemical management, a single first-tier supplier provides all indirect chemicals and services, including an on-site laboratory and staff to manage all chemical processes within the plant. The Management, Staffing and Equipment fees are fixed while Chemicals costs are passed through.



CHEMICAL SERVICES INCLUDED UNDER CHEMICAL MANAGEMENT:

- Chemicals
- On-site Management Team
- Off-site Support
- On-site Checks
- Complete Inventory Management
- Complete Chemical Process Management
- R&D Programs
- Container Management
- Second Tier Development & Management
- Product/Process Eng. Development
- Predictive Maintenance Development
- Chemical Maintenance Scheduling
- Environmental Studies
- Safety/ Health Issues
- Assist Environmental Reporting\ Training
- Total System Analysis & Tech. Mgmt.
- Problem Solving
- Usage Tracking
- Cost Reduction Program
- Coordinate OEM'S
- Waste Treatment Involvement

Where Are We Today: Program Successes

- In general:
 - Chemical costs have reduced by an average of 30%
 - Chemical usage has been reduced as much as 50%
 - Chemical processes are under better control
 - Process improvements have resulted
 - Chemicals Management is a cornerstone in the GM Environmental Strategy
 - Plant personnel are able to better focus on core business of building automobiles
- Chemical management has helped support GM's robust data management strategy.

The Road to a Successful Data Management Strategy at GM

- In the mid to late 1990's GM was reducing headcount at the same time the federal, state, and local regulatory burden was increasing.
- This scenario led to the creation of the General Motors Regulatory Resources (GMR2) Program
 - An efficient, flexible, and cost effective approach to address environmental regulatory compliance through the use of a third party service provider.
 - The program consists of four major components:
 - Data Management
 - Regulatory Reporting
 - IT
 - Program Management



The Road to a Successful Data Management Strategy at GM

- While the primary focus of the GMR2 Program was originally on the Regulatory Reporting component, it quickly became obvious that Data Management was the real the foundation for a successful program.
- Environmental compliance requires the management of a large amount of data; within GM North America we:
 - Process >8,000 Material Safety Data Sheets per year
 - Process ~300,000 chemical usage and waste stream transactions annually
 - Complete ~1,500 environmental reports per year, and
 - Have nearly 300 distinct data sources providing various environmental data



The Road to a Successful Data Management Strategy at GM

- The initial phase of the program began with the identification of the various types of data required to be collected (i.e., material usage, dynamic data, and static data)
- A data collection calendar was established for each facility (identifies source and availability)
- Introduced electronic formats for data collection/management where ever possible
 - Chemicals Management and Resource Management providers



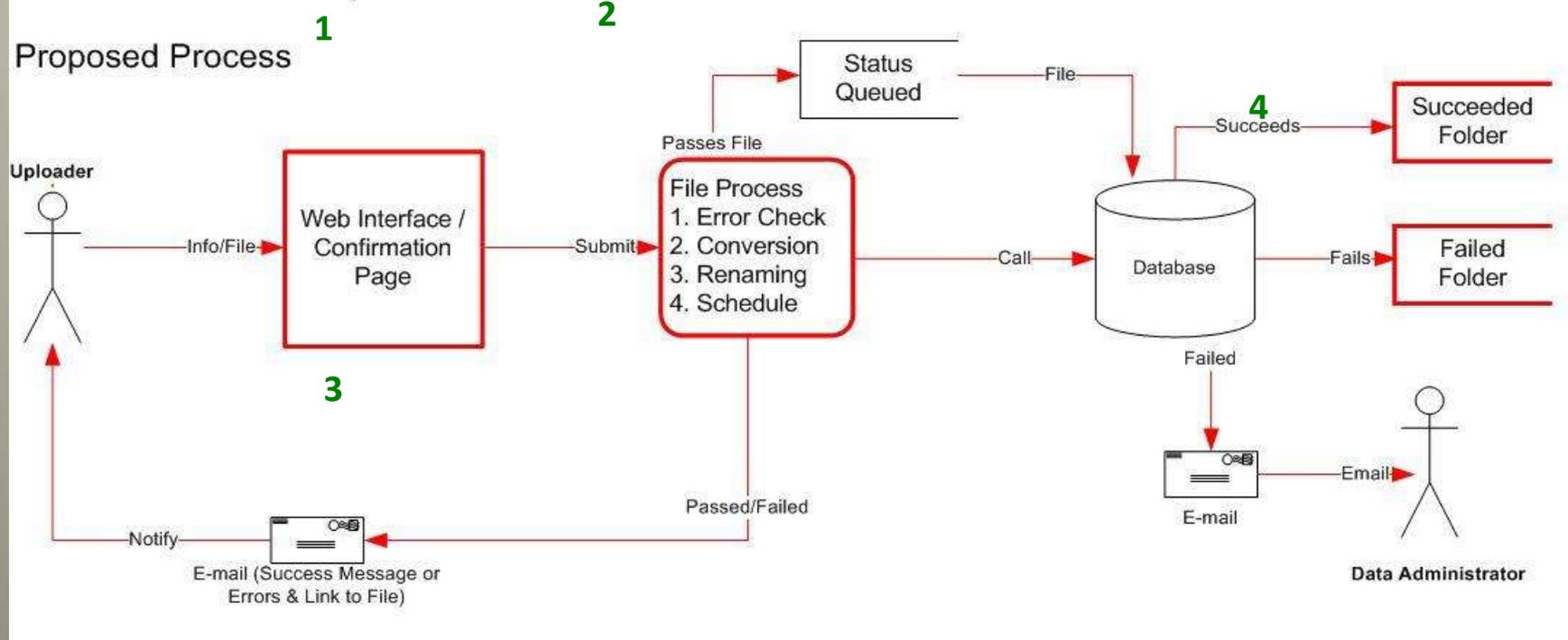
The Road to a Successful Data Management Strategy at GM

- Chemicals Managers and Resources Managers provide data to GM via a standardized electronic format on a monthly basis
 - Master Material List (MML)/Master Waste List (MWL) and Transaction File (e. g., purchases/ disbursements/ disposal activity)
- Chemical Managers also provide accurate location and container information
- CMs and RMs provide timely data submissions and work diligently to resolve any errors that may arise



The Road to a Successful Data Management Strategy at GM

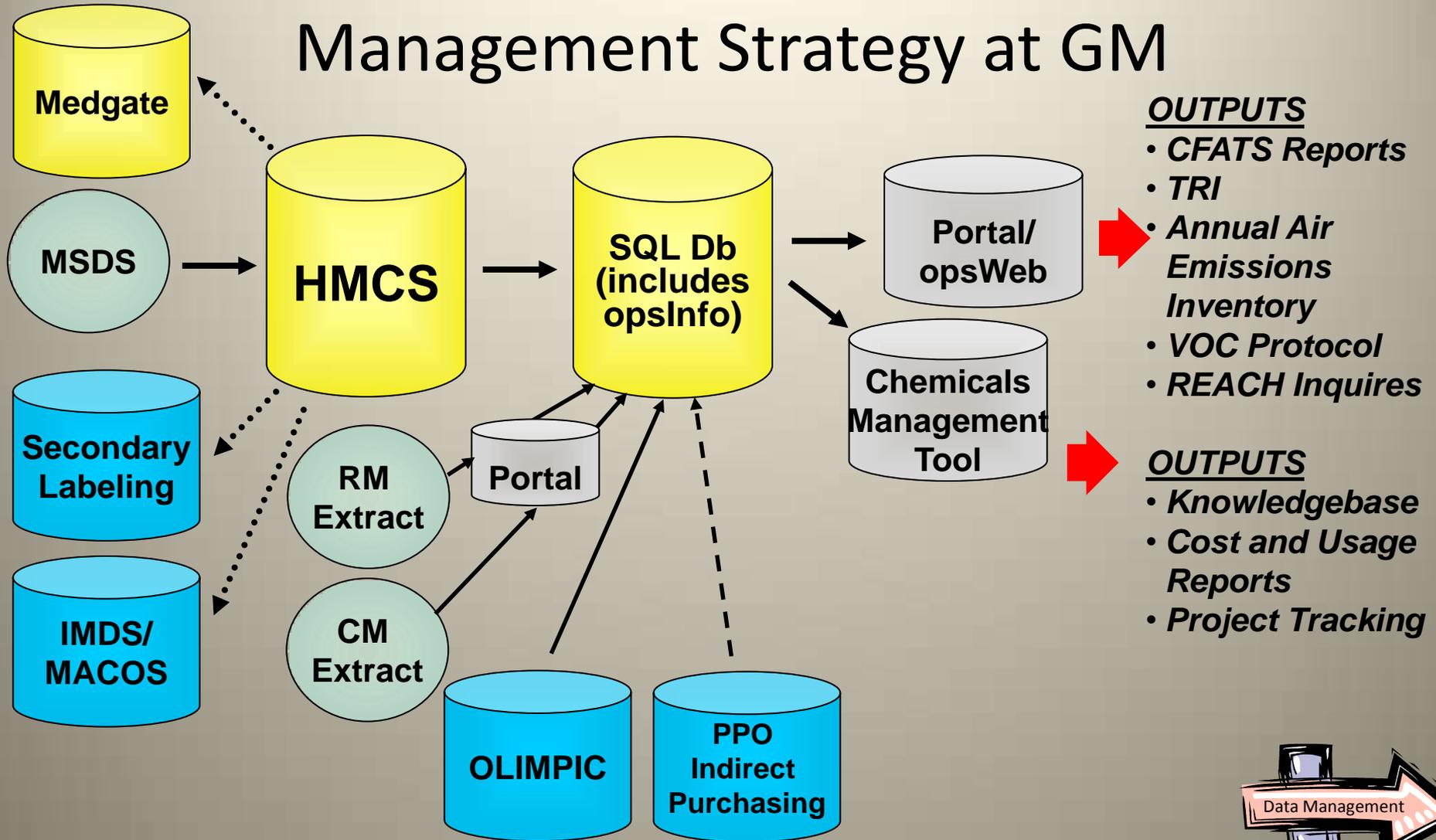
GMR2 File Upload Process



1. Supplier submits file through web portal.
2. If file passes validation, it is queued for loading into database.
3. Supplier receives e-mail whether file was accepted or not. If not, the e-mail contains error listing and returns the file.
4. Upon successful loading, file is sent to 'Succeeded Folder', otherwise file is sent to 'Failed Folder'. If loading fails, database administrator is notified.



The Road to a Successful Data Management Strategy at GM



The Road to a Successful Data Management Strategy at GM

- Our robust, streamlined data management strategy has allowed GM to:
 - Track which chemicals are used at what facility, how much is used, and in what process(es)
 - Apply common methodologies across the company for purposes of regulatory reporting (e.g., threshold determination, emissions calculations, etc.); and most importantly
 - Better position ourselves to address future chemical and environmental regulations (e.g., CFATS and REACH)



The Road to a Successful Data Management Strategy at GM



Unfortunately, There are No Turn-By-Turn Directions Available for Creating a Data Management Roadmap





Helpful Hints for Designing Your Roadmap To Data Management Success

- 1. Develop a Plan (upfront planning pays dividends)**
- 2. Be Flexible (there will be bumps in the road and changes to the final destination)**
- 3. Leverage Resources (Chemicals Managers, Resource Managers, etc.)**