Use of Technology for More Efficient Waste Management

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The NDCEE is operated by: Concurrent Technologies Corporation
Use of Technology for More Efficient Waste Management

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Overview

- Waste Management at Ft. Carson
- Software tracking system
- Tracking system benefits
Waste Management at Ft. Carson

- 220 square mile base
- Over 80 units or buildings that may generate waste
- Over 80 Manifests in 2008
- Over 30 tons hazardous and non-hazardous wastes
- Ambitious Pollution Prevention Goals
Waste Management Business Process at Ft Carson (using software)
Ft. Carson Waste Reduction Goals

- Reduce Hazardous Waste disposal 30% by 2012
- Eliminate Hazardous Waste by 2027
Waste Management Software System at Ft. Carson

- Starting in 2006, Ft. Carson began to use Enviance Waste Manager System
- Major Purposes:
  - Streamline operations
  - Improve accuracy
  - Provide basis for reduction
Enviance Waste Manager System

- Web-based
- Comprehensive
- Flexible and configurable
- Military capable
Waste Management System

- Tracks waste storage (containers)
- Tracks storage times
- Provides easy method for auditing container status
- Ties containers back to their generating unit
- Allows easy entry of relevant Turn-in sheet data
- Tracks types of wastes and quantity

<table>
<thead>
<tr>
<th>Alternate Number</th>
<th>Number</th>
<th>Days On Site</th>
<th>Status</th>
<th>Weight</th>
<th>Weight UOM</th>
<th>Storage Date</th>
<th>Profile Number</th>
<th>Profile Description</th>
<th>Accumulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>003</td>
<td>9007-4000</td>
<td>81</td>
<td>In Staging</td>
<td>370.0</td>
<td>Pound</td>
<td>1/7/2009</td>
<td>W81THB-024</td>
<td>Solvent Distillation Still bottoms (Bldg 3711)</td>
<td>1/7/2003</td>
</tr>
<tr>
<td>005</td>
<td>9008-4000</td>
<td>80</td>
<td>In Staging</td>
<td>230.0</td>
<td>Pound</td>
<td>1/8/2009</td>
<td>W81THB-023</td>
<td>Used Methanol (Hospital Lab)</td>
<td>1/8/2003</td>
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<tr>
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<td>9009-4001</td>
<td>80</td>
<td>In Staging</td>
<td>53.0</td>
<td>Pound</td>
<td>1/8/2009</td>
<td>W81THB-105</td>
<td>Xylene Waste (Hospital Lab)</td>
<td>1/8/2003</td>
</tr>
<tr>
<td>023</td>
<td>9020-4000</td>
<td>68</td>
<td>In Staging</td>
<td>207.0</td>
<td>Pound</td>
<td>1/10/2009</td>
<td>W81THB-012</td>
<td>Tracer (BLOC 8000)</td>
<td>1/20/2003</td>
</tr>
<tr>
<td>032</td>
<td>9039-4000</td>
<td>59</td>
<td>In Inventory</td>
<td>3.0</td>
<td>Pound</td>
<td>1/10/2009</td>
<td>W81THB-0004</td>
<td>Used Solvents (STP) Lab</td>
<td>1/30/2003</td>
</tr>
<tr>
<td>040</td>
<td>9043-4000</td>
<td>45</td>
<td>In Inventory</td>
<td>45.0</td>
<td>Pound</td>
<td>2/12/2009</td>
<td>W81THB-100</td>
<td>Used Tracer from ADAP Lab</td>
<td>2/12/2008</td>
</tr>
<tr>
<td>041</td>
<td>9043-4001</td>
<td>45</td>
<td>In Inventory</td>
<td>45.0</td>
<td>Pound</td>
<td>2/12/2009</td>
<td>W81THB-100</td>
<td>Used Tracer from ADAP Lab</td>
<td>2/12/2008</td>
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<tr>
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<td>In Inventory</td>
<td>45.0</td>
<td>Pound</td>
<td>2/12/2009</td>
<td>W81THB-100</td>
<td>Used Tracer from ADAP Lab</td>
<td>2/12/2008</td>
</tr>
</tbody>
</table>
Waste Container Tracking: Optimized for Ft. Carson and Department of Defense Activity Address Code (DoDAAC)

- Custom fields to customize tracking of generating unit and other data from the Turn-in sheet for each container
- Similar approach to track National Stock Numbers (NSN), Contract Line Item Numbers (CLIN) and related data on each waste profile
- Allows waste to be tracked back to generating unit
- Improves data consistency and control of CLIN and other important data
Interacting with Defense Reutilization and Marketing Office (DRMO)

- Group one or more containers
- System creates DRMS-1930 and DD-1348-1A forms required by DRMO
- User prints the 1348 and 1930 reports for DRMO
- DRMO arranges the shipment and prepares the manifest
- Track the manifest in the system
DRMS-1930 and DD-1348-1A Forms

- Formerly hand-written or manually created
- Now automated
# Shipment Tracking

- Tracks shipments
- Associates containers with shipments
- Tracks Manifest returns
- System notifies generator if manifest not returned within 30 days
- Can create exception reports for un-returned manifests

## Shipment

<table>
<thead>
<tr>
<th>Shipment Number</th>
<th>Date/Time Shipped</th>
<th>Type of Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>00014</td>
<td>02/24/2009 12:00 AM</td>
<td>Hazardous</td>
</tr>
</tbody>
</table>

- Same as UHM No. On Hold No Shipment return

- Generator
  - Preprinted Details

- Department of the Army - DECAM Ft. Carson

- Street
  - 1538 Bliss Street

- City State ZIP
  - Fort Carson CO 80913

## Line Items

<table>
<thead>
<tr>
<th>DOT Shipping Description</th>
<th>Shipment By</th>
<th>Number of Containers</th>
<th>Container Type</th>
<th>Quantity</th>
<th>UOM</th>
<th>Line #</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RO, UN4931, Polychlorinated biphenyls, solid, 9, PGII</td>
<td>Container</td>
<td>1</td>
<td>DF</td>
<td>610</td>
<td>Pound</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>RO, UN4931, Polychlorinated biphenyls, solid, 9, PGII</td>
<td>Container</td>
<td>1</td>
<td>DF</td>
<td>601</td>
<td>Pound</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>RO, UN4931, Polychlorinated biphenyls, solid, 9, PGII</td>
<td>Container</td>
<td>1</td>
<td>DF</td>
<td>603</td>
<td>Pound</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Reporting

- Biennial
- User defined reports
- Custom reports
- Shipment reports
- Numerous standard and customized reports available
- Report format in HTML or Excel
- Daily Inventory Reports for Fire Department
Financial Accountability to Generators

- System allows waste to be tracked back to Generating Unit
- Allows for charge-back to the generator
- Provides an incentive for the generator to reduce waste generation (for those required to pay for disposal)
Benefits of the Software System

- Reduce risk to the site by improved data quality
- Increased efficiency
- Data to be used to publish progress towards Hazardous Waste reduction goals, and identify challenges in reaching them
Improved Data Quality for Waste Management

- Streamlined profiling reduces the number of waste profiles
- Automatic generation of 1348 and 1930 reduces data entry errors
Efficiency Improvements

- Simplified container tracking:
  - Create containers at the main storage location
  - Specify where they are stored using a tree structure
- Allows Administrator access (and control over) code tables
  - Consistency
Efficiency Improvements (cont)

- Biennial Report:
  - Stream-lined creation of Biennial
  - Audit report allows for QA of Biennial data
Efficiency Improvements (cont)

- Previously, management reports created by paper summary of waste management records
- Now they are automated, and available either as HTML or Excel reports
Waste Reduction Goals

- Data needed to drive reduction:
  - Who generates?
  - What is generated?
  - How much is generated?
  - What are trends in waste generation?
Waste Reduction Goals

- System facilitates tracking of:
  - Source
  - Waste Type
  - Generation frequency

- This data is available:
  - Real-time
  - To all users, as appropriate
Tracking Waste Reduction Trends

- System provides the data necessary to track trends in waste generation
- Can track trends by waste stream, generator or groups of profiles
- Can track trends over different time spans – weeks, months, years
Summary

- Enviance Waste Management system used to track data required by Ft. Carson waste management
- Custom configured to meet Ft. Carson needs
- Automates reports and data required by DRMO
- Reduces duplicate entry
- Reduces Biennial reporting time
- Increases data accuracy and consistency
- Allows for trending and waste reduction reporting
- Secure and controlled access for users (based on their job functions, authority, etc.)
Contact Information

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