Key Issues in Estimating Closure & Post-Closure Costs

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Financial Assurance Training Workshop
Garden City – May 7, 2013
Emporia – May 14, 2013

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Overview

• Applicability - Universe of Landfills
• Key Issue Regarding Closure & PC Cost Estimates
• KDHE’s Review of Closure & Post-Closure Cost Estimating Process
• Major Items & Activities in Closure & Post-Closure Care
Overview (cont.)

• Key Regulatory Requirement for Preparing Cost Estimates

• Suggestions for Permittees

• Phase-In Period for Preparing Closure & Post-Closure Care Estimates

• Actions Required by KDHE and Permittees

• Summary Comments
Applicability - Universe of Landfills

• Active Landfills by Type
  – Subtitle D MSW: 18
  – Small Arid Landfills: 33
  – Industrial: 37
  – C&D: 96
  – Waste Tire: 22

• Total 206
Applicability - Universe of Landfills (cont.)

• Closed by Type with FA Required
  – Subtitle D MSW: 2
  – Industrial: 2
  – C&D: 2

• Financial Assurance During Post-Closure - only required if environmental monitoring is needed to ensure protection of human health and/or the environment
Key Issue Regarding Closure & Post-Closure Cost Estimates

• Closure & PC cost estimates are inaccurate & below current construction and professional services rates due to outdated representative unit costs

• Existing cost estimating worksheets don’t define all activities required to close landfills in their current operational status
Key Issue Regarding C & PC Cost Estimates (cont.)

- Since 2007 We Have Been Working with All Permittees to:
  - Update Landfill Permit Documents
    - Permit drawings & operating plans
    - Inconsistencies & omission of activities regarding C & PC
Key Issue Regarding C & PC Cost Estimates (cont.)

- Current Worksheets have Unit Costs that have not been updated since 1998 and have not been adjusted for inflation

- Based on federal inflation index for the Gross Domestic Product – the Implicit Price Deflator – Costs have increased 34.8% from 1998 thru 2012 or an average of 2.5% per yr.
KDHE’s Review of C&PC Cost Estimating Process

• R.S. Means Cost Works 2013 for Site Work and Landscape
  – Option: Non-union/open shop wages & regional costs for our state
  – Landfill construction activities were not defined well (contractor bidding)

• State of Oklahoma’s MSWLF C & PC
• State of Arkansas’ MSWLFs C & PC
KDHE’s Review of C&PC Cost Estimating Process (cont.)

• U.S. EPA’s Cost Pro 6.0 (2009)
  – Closure and Post-Closure Care Cost Estimating Software
  – Software intended primarily for EPA and state personnel
  – Assess whether cost estimates for HW treatment, storage & disposal facilities represent current pricing
KDHE’s Review of the C&PC Estimating Process

- Reviewed current worksheets – items & activities with 1998 unit costs
- Current worksheets covered most major activities
- Additional activities and more detail were needed
- Revised worksheets and instructions were developed
KDHE’s Review & Decision

• Use one form for closure - indicate the facility type – instructions help identify applicable items and activities

• Use one form for post-closure – indicate the facility type; only applicable to MSWLFs, SALs, industrials with environmental monitoring and certain C&Ds

• Use one form for estimated life – only applies to MSWLFs & SALs
Major Activities During Closure

• Preparing the Site for Construction of Final Cover
• Final Cover
• Erosion Control
• Gas System
• GW Monitoring System
• Leachate Collection System
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Major Activities During Closure (cont.)

- Operations and Inventory Removal
- Demolition/Removal of Site Improvements
- Replace/Rebuild Site Access Controls
- Borrow Area Reclamation
Items to Complete Closure Cost Estimate

- Administrative Services
- Contingency
- Professional Services
  - Engineering
  - Topographic & Boundary Survey
  - Corrective Action Engineering Services (CQA oversight, testing, reporting & certification)
Major Activities During Post-Closure

- Final Cover Routine Maintenance
- Final Cover Repairs
- Access Road Repairs
- Surface Water Management O&M
- Leachate Collection System O&M
- Gas Monitoring System O&M
- Gas Extraction System O&M
- Corrective Action Evaluation & Implementation

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Items Needed to Complete Post-Closure Cost Estimate

- Administrative Services
- Contingency
- Professional Services
  - Engineering
  - Topographic & Boundary Survey
  - Corrective Action Engineering Services (CQA oversight, testing, reporting & certification)
Key Regulatory Requirement for Preparing Cost Estimates & Options

- **Third Party Costs**: Calculate by
  - Representative Costs from KDHE
  - Actual Invoices Paid by O/O for Same Work
  - Written bids from Professional Contractors – no financial interest
  - Authoritative Sources, e.g., R.S. Means, Engineering News Record
Suggestions for Permittees

• Evaluate your unit costs against other sources for similar activities in your area of our state

• The sources for your estimate are needed

• If bidding information is used, include day-time telephone number of bidder so we can verify your unit cost factors and total costs
Suggestions for Permittees (cont.)

- Every 5 years KDHE will require that representative estimates be prepared by professional engineers (P.E.s) with the expertise to prepare landfill C&PC cost estimates

- In intervening years an inflation factor can be applied to unit costs developed during the prior renewal yr; quantities will need to be updated; some may require assistance from your PE/PCC, PCC: Primary Care Consultant
Phase-In Period for Preparing C&CP Care Cost Estimates

- Starting now and for permit renewals starting July 2013 – Landfill permittees will need to use the new 2013 forms; they are available now on the KDHE-BWM web site now in MS Excel

- If an item is not applicable for your landfill, you need to indicate NA (Not Applicable) in the Source of Unit Cost Information/NA column
Phase-In Period for Preparing C&CP Care Cost Estimates

- July 2014 – Landfill permittees will need to use the updated 2014 form; estimates will need to be prepared by you working with your PE/PCC using unit costs that KDHE will have prepared and/or by using one of the other three options authorized by regulation, K.A.R. 28-29-2101 (c)(2)
Actions Required by KDHE & Permittees

• KDHE will prepare revised C&PC care cost forms for landfill permittees for 2013, 2014 & 2015 & future years

• The 2014 form effective July 1, 2014 will be prepared based on cost data accepted by KDHE from 2013 & early 2014 multiplied by the GDP inflation factor for 2013
Actions Required by KDHE & Permittees (cont.)

• The updated unit cost data will be provided to permittees by May 1 of each year

• Effective May 1, 2014 Permittees will need to use an on-staff or an independent PE to help them prepare - starting July 1, 2014 and for first 2 quarters of 2015 - C&PC care cost estimates and then every 5 years.
Actions Required by Permittees & KDHE (cont.)

• In intermediate years:
  – permittees may have their financial management personnel & landfill engineering staff or
  – their on-staff or independent PEs prepare their cost estimates
Summary Comments

• Current cost estimates and financial assurance instruments are inadequate to show and provide for:
  – current environmental risks and liabilities if your company or local government filed for bankruptcy and KDHE had to assume the role of project/contract manager to close your facility and then maintain it for at least 30 years of post-closure care
Summary Comments (cont.)

- KDHE – BWM requests your input and cooperation to help
  
  - improve the landfill closure and post-closure cost estimating process
  
  - so representative cost estimates and corresponding amounts of financial assurance can be provided by all companies and local governments operating landfills & be in compliance with state statutes & regulations
Summary Comments (cont.)

• 2013 Landfill Closure & Post-Closure Care Excel spreadsheet forms are available at the BWM website address:
  • http://
    www.kdheks.gov/waste/forms_swlf.html
  • This same address is available on the bottom of the paper copies of the forms that you received today
Summary Comments (cont.)

• This presentation and the following three presentations will be available for your review next week on the BWM web site.
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