Decommissioning, Decontamination, and Demolition (DDD)

Maximize Asset Value
Identify Hidden Costs
Avoid Risks

August 16, 2012 – Karl Klotzbach, ERM

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Asset Recovery

Scrap Metal

Chemical Reclamation & Unused Raw Materials

Industrial Machinery & Chemical Processing Vessels

Timber Reclamation

Land and Port Facilities
Recognizing Assets

Hastelloy Liners

Switch Gear

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Asset Valuation - The Gold Standard

Points to ponder as we move forward:

1. For most Demolition Contractors, it is not the value of the demolition, it is the value of YOUR asset that drives his bid numbers.

2. When you know the true value of YOUR asset, you negotiate from a position of strength.

3. No matter how marginal a job is done on the Bid Scope/Specification you can always recover with a competent Hazards in Demolition (HazDem) assessment.
How Long Does it Remain an Asset

• Scrap metals – indefinitely (although value fluctuates)
• Rotating equipment (pumps, blowers, fans), 3-5 years
• Chemical processing vessels, 5-10 years
• Other manufacturing equipment, 5-10 years
• Electrical, switchgear, 2-5 years
• Raw material, products, 1-2 years
Market Assets for Maximum Value

• Scrap – prepared vs. unprepared
• Separate scrap grades, types
• Hold scrap metals for higher market index
• Demolish buildings, structures to make land saleable
• Clean, gut-out buildings to make more attractive for sale
• Conduct land remediation if applicable
• Auction saleable equipment
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Liabilities or Assets (Landmines or Diamonds)

**DIAMONDS**
- Raw materials
- Inventory
- Equipment
- Residual values
  - Scrap
  - Recyclables

**LANDMINES**
- Record retention
- Maintenance
- Administrative actions
- Tank and piping infrastructure
- Contractor scope
- Contractor selection
- Compliance issues
- Security - fire
- Environmental closure
- Insurance issues
- Utilities

**DIAMOND or LANDMINE**
- Raw materials
- Equipment
- Records
Site Deactivation Process

**Decision Making**
- Assess carrying and building maintenance costs
- Verify or estimate scrap metal and asset values in the local market
- Prepare an engineering estimate of demolition costs
- Evaluate the net present value of costs and property value

**Planning and Permitting**
- Create a contracting strategy
- Gain stakeholder input
- Identify and relocate assets
- Review regulatory requirements and characterization documents
- Review and value permits

**Investigating site and soliciting bids**
- Investigate building hazards and characterize wastes
- Complete asbestos and lead surveys
- Prepare project manual and bid documents
- Qualify bidders
- Evaluate submitted bids
- Complete a “HazDem” review with potential subcontractor

**Implementation and Oversight**
- Turnkey completion of the project
- Complete Engineering Survey
- Manage safety aspects of the project
- Document the entire effort
- Control assets and wastes
- Control subcontractors and budget
Turnkey Process

- Pre-Bid engineering
- Bidder qualification
- Bid review and recommendation
- Planning
- Mobilization
- Decontamination/Decommissioning
- Demolition
- Documentation
Best Practice – Demolition

All the big decisions are made before you ever start the project.

- Pre-Bid engineering
  - What does the end product look like?
- Bidder qualification
  - We spend weeks writing the scope and specification and give the bidders one or two days to bid the job?
- Scope/Specification
  - Right contractor for the right job.
- Contract Framework
  - One contracting entity.
- Bid review and evaluation
  - Ask the right questions.
Best Practices

• Comprehensive, Excellent Planning Cycle - all the money is made before the job starts
• Maximize Value – know the value of what you own
• Screen and Bond Contractors
• Understand regulatory issues – what triggers country, state and local regulations
• Manage change – capture institutional knowledge and records
Common Risks

Environmental Risks
- Open process vessels and sumps
- Tank and piping infrastructure
- Pumps
- Transformer oils
- Equipment deterioration
- Existing Permits
- Miscellaneous hazardous materials

Physical Risks
- Vandalism
- Theft
- Vagrants
- Freezing conditions
- Water and moisture
- Fire
Common Decommissioning Missteps

• Not following an established process
• Not fully characterizing environmental concerns
• Developing a loose scope of work and specifications
• Not knowing the value of your assets
• Allowing assets to become liabilities
• Minimal contractor screening and bid review
• Moving forward without recognizing emerging issues
• Ignoring international requirements
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