Lessons Learned at the Jacobsville Superfund Site

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Caveat:

- This work was done under contract to EPA, but this is not an official EPA-endorsed approach to green procurement.
- Our objective in presenting this work is to share our experience with a “green procurement” so others can build on the positives and avoid the negatives.
- There is no established EPA guidance, but EPA is actively working on guidelines for green procurement.
- This work was approved, so it’s a workable approach, but not necessarily the official approach.
What is a sustainable cleanup?

- The problem: How can we build sustainability into this type of procurement?

- Traditional definition “meeting the needs of the present without compromising the ability of future generations to meet their own needs” UN, 1987

- Practical definition:
  - Less energy
  - Less material use, more benign materials
  - Less waste
  - Less emissions (air, runoff)
The project: Evansville, Indiana

Superfund project: Residential neighborhood surrounding old industrial area

Air emissions from multiple sources contaminated surface soils with lead

Potentially 4,000 homes to be cleaned up in a phased approach

Remediation was straightforward:

• FS evaluated options (soil amendments, etc.)
• ROD specified:
  ➔ dig up and landfill contaminated soils
  ➔ replace with clean fill
Jacobsville Project
Operable Unit 1
FAR complaint procurement

- Federal contract required FAR compliant procurement
- ARRA (stimulus) funding under extra scrutiny
- Might need to convince a CO to spend a little extra money
  ➔ Needed to be rigorous, objective, and transparent

How much does “green” cost?
What we did

- Need to make qualitative judgments quantitative
- Sustainability was a major part of the award criteria
  - 30% - cost
  - 30% - technical ability
  - 15% - sustainability plan
  - 15% - local resource plan
  - 10% - prequalification (bonding, EMR, etc.)
- Gave guidance on scoring criteria
- Independently evaluated technical and cost
We asked the bidders to submit a sustainability plan

- Identify environmental impacts
- Quantify those impacts
- Set quantitative goals for reducing impacts
- Measure progress against those goals
Bid evaluation

• Sustainability plan and cost proposals were evaluated independently

• We predicted that a sustainable cleanup would cost a little more

• We expected that justifying the extra expense to contracting officers would be difficult

• Our challenge: How much extra would EPA pay for a qualitative benefit?
The bids

<table>
<thead>
<tr>
<th>Company</th>
<th>Cost</th>
<th>Green Plan</th>
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</thead>
<tbody>
<tr>
<td>Company A</td>
<td>1.0</td>
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</tr>
<tr>
<td>Company B</td>
<td>1.4</td>
<td>48.1</td>
</tr>
<tr>
<td>Company C</td>
<td>1.9</td>
<td>52.4</td>
</tr>
<tr>
<td>Company D</td>
<td>2.3</td>
<td>63.6</td>
</tr>
<tr>
<td>Company E</td>
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<td>72.2</td>
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<tr>
<td>Company F</td>
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</table>
What we expected:

What we got:
The plans

- We received 6 loosely structured plans
  - 1.5- to 10 pages long
  - Surprising creativity from old-school engineers
  - Few attempts to quantify impacts
  - Lots of vague promises to minimize impacts
Features we expected:

- Local sourcing for fill, plants
- Local disposal
- Sod vs. seed
  - Water impacts (sod uses less contractor water)
- Xeriscaping – using natives, require less intensive care
Surprising features

- **Air impacts**
  - Almost all of the plans talked about engine idling
  - Only a few talked about local fill sources or local disposal
  - Most talked about using biodiesel, but with caveats
    (...evaluate the feasibility of; consider using; if possible ...)

- **Water Impacts**
  - Runoff was not a primary concern for us, but construction contractors are acutely aware of runoff
  - Several talked about xeriscaping, rainwater reuse
Superficial features

- Recycling soda cans, paper, cardboard
- Use of recycled paper
- Turn off computers at night
- E-billing, electronic submittals
Carbon accounting

- Only two of six bidders attempted to quantify carbon:
  - Bidder 1: 191 tons CO$_2$
  - Bidder 2: 1,878 tons CO$_2$

- Neither gave many details about how they calculated a carbon footprint for the project:
  - Bidder 1 calculated carbon footprint of based on unspecified “internet estimating tools for construction”
  - Bidder 2: “calculated carbon footprint as follows” and listed:
    - Mobile source emissions: 788 tons CO$_2$
    - Landfilled materials: 658 tons CO$_2$
    - Topsoil: 385 tons CO$_2$
    - Etc.
Recommendations

- Be very specific or prepare for a lot of work
  If you want a carbon footprint, specify the tool to quantify it, ask for explanation
- Require bidders to estimate a schedule of impacts, just as they would a schedule of costs

<table>
<thead>
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<th>No. of units</th>
<th>Total</th>
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<tr>
<td>Soil</td>
<td>CY</td>
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<tr>
<td>Other wastes</td>
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<tr>
<td>Fuel</td>
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<td>etc.</td>
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</table>
Recommendations (continued)

- Require metrics – and reward with incentives
- Be flexible – bidders will think of things that you didn’t (ex: planting trees)
Conclusions

- EPA and other agencies are open to creative approaches
- Still need to be FAR compliant, but don’t need to follow “business as usual”
- Require some metrics and some explanation, or you can’t compare the results
- Offer carrots as well as sticks
- Green doesn’t necessarily cost more