



Portsmouth EM Site Specific  
Advisory Board

**Subcommittee Chair**

William Henderson

**Vice-Chair**

Dan Minter

**Board Chair**

Richard H. Snyder

**Vice-Chair**

Val Francis

**Subcommittee Members**

Shirley Bandy

Martha Cosby

Frank Halstead

William Henderson

Brian Huber

Dan Minter

**DOE Deputy Designated**

**Federal Officer**

Joel Bradburne

**DOE Federal Coordinator**

Greg Simonton

## Waste Disposition and Recycling Subcommittee

Tuesday, January 10, 2012 - 4:30

### Agenda

- Presentation – Information Portfolio presented by Karen Price, Dennis Carr, Fluor-B&W
- Discussion
- Plan of Action

Adjourn



**Support Services**

EHI Consultants, Inc.

1862 Shyville Road

Suite 115

Piketon, OH 45661

Phone 740-289-5249

Fax 740-289-1578

[www.ports-ssab.org](http://www.ports-ssab.org)

[info@ports-ssab.org](mailto:info@ports-ssab.org)



## WASTE DISPOSITION & RECYCLING SUBCOMMITTEE

MEETING SUMMARY

JANUARY 10, 2012 • 4:30 P.M.

THE OHIO STATE UNIVERSITY ENDEAVOR CENTER  
1862 SHYVILLE ROAD, PIKETON, OH 45661

**Subcommittee Members Present:** Will Henderson Subcommittee Chair, Dan Minter, Subcommittee Vice-Chair, Martha Cosby, Frank Halstead, Brian Huber

**SSAB Subcommittee Members Absent:** Shirley Bandy

**Other SSAB Members Present:** Val Francis Board Vice-Chair, Gene Brushart, Stan Craft, Michael Payton, Cristy Renner

**U.S. Department of Energy (DOE) and contractors:** Greg Simonton, DOE; Rick Greene, Restoration Services, Inc. (RSI); Karen Price, Dennis Carr, Jerry Schneider, Marc Jewett, Fluor-B&W Portsmouth (FBP)

**Liaisons:** Maria Galanti, Ohio Environmental Protection Agency (EPA); Mike Rubadue, Ohio Department of Health (ODH)

**Support Staff:** Julie Galloway, Cindy Lewis, Eric Roberts, EHI Consultants (EHI)

**Public:** Steve Shepherd, Southern Ohio Diversification Initiative (SODI); Danielle Nameth, Senator Sherrod Brown's Representative; Mark Johnson, Tri-State Building and Construction Trades Council

**Henderson** opened the meeting.

**1. Waste Disposition Information Portfolio presentation was delivered by Karen Price, Dennis Carr, Marc Jewett, FBP:**

**Price:** On Friday, the first draft of the Remedial Investigation/Feasibility Study (RI/FS) was delivered to DOE. It is scheduled to go to EPA late February or March. We would like to have the SSAB's recommendation incorporated in the second or final review in April regarding waste disposition. After public comments, DOE will write the final Record of Decision (ROD) with approval from EPA.

**Jewett:** The RI/FS is the very technical and scientific document. The proposed plan is public friendly. The ROD is a legal document.

**Carr** explained the Waste Disposition-Waste Streams Information Portfolio

- Waste Streams and Volumes
- Long-Term Protectiveness
- Construction Details and Impacts
- Siting of On-Site Disposal Cell
- Long-Term Monitoring and Maintenance
- Impacts to Cultural and Natural Resources
- Opportunity for Landfill Consolidation
- Other Site Disposal Cells for Comparison
- Future Use Considerations for Disposal Site

**2. Discussion:**

<b>Question/Comment:</b>	<b>Answer:</b>
<b>Halstead:</b> Do you have a sample of the liner that would go in the cell?	<b>Jewett:</b> Not yet, we are having a model built to where you will be able to feel each layer.
Do you have a plan in place in case of a failure of the liner?	<b>Carr:</b> It is state of the art tested. We put pinholes in the lining to test it. You build provisions that assume certain failure scenarios, predict failure, and expect failure into the waste criteria. You have to meet EPA's standards for one-thousand years.
The greatest concern will be the water system below the cell. What if you have a leak in a hundred years?	The design is always at or above grade. The liner is eight and a half feet deep with a leachate collection and a leachate detection system. Any water within the facility will go to a penetrating box then run into a leachate collection system then to a leachate treatment system.
Will there be B-25 boxes put in the cell?	No, we will not have B-25 boxes. Oak Ridge has them, but they have a different design.
What will building a cell cost compared to sending the waste to Utah?	I do not feel comfortable with an estimated cost figure yet. We are working on the figures and they will be ready by February's board meeting.
Do you plan to crush a lot of piping to go into the cell?	Any piping over two inches has to be cut open and anything less than two inches has to be shipped out could not be placed.

<p>Will you have a sample of the liner by the public meeting on the 31<sup>st</sup>?</p>	<p><b>Chiou:</b> Yes, we have ordered it and just waiting on the column to come in.</p>
<p><b>Cosby:</b> What kind of work force does it take to maintain a cell like this after completion?</p> <p>Who employs the monitoring staff?</p>	<p><b>Carr:</b> Fernald has 35 employees maintaining their cell, but they run the mound facility too. They run test every couple of weeks to make sure there are no problems. There are 40 or 50 closed facilities around the country, places you would not have thought about like the old Manhattan facility, uranium-mining areas that are monitored forever.</p> <p>The DOE legacy management.</p>
<p><b>Payton:</b> The cell is gradually filled and sealed as it is being built.</p>	<p><b>Carr:</b> Yes, that is correct.</p>
<p><b>Francis:</b> How will the cell compare to the Fernald cell? We need good information to make a recommendation to go forward with the recycling.</p> <p>How close is the Oak Ridge waste cell to other businesses?</p> <p>Is the cell noticeable? Will this be a long-term development growth concern?</p> <p>Are you still thinking of digging up the plumes?</p> <p>Is there still a chance of recycling nickel?</p>	<p><b>Carr:</b> Fernald's cell is 3.5 million yards. This site will have 5 million yards of waste depending on the amount recycled.</p> <p>There are buildings fairly close to the Oak Ridge site.</p> <p><b>Roberts:</b> No, the Oak Ridge site is in a wooded area. I have always heard that no one knows where this site is, so if this is the case, I do not think you should have to worry about anyone noticing the cell.</p> <p><b>Carr:</b> We will need soil so yes we are looking at some of the plumes.</p> <p><b>Galanti:</b> EPA will be looking at what digging them up will do to the plumes.</p> <p><b>Carr:</b> Yes, we are proceeding with a study to see if it is in the best interest of the government.</p>
<p><b>Huber:</b> What will the depth be from the bottom of the liner to the top of the entire unit?</p> <p>If a cell is built on-site, are you planning to run three shifts a day? I can hear backup alarms from a mile away.</p>	<p><b>Carr:</b> Could be 100 feet from the bedrock layer. Fernald is 65 ft. We could be at 65 or more, but it depends how much is recycled.</p> <p>I would say at the start only one, but later I would think more because you do not want the waste to pile up. I understand the back-up alarms, lights and everything could be a</p>

	<p>problem. We will do the best we can. However, you only have nine months to work. We are not allowed to work in the cold; you cannot expose the liners to the cold. It can cause cracking.</p>
<p><b>Brushart:</b> Is this the same presentation you will be presenting at the fence line neighbors meeting?</p> <p>What will be planted on top of the cell?</p>	<p><b>Price:</b> We are trying to inform the fence line neighbors what is going on at the site.</p> <p><b>Jewett:</b> The fence line neighbors meeting will be more of us listening to them.</p> <p><b>Carr:</b> Grass only. You do not want trees or anything with roots that might pierce the liner.</p>

**Henderson: Meeting adjourned**

Next meeting: Tuesday, February 14, 2012 at 4:30 p.m.

# Key Numerical Information for the Waste Disposal Alternatives

Marc Jewett  
Fluor-B&W Portsmouth, LLC  
SSAB Subcommittee Meeting  
February 15, 2012

## Objectives for Tonight

- Provide the key numerical information supporting the waste disposition alternatives.
- Discuss a holistic path forward on how all the decisions work together to deliver the final plan for the site.

## Recap: Information Being Provided For Both Alternatives

1. Cost Summaries
2. Volumes of Materials
3. Duration of the Alternatives
4. Transportation Metrics
5. Transportation Risks
6. Employment Projections

*Please Note – All data presented are preliminary and subject to revision as the Waste Disposition RI/FS is finalized.*



# Cost Comparison



- All values are presented in Net Present Value dollars, as required by CERCLA guidance.\*
- Adopts OMB Circular A-94 Net Present Value factors, as required by CERCLA guidance.
  - Uses a real discount rate of 2% (accounts for both inflation and capital growth).
  - Applies 1000-year performance period for on-site disposal.
- Net Present Value – How much money must be placed in the bank today at a 2% effective interest rate to pay for the total cost of the alternative across all years.

*\* EPA 540-R-00-002, A Guide to Developing and Documenting Cost Estimates During the Feasibility Study, July 2000*

# Cost Comparison Capital/O&M Breakout

Cost Category	On-Site With Some Off-Site Disposal	All Off-Site Disposal
Capital	\$652 Million	\$1.62 Billion
Operations & Maintenance	\$16 Million *	**
<b>Total</b>	<b>\$668 Million</b>	<b>\$1.62 Billion</b>

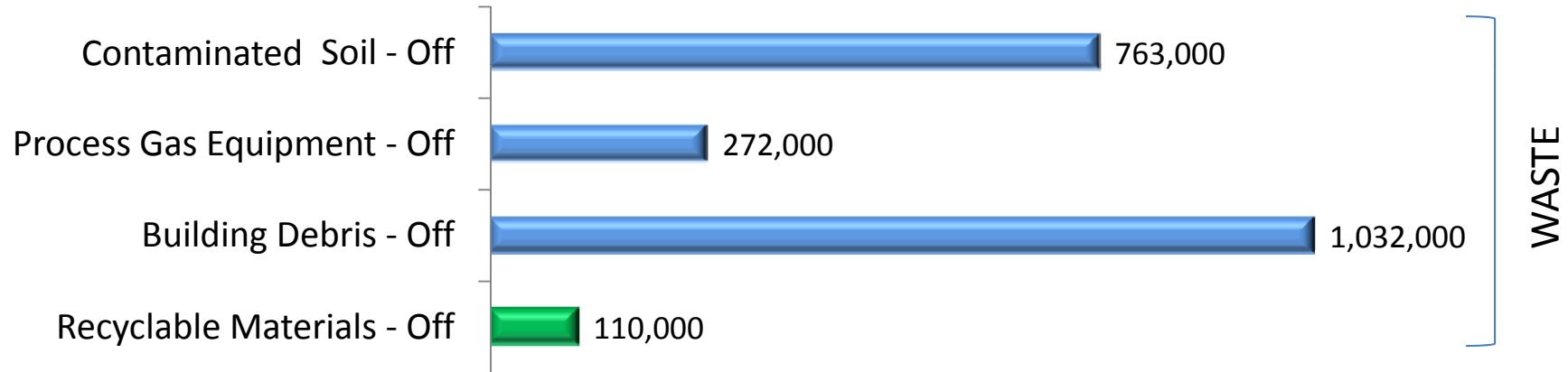
All costs are in Net Present Value dollars

\* O&M cost for on-site disposal based on 30-year active maintenance period with passive maintenance thereafter.

\*\* Long-term O&M costs for off-site disposal facilities are assumed to be covered by disposal fee.

# Off-Site Alternative

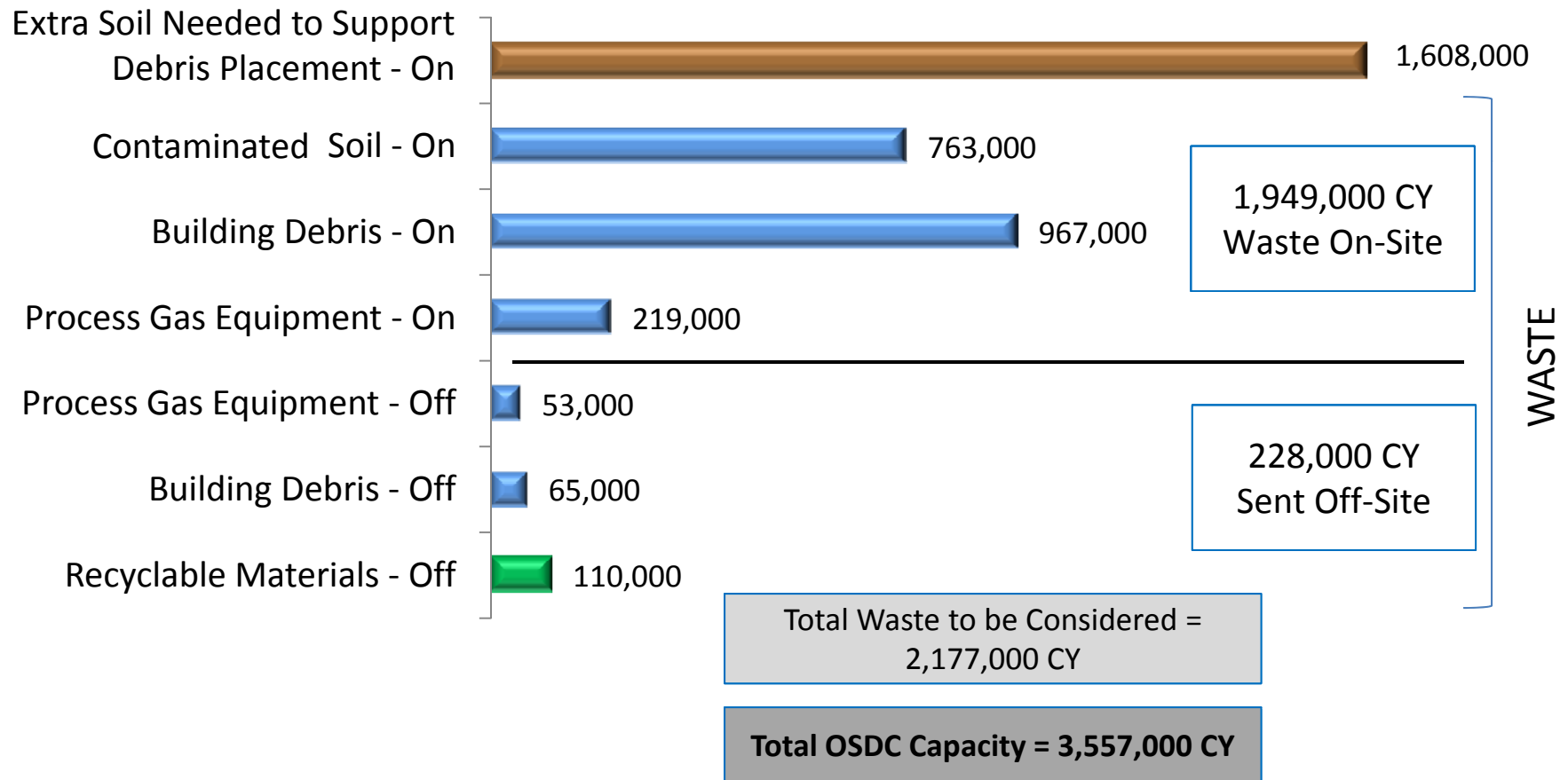
(volumes in cubic yards)



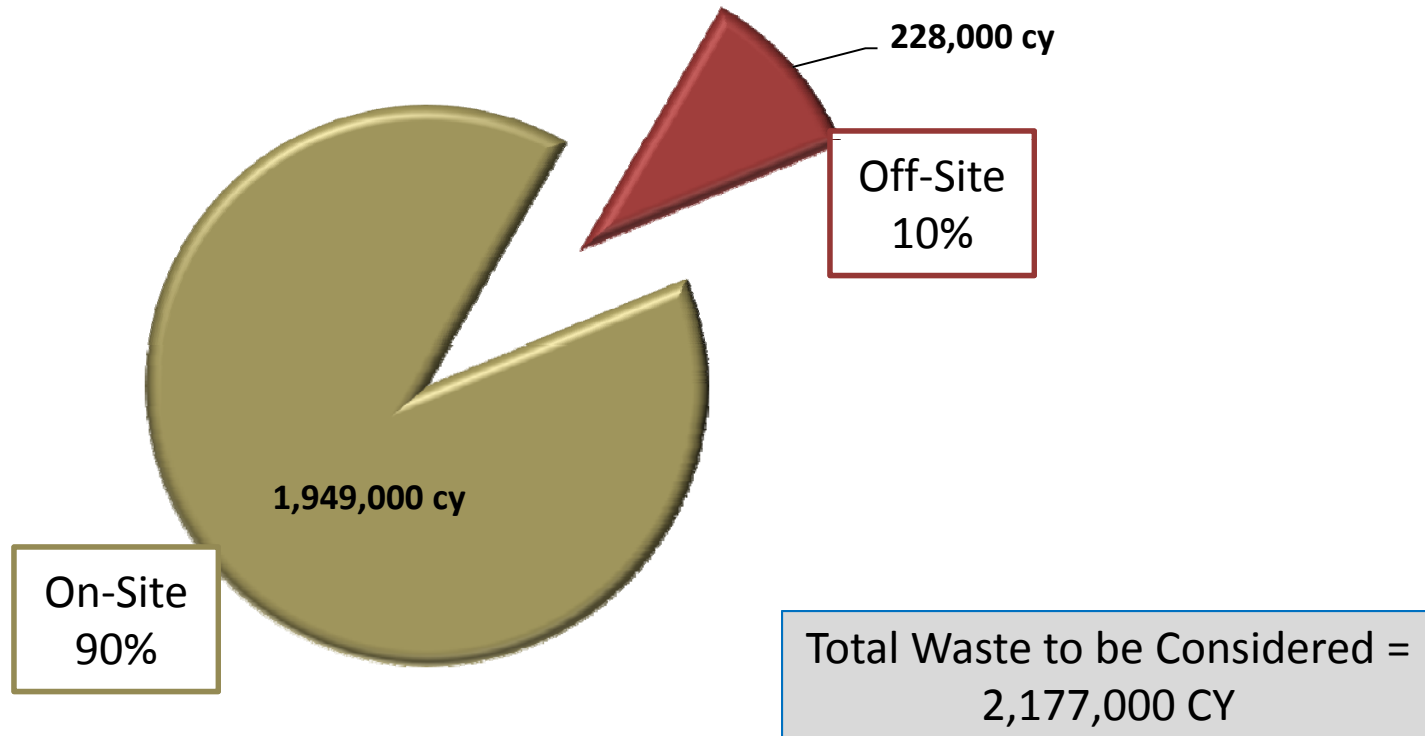
Total Waste to be Considered =  
2,177,000 CY

# On-Site/Off-Site Alternative

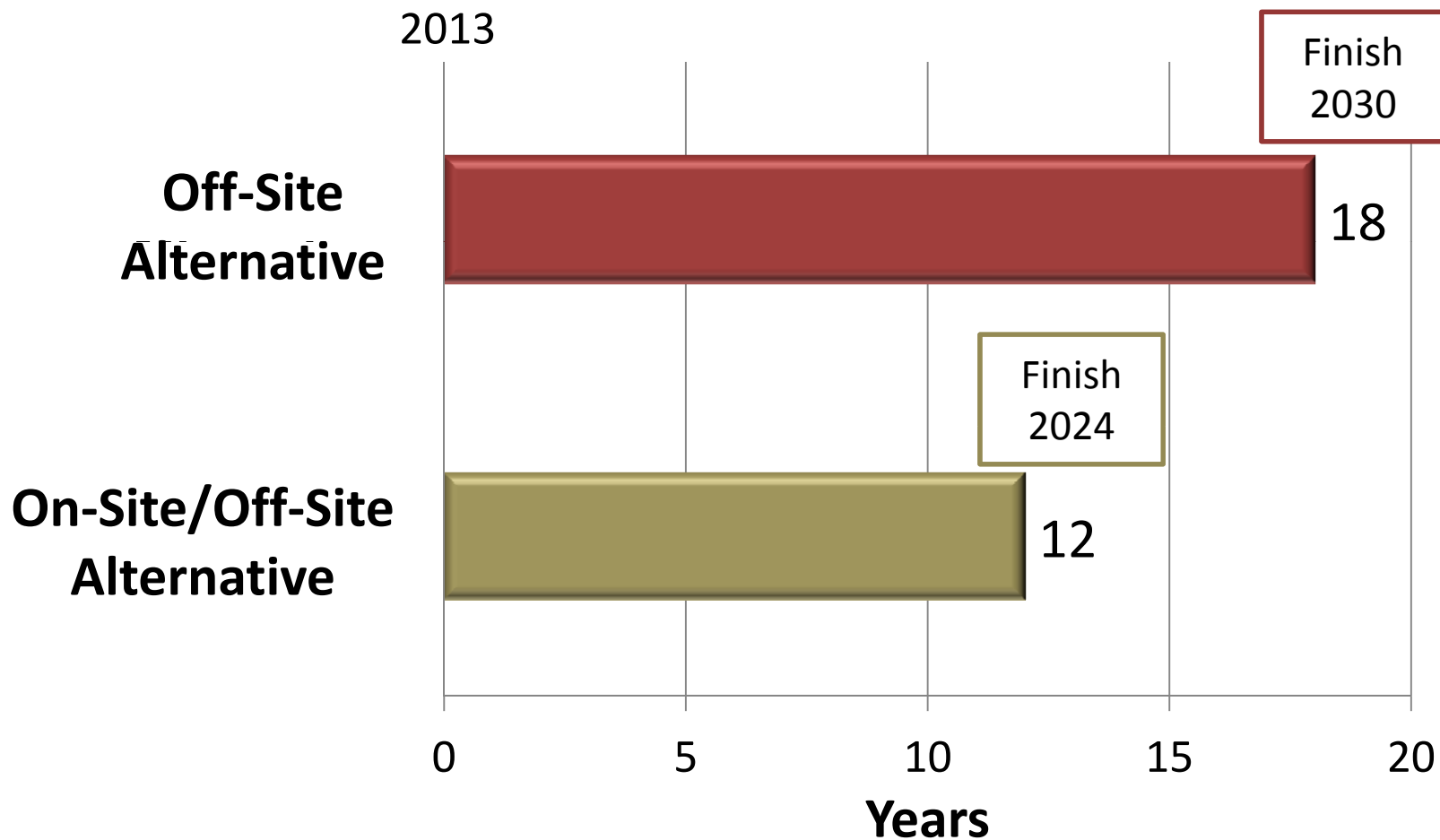
(volumes in cubic yards)



# Waste Disposition for On-Site/Off-Site Alternative



# Alternatives Duration Comparison



## Duration: Key Factors

- Alternatives implementation schedule driven by funding availability not by material movement.
- Feasibility study assumed level funding profile.
  - Similar to Fiscal Year 2012.
  - \$475 million per year total site funding.
  - Meets 2024 end date for lowest cost alternative.



# Key Transportation Metrics



## Rail Cars to Utah

Off-Site: 15,000 rail cars

On/Off-Site: 260 rail cars



## Trucks to Nevada

Off-Site: 9,700 trucks to NNSS

On/Off-Site: 4,500 trucks to NNSS



## Local Trucks

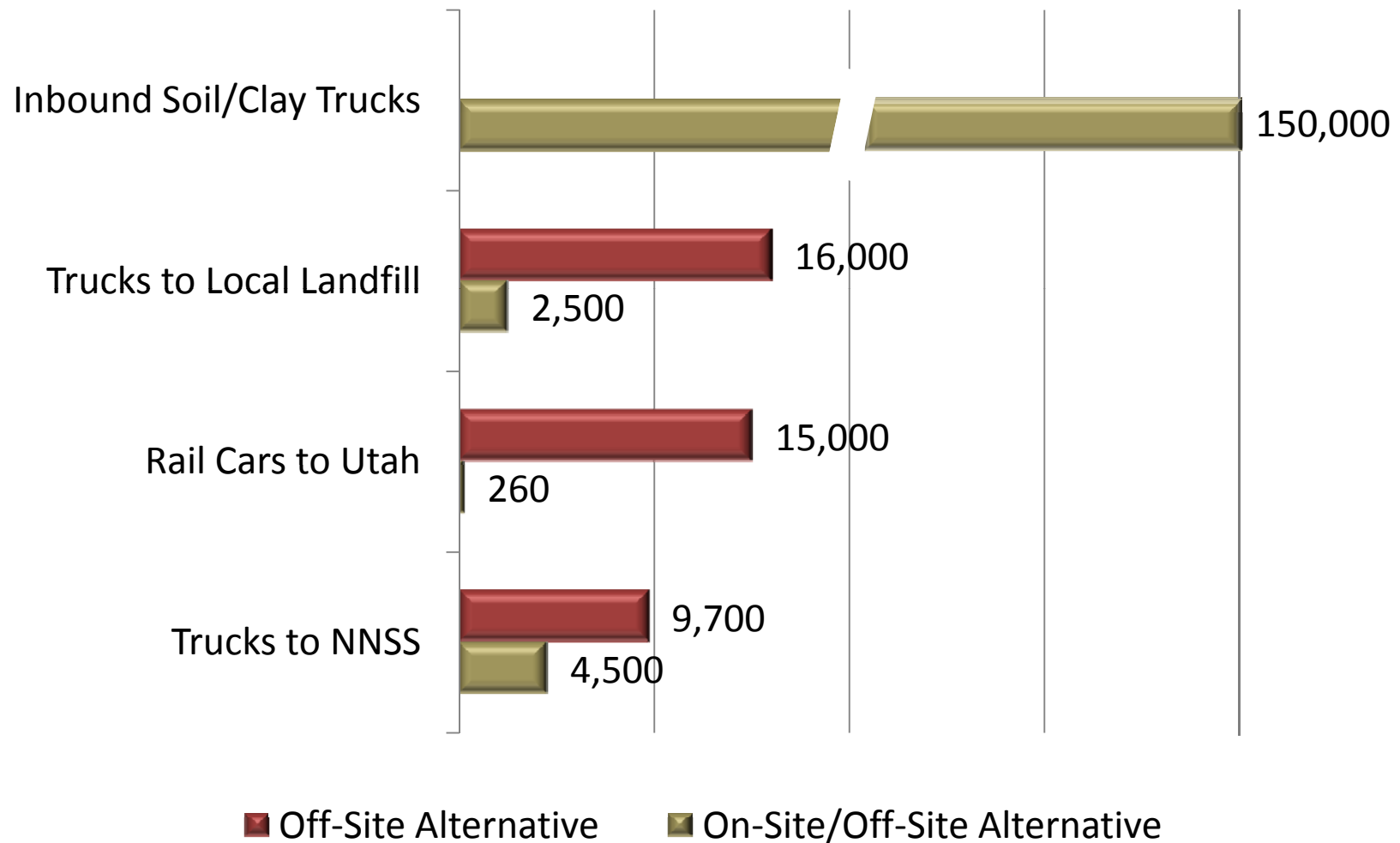
Off-Site: 16,000 trucks to local landfill

On/Off-Site: 150,000 trucks clay/rock to OSDC

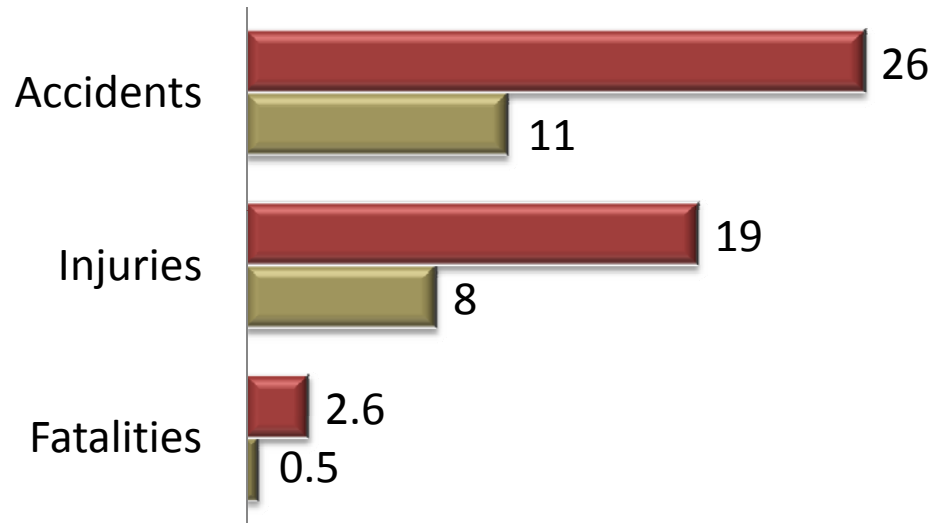
On/Off-Site: 2,500 trucks to local landfill

# Key Transportation Metrics

(Unit: Individual Trucks/Rail Cars)



# Key Transportation Actuarial Risks

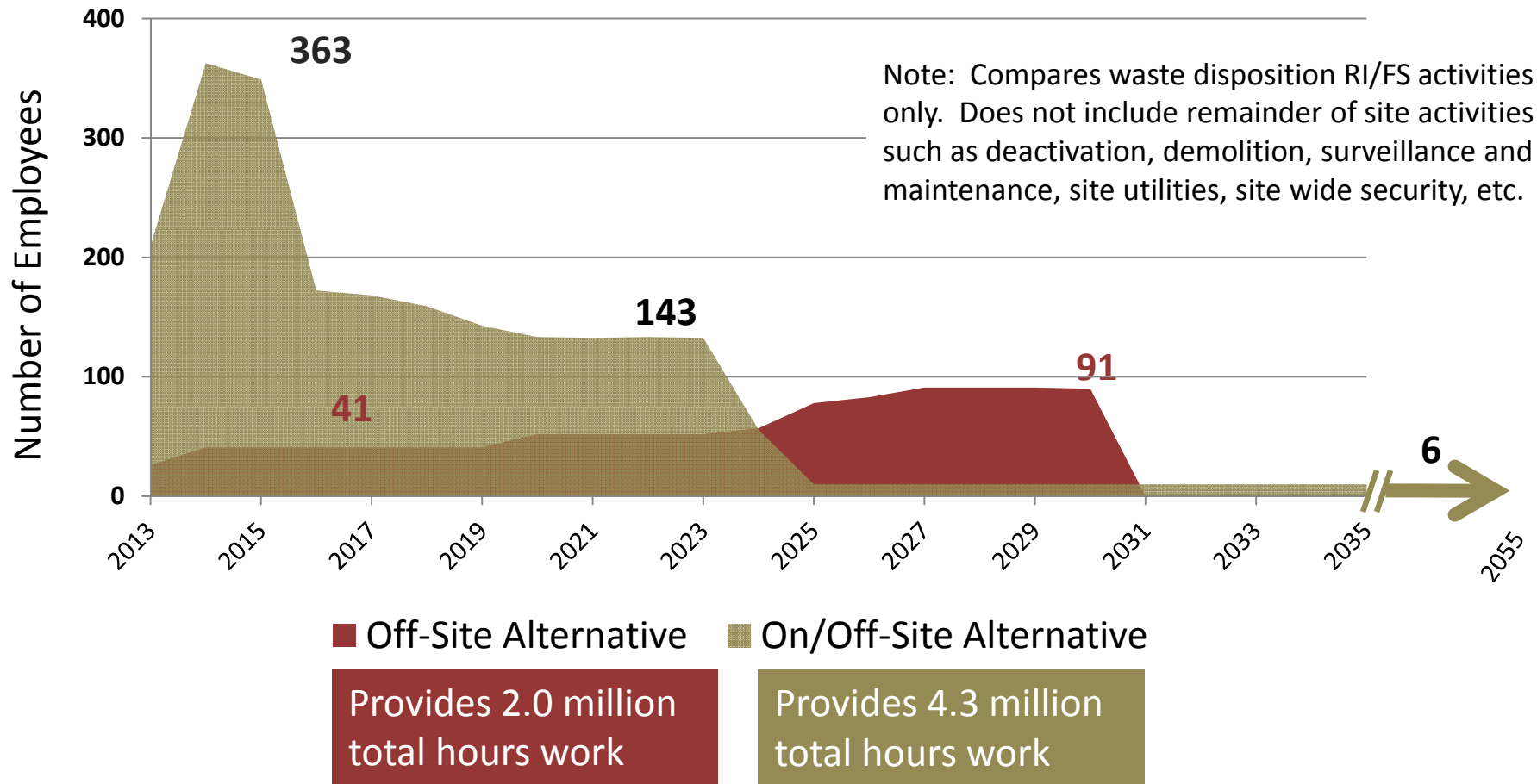


- Off-Site Alternative
- On-Site/Off-Site Alternative

	Off-Site Alternative	On/Off-Site Alternative
Truck Miles	43 million	24 million
Rail Miles	55 million	950 thousand

Accident, injury, and fatality numbers are published actuarial statistics for truck and rail car transportation. They are based on number of miles traveled.

# Employment Comparison



# Key Metrics Summary

Information compiled for PORTS SSAB use by Fluor-B&W  
Portsmouth, LLC from DRAFT version of RI/FS

	Off-Site Alternative	On-Site/Off-Site Alternative
<b>Cost</b>	\$1.62 Billion	\$668 Million
<b>Material Distribution</b>	100% Off-Site	10% Off-Site 90% On-Site
<b>Schedule</b>	18 years	12 years
<b>Transportation</b>		
- Local trucks	16,000 local trucks	152,500 local trucks
- Trucks to NNSS	9,700 trucks	4,500 trucks
- Rail cars	15,000 rail cars	260 rail cars
- Truck miles	43 million miles	24 million miles
- Rail miles	55 million miles	950 thousand miles
- Statistical accidents	26	11
- Statistical injuries	19	8
- Statistical fatalities	2.6	0.5
<b>Employment</b>		
- Duration	18 years	12 years
- Labor hours	2.0 million hours	4.3 million hours

# Waste Volumes Summary

(Unit: Cubic Yards)

	Off-Site Alternative	On-Site/Off-Site Alternative
Soil	0	763,000
Building Debris	0	967,000
Process Gas Equipment	0	219,000
<b>ON-SITE WASTE SUBTOTAL</b>	<b>0</b>	<b>1,949,000</b>
Soil	763,000	0
Building Debris	1,032,000	65,000
Process Gas Equipment	272,000	53,000
Recyclable	110,000	110,000
<b>OFF-SITE WASTE SUBTOTAL</b>	<b>2,177,000</b>	<b>228,000</b>
<b>WASTE TOTAL</b>	<b>2,177,000</b>	<b>2,177,000</b>

Information compiled for PORTS SSAB use by Fluor-B&W Portsmouth, LLC from DRAFT version of RI/FS

<b>ON-SITE WASTE SUBTOTAL</b>	<b>1,949,000</b>
<b>Additional Soil for Debris Placement</b>	<b>1,608,000</b>
<b>OSDC CAPACITY</b>	<b>3,557,000</b>

## Considerations for Re-industrialization

1. Clean-up levels
2. Locations of landfills and plumes – relationship to re-industrialization
3. Existence & location of potential OSDC
4. Final grade of available parcels
5. Available/remaining utilities
6. Rail infrastructure / access to main lines
7. Access to site
8. Others:
  - Utility rates
  - Tax structure
  - Land cost
  - ... ?
  - ... ?
  - ... ?



