

EM-21

Multi-Year Program Plan

Prioritization Process

A presentation to the Department of Energy High Level Waste
Corporate Board

July 24, 2008



Topics to be Covered

- **Initiative Development Team approach and structure**
- **Goals**
- **Background on prioritization process**
- **Lessons Learned from FY 2008**
- **Prioritization Process**
 - Overview
 - Criteria
 - Task Development and Selection
 - Current status
 - Process output
- **Program Management**



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Waste Processing Programs

Initiative Development Team Structure

Legend:

Personnel:

Blue – EM-20

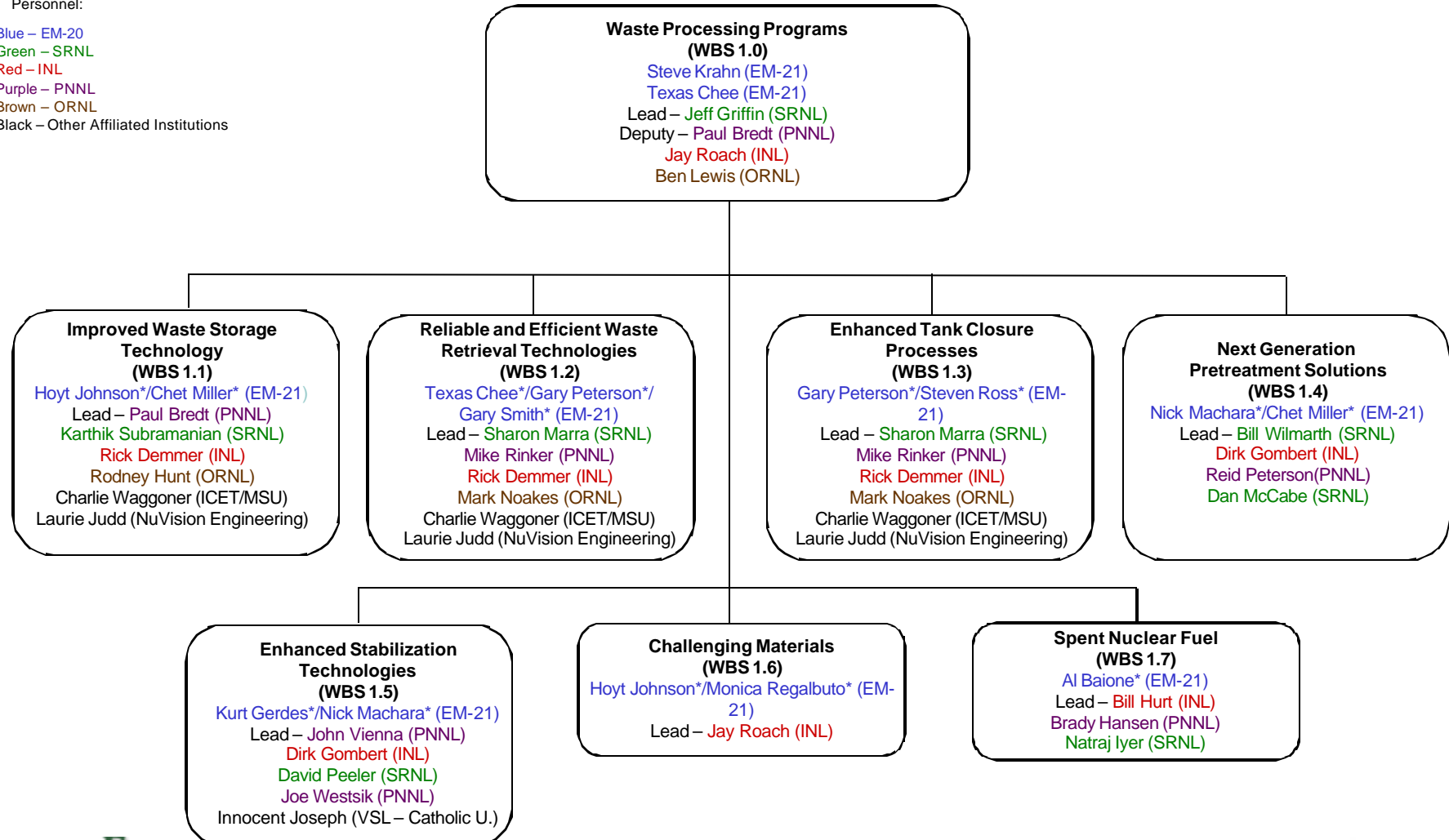
Green – SRNL

Red – INL

Purple – PNNL

Brown – ORNL

Black – Other Affiliated Institutions



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Organizations Involved

- **Initiative Development Teams (IDT)**
 - DOE EM-21
 - National Laboratory representatives – technical expertise
 - Directed Programs
- **DOE EM Field Offices**
 - Consultation and feedback
 - Participation in prioritization effort
- **Contractor Personnel at key EM sites**
 - Consultation and feedback
 - Participation in prioritization effort
- **NuVision and Cogentus**
 - Organizations that are facilitating the process to prioritize the Technology Development & Deployment (TDD) tasks



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Goals

- **Provide a defensible list of Waste Processing tasks that address key site needs.**
 - Identify the portfolio of TDD tasks that yields maximum overall benefit per dollar spent
 - Improved data quality
 - Increased common understanding on the projects across the complex
- **Develop a structured, consistent and robust process for program management decision making.**
 - Within a single FY – i.e., change/configuration management
 - Out-year planning facilitation – can be updated year on year



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Background

- **Prioritization process piloted on Waste Processing tasks in FY2008**
 - Useful for comparison and assessment of 100 + TDD tasks in 5-7 WBS areas
- **EM Field Offices were brought in after initial prioritization listing developed**
 - Field office input led to adjustments in relative rankings
- **Prioritization process outputs made the process for adjusting to Field input and budget changes a more structured approach**



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Lessons Learned from FY 2008

○ Participation

- Bring the Field Offices into the process as the datasheets are developed

○ Revision of Prioritization Criteria

- Overall simplification – reduction of number and improved clarity
- Include nuclear safety (i.e., material at risk (MAR) and energy available to disperse MAR)
- Re-evaluate use of Technology Maturity Level as a criterion
- Ensure independence of criteria

○ Workshops

- Essential to discussions, understanding and acceptance of program

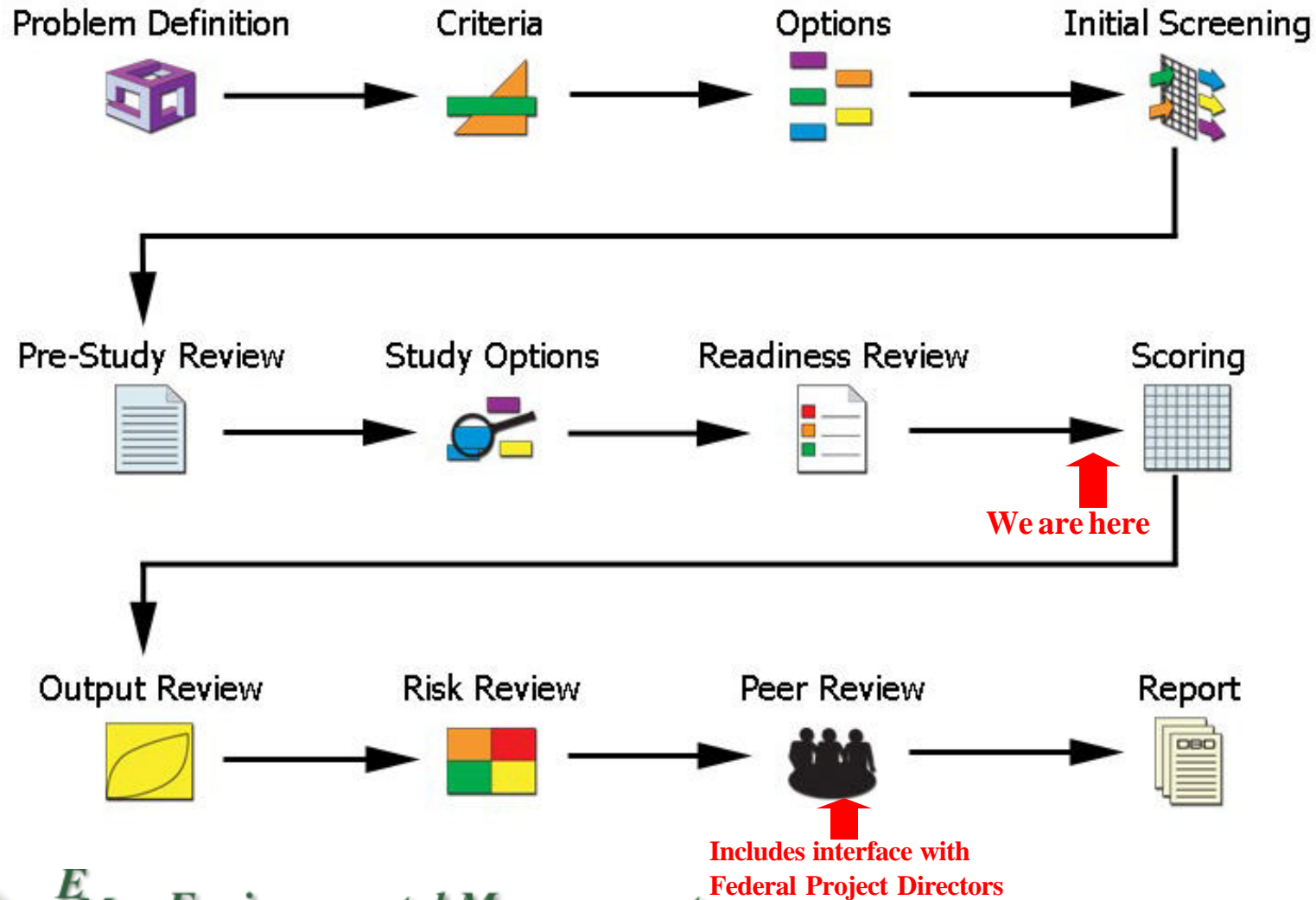


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Prioritization Process



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Criteria Development

- **Reviewed FY 2008 Criteria**
 - Defined criteria for each of the key objectives based on the E&T Roadmap: Effectiveness, Risk, Cost
 - Developed criteria to reflect the most important decision making criteria without redundancy/overlap
- **Reduced number of criteria and improved scales of measurement**
 - Five benefit criteria compared to nine in FY 2008
 - Representative scales that are easier to score



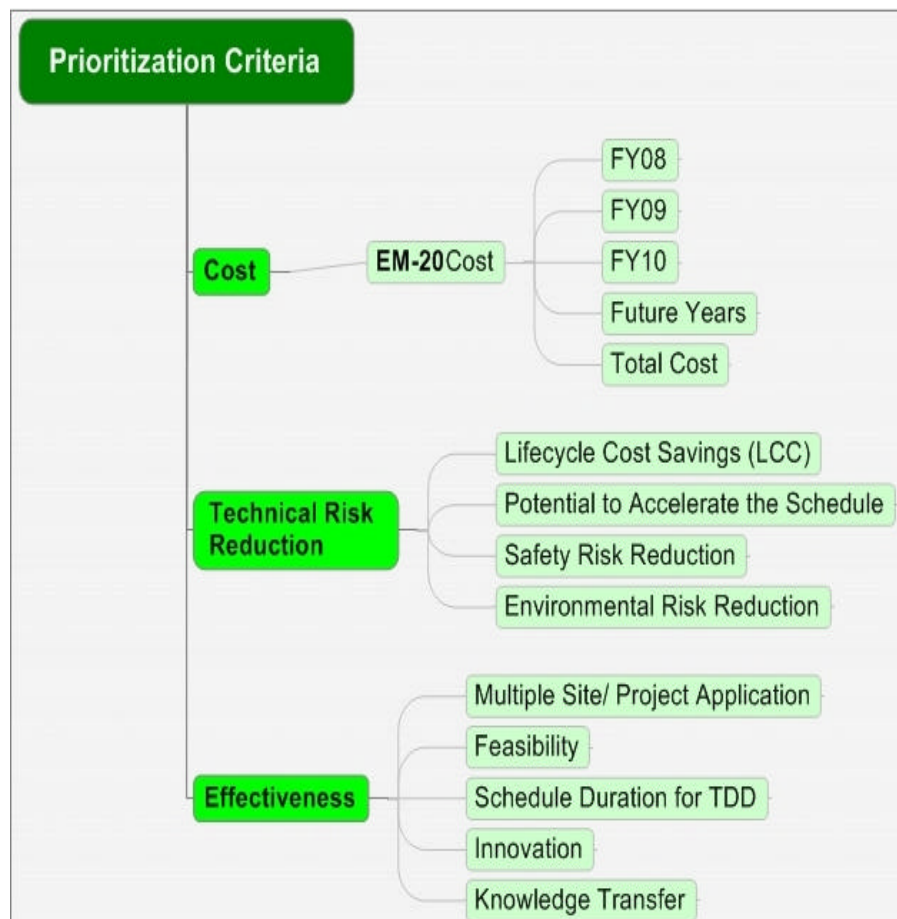
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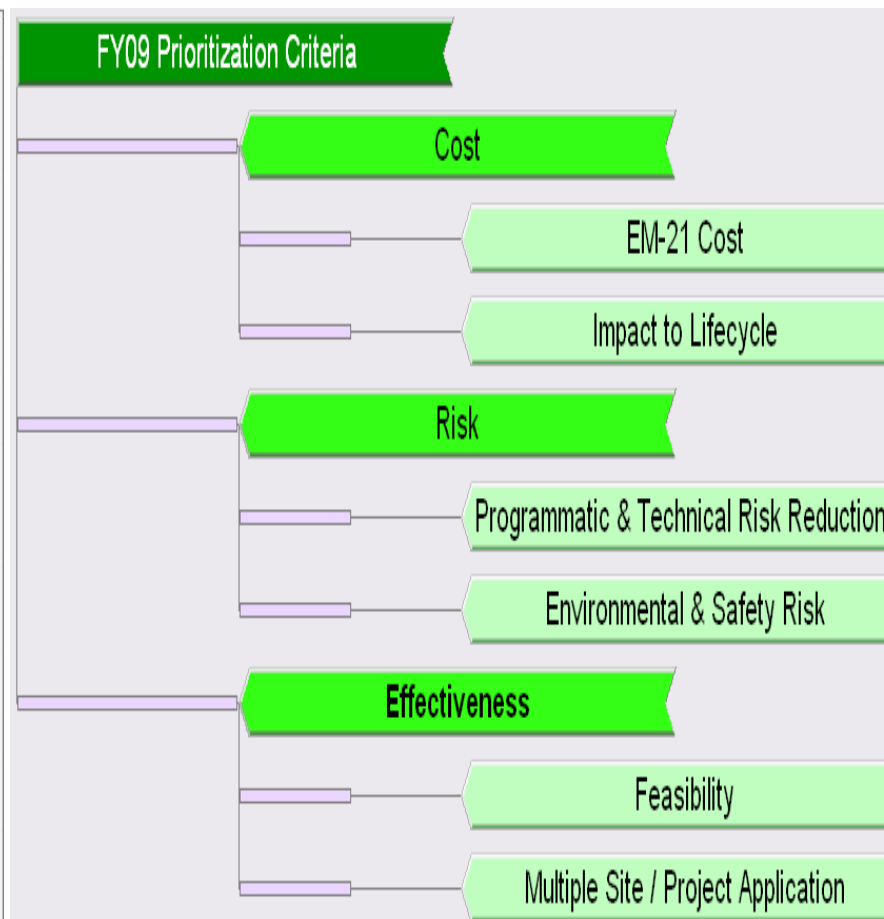
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Criteria

FY 2008 Criteria



FY 2009 Criteria



EM-21 Task Development & Selection Process

o TDD Development Process

- Analyze risks and impacts called out in Roadmap (FY07)
- Perform gap analysis of risks against current projects funded by sites, projects and/or EM-21
- Identify potential tasks to mitigate risks
- Review/discuss potential tasks with Site Field Offices and contractor personnel
- Develop data packages (datasheets) for each task to be scored and submitted to be merged into data warehouse.
- Score tasks against accepted criteria
- **Result: Raw prioritized task listing**

o Next Steps

- Review results for relevancy and consistency
- Scrub list against progress made on current funded tasks
- Incorporate feedback from the Field Offices
- Develop final prioritized task list (MYPP portfolio)



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Current Status

○ Completed Activities

- Finalized and approved criteria
- Revised datasheets to new criteria
 - Migrated FY 2008 data (many TDD's will carry forward)

○ Activities in Progress

- Collection of data for updating existing TDDs and creating new TDD's
- Meetings with Field Offices underway (began in June)
 - Review packages before submittal
 - Understand site priorities



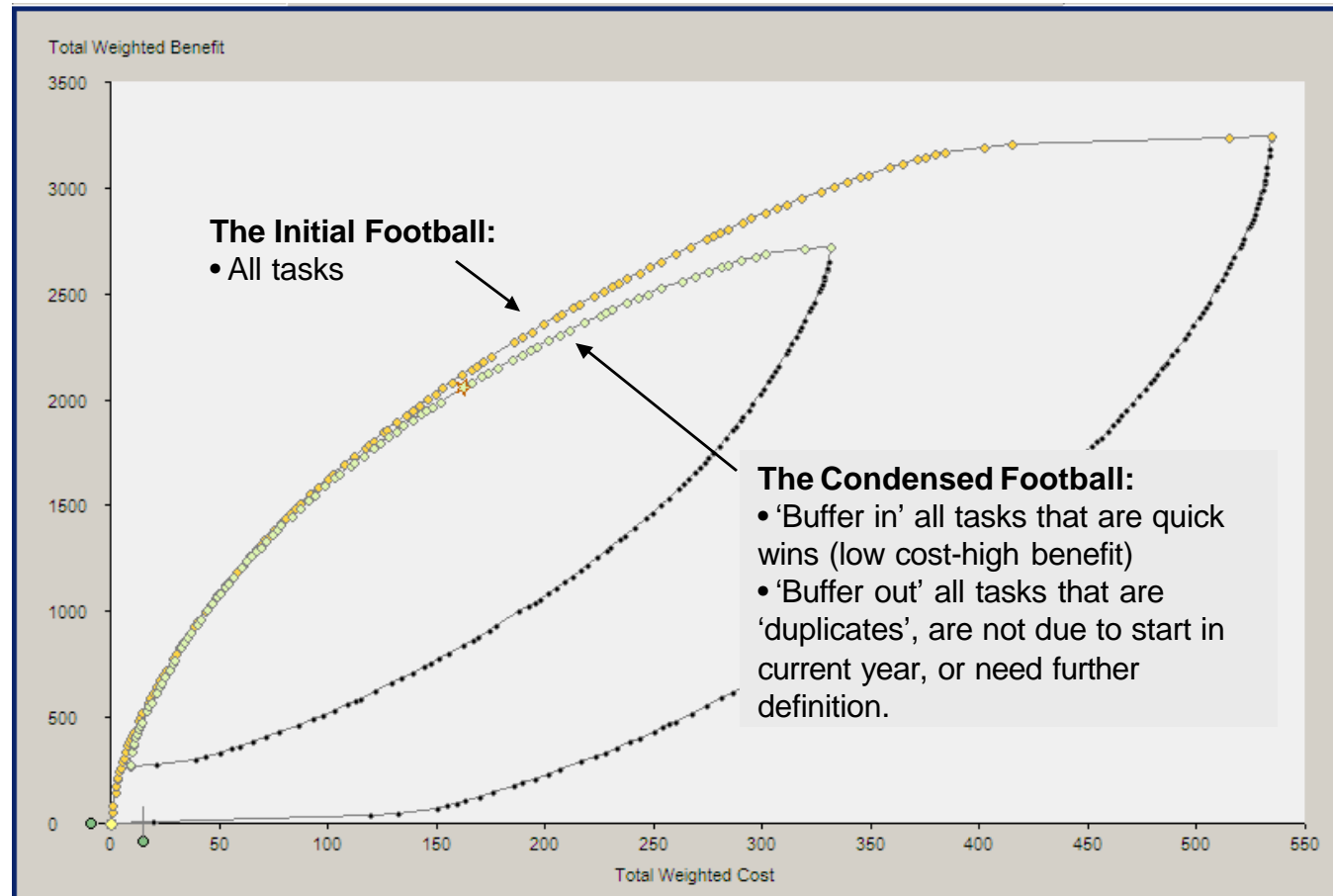
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Prioritization Process Output - Initial and Condensed Footballs Reasons for Inclusion/Exclusion

The total number of tasks and combinations of tasks requiring detailed analysis is reduced



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Waste Processing TDD Portfolio

Example Output Display

1.1	1.2	1.3	1.4	1.5
08.1.1.1.2 - SLIM Cold	08.1.2.1.1 - Retrieval R...	08.1.3.1.5 - Positive for	08.1.4.1.9.1 - Advance	08.1.5.2.4.1 - Crystal T...
08.1.1.3.1 - Raising the	08.1.2.1.12 - Sampling/...	08.1.3.2.4 - Strategy fo...	08.1.4.1.6.3 - NDA/ND...	08.1.5.2.5.3 - Formulati...
08.1.1.2.14 - Vapor Sp...	08.1.2.2.5 - Integration...	08.1.3.1.6 - Key Variab...	08.1.4.1.7.1 - Understa...	08.1.5.3.2.1 - Hanford I...
08.1.1.2.11 - Electroch...	08.1.2.2.4 - Evaluation ...	08.1.3.1.2 - Permeabilit...	08.1.4.1.3.2 - Fractiona...	08.1.5.3.2.3 - MVST Tr...
08.1.1.3.6 - In-Situ Slu...	08.1.2.2.1 - Requireme...	08.1.3.1.1 - Leaching o...	08.1.4.2.3.1 - Effect of ...	08.1.5.1.2.4 - WTP LA...
08.1.1.1.3 - Understan...	08.1.2.1.13 - Advanced...	08.1.3.2.2 - Residual	08.1.4.2.1.5 - Develop ...	08.1.5.1.1.7 - Ce (NO...
08.1.1.2.2 - Carbonate/...	08.1.2.2.7 - Gas gener...	08.1.3.2.5 - Quantity/...	08.1.4.1.3.6 - Caustic	08.1.5.2.2.3 - Develop ...
08.1.1.2.12 - High Leve...	08.1.2.1.11 - Aerosoliz...	08.1.3.2.1 - Transport ...	08.1.4.2.1.4 - Sludge ...	08.1.5.2.6.2 - Develop ...
08.1.1.2.3 - Improving ...	08.1.2.1.5 - Size Optim...	08.1.3.1.4 - Improved ...	08.1.4.1.3.1 - In-Riser ...	08.1.5.2.5.2 - Formulati...
08.1.1.3.4 - In-Situ Hyd...	08.1.2.1.3 - Heel Retri...	08.1.3.1.3 - After Clean...	08.1.4.1.2.1 - Develop...	08.1.5.2.4.2 - Advance...
08.1.1.3.12 - Film and ...	08.1.2.2.2 - Dissolution...	08.1.3.3.1 - Pilot scale de...	08.1.4.1.3.3 - Improved...	08.1.5.2.6.1 - Develop ...
08.1.1.1.5 - Numerical ...	08.1.2.1.14 - In-situ ch...		08.1.4.1.5.2 - Seconda...	08.1.5.2.6.3 - Formulati...
08.1.1.3.15 - Actinide	08.1.2.2.3 - Enhanced...		08.1.4.2.1.2 - Al leacha...	08.1.5.2.5.1 - Develop ...
08.1.1.3.2 - Gas Gener...	08.1.2.1.6 - Dry Retriev...		08.1.4.2.1.1 - Caustic Rec...	08.1.5.1.1.1 - Hanford ...
08.1.1.2.9 - Tank NDE	08.1.2.1.4 - Heel Retri...		08.1.4.1.6.1 - Tank 48 trea...	08.1.5.1.3.6 (08.1.5...
08.1.1.1.1 - Remote Se...	08.1.2.1.2 - Bulk waste...		08.1.4.1.8.1 - Thermodyna...	08.1.5.2.2.1 - Develop ...
08.1.1.3.3 - Effects of ...	08.1.2.1.10 - Cross site tra...		08.1.4.1.5.1 - Disposition o...	08.1.5.3.1.4 - Bull Vitrif...
08.1.1.2.4 combined w...	08.1.2.1.7 - Annulus retriev...		08.1.4.1.1.1 - online Alpha ...	08.1.5.2.3.2 - Predictiv...
08.1.1.3.9 - Samplers I...	08.1.2.1.6 - Idaho Calcine		08.1.4.1.2.2 - Alternative F...	08.1.5.1.3.1 - Forced C...
08.1.1.2.6 - Structural I...	08.1.2.1.9 - Reliable Exhau...		08.1.4.1.3.4 - Technetium	08.1.5.3.3.3 - Develop ...
08.1.1.3.8 - Improved ...			08.1.4.1.3.5 - Next Genera...	08.1.5.1.3.4 - Melter Di...
08.1.1.1.4 - Emergency Ta...			08.1.4.1.3.7 - In-Tank Sr/T...	08.1.5.3.5.7 - Long-Ter...
08.1.1.1.6 - Void Fraction			08.1.4.1.10.1 - Integrated	08.1.5.1.4.1 - Cold Cru...
08.1.1.2.13 - Tank Repa...			08.1.4.2.2.1 - Develop tech...	08.1.5.3.3.1 - Develop ...
08.1.1.3.13 - Impacts of R...				08.1.5.3.2.2 - Alternati...
08.1.1.3.14 - Rheological				08.1.5.2.1.2 - High Wa...
08.1.1.3.10 - Thermodyna...				08.1.5.2.1.1 - Broader ...
				08.1.5.3.5.1 - Processi...
				08.1.5.3.2.4 - Chemical...
				08.1.5.3.1.5 - Advanced B...
				08.1.5.1.3.2 - Alternative H...
				08.1.5.3.1.3 - Bull Vitrificat...
				08.1.5.3.1.7 - Stream Refo...
				08.1.5.3.1.6 - Alternative B...
				08.1.5.1.1.6 - Demonstrate...
				08.1.5.1.3.3 - Dome Heater
				08.1.5.2.4.3 - Phosphate gt...
				08.1.5.3.1.1 - Denitration p...
				08.1.5.3.1.2 - Bull Vitrificat...

Funded tasks in budget portfolio

- “Buffered in” tasks – low cost, high return
- “Buffered out” tasks – need further definition or cannot start in target FY



Path Forward to Complete Portfolio

○ **Prioritization Process**

- Datasheets to be completed and submitted by mid-July **Complete**
- Cogentus/NuVision to use datasheet input to develop raw results **In progress**
- Prioritization Workshop: Denver, CO **July 29-31, 2008**

○ **Review Draft MYPP Portfolio**

- Workshop results reviewed – HQ and Field Offices **August**
 - Consideration for balance with respect to sites, technical areas, etc.
- Revise portfolio as indicated from review **August/September**
- Prioritized task list available for input to MYPP **September**



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Program Management

o **Robust MYPP portfolio review process**

- Monthly status updates through each Initiative Development Team Lead
- External Technical Reviews of selected projects through the year
- Mid-Year Review – all funded projects, with focus on high \$ ([Denver – 7/28/08](#))
 - Involves Initiative Development Team, EM-21 and site personnel
 - Covers technical and financial progress and issues/changes
- Year-End Review (similar to Mid-Year Review)
 - Status update on all funded projects

o **MYPP portfolio input and modification**

- Close contact with sites/projects to understand emerging needs
- Portfolio change needs monitored through formal review progress
- Annual Task Prioritization Review to address MYPP changes for new fiscal year



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Additional Information



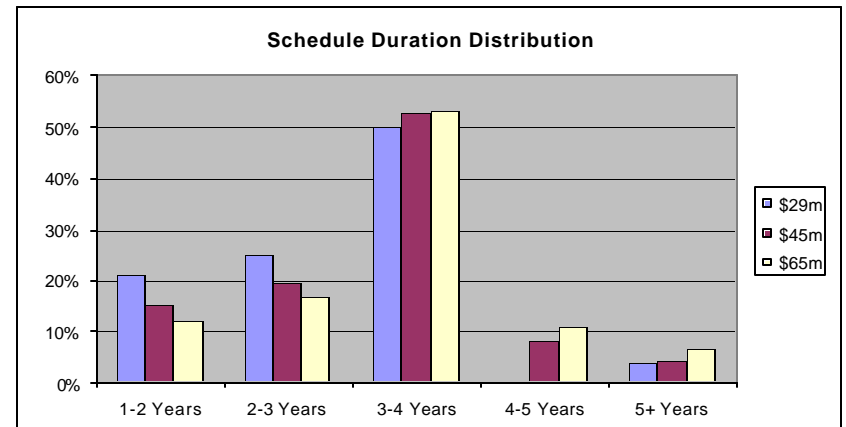
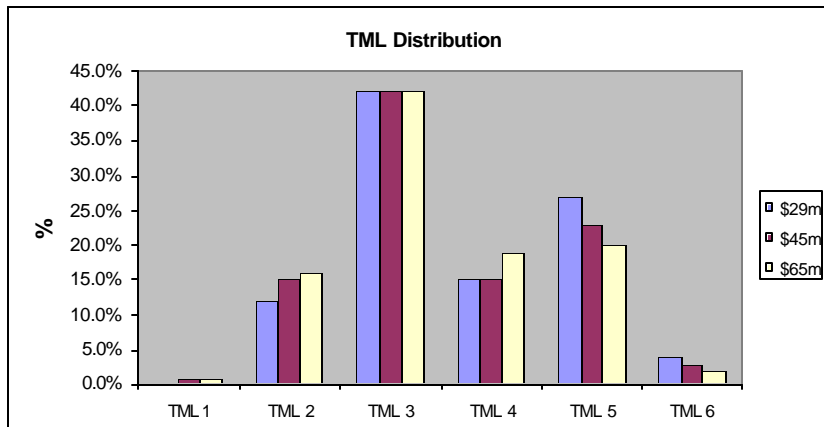
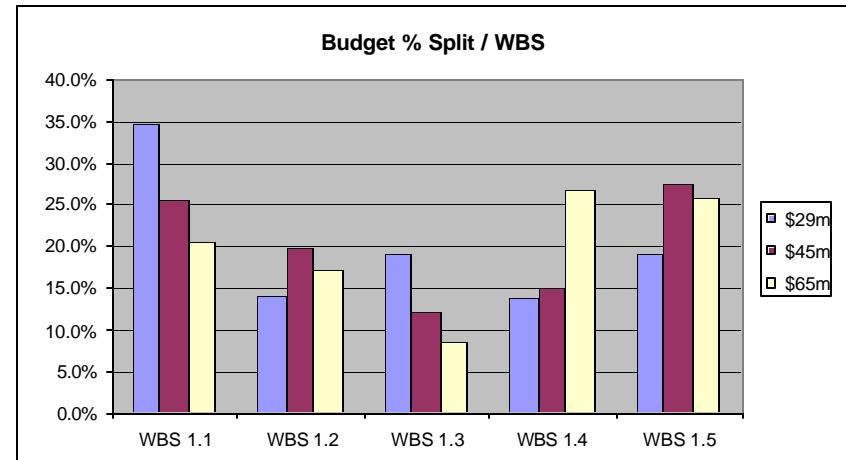
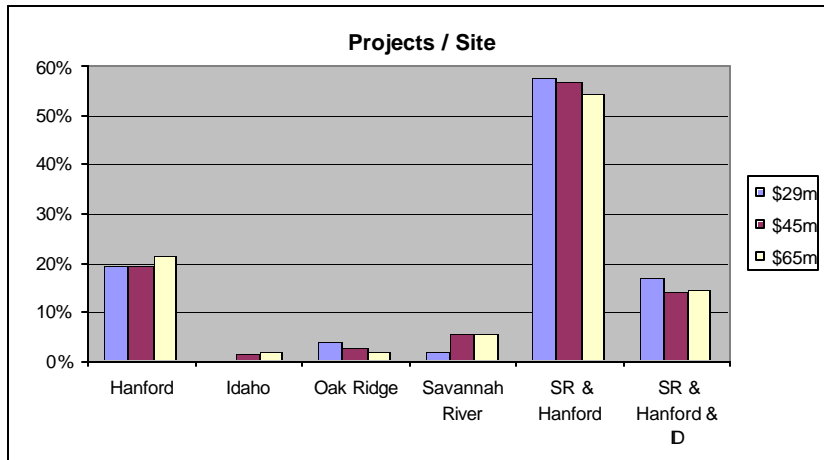
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Portfolio Balance

Example Output



Balanced Portfolio

- **Strategic Investments** (*needs that lie beyond 5 year window*)
 - Early recognition and development reduces cost and schedule impact
- **Near-Term Products** (*make a difference in next 2-5 years*)
 - Majority of proposed work
- **Quick Wins** (*can be completed in ~ 1 year, likely success*)
 - Strong site & project support



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