Environmental Remediation Sciences (SC – 23.4)

Spring 2005

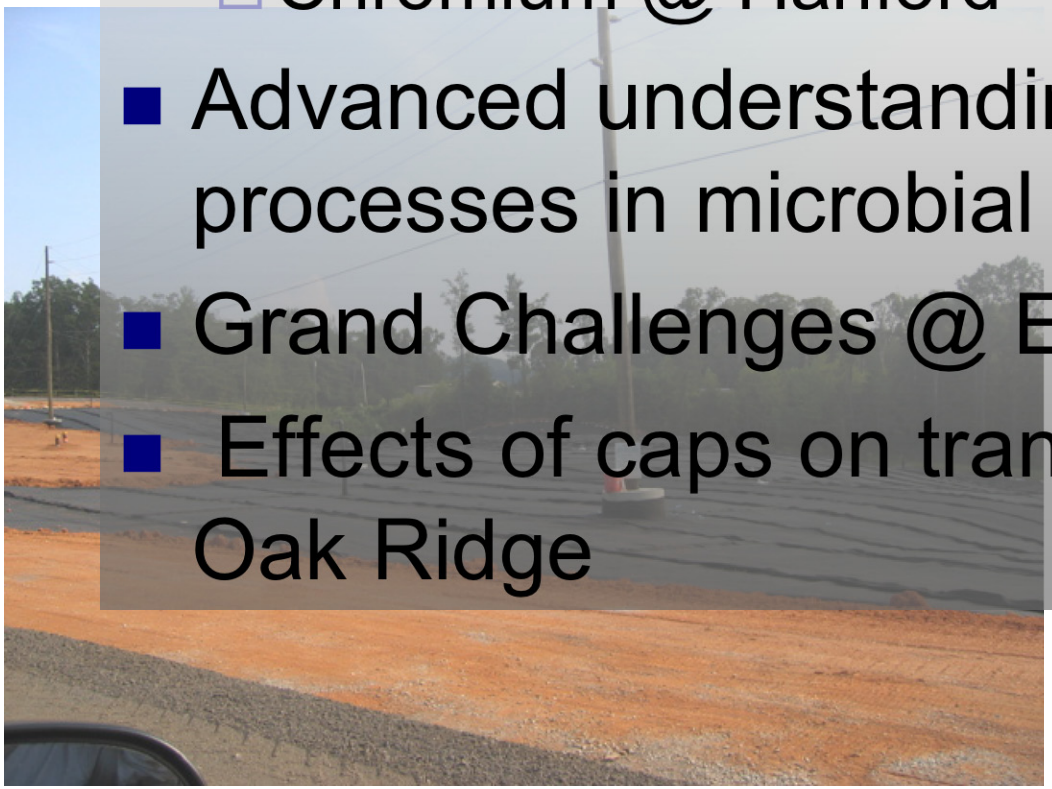
SC 23.4 Long-term Measure

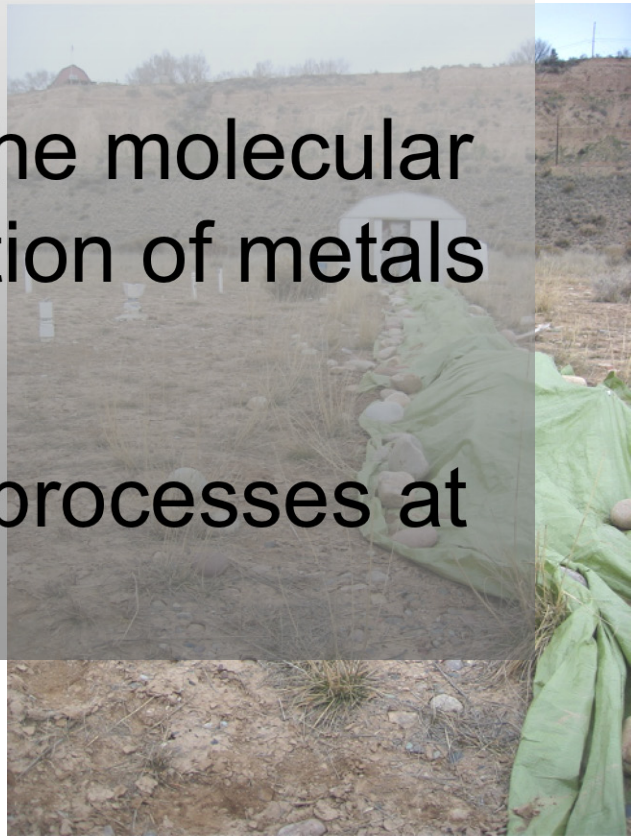
- By 2015, provide sufficient scientific understanding to allow a significant fraction of DOE sites to incorporate coupled biological, chemical and physical processes into decision making for environmental remediation.

[NOTE: new version of goal -- OMB review pending]

Highlights & Accomplishments

- Microbial immobilization of metals & rads
  - Uranium @ FRC & Old Rifle
  - Chromium @ Hanford
- Advanced understanding of the molecular processes in microbial reduction of metals
- Grand Challenges @ EMSL
- Effects of caps on transport processes at Oak Ridge





In the last 12 months……

- Teresa Fryberger was detailed to OSTP
- Todd Anderson joined ERSD
- Ray Wildung & Drew Tait arrived on assignment
- Committee of Visitors reviewed ERSD
- ERSD reviewed FRC & Old Rifle
- EMSP Subsurface call
  NABIR Biomolecular call
- ERSD set for reorganization & reduced budget (FY 2006)

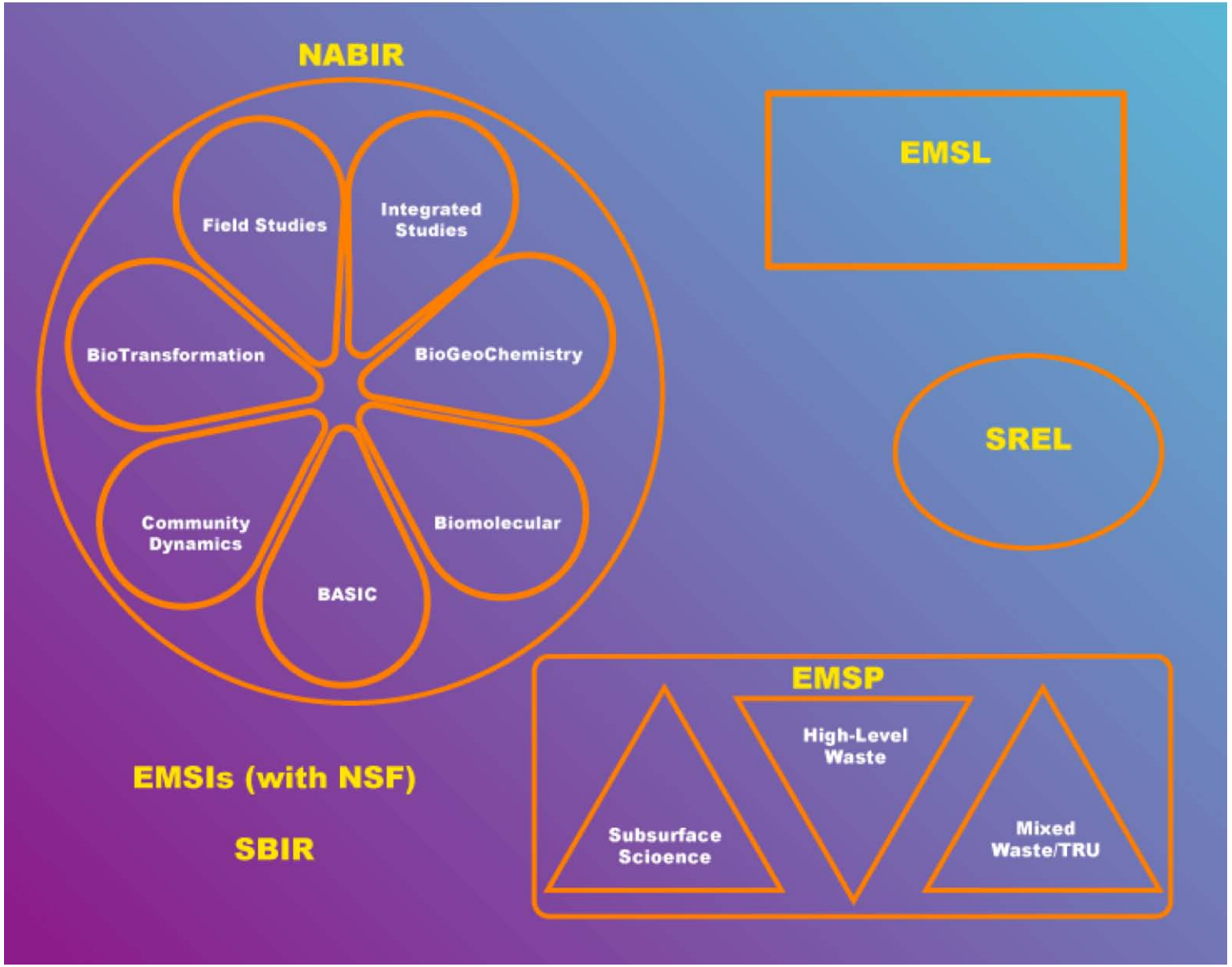
Staff of SC 23.4

- Todd Anderson - NABIR & EMSIs
- Paul Bayer - NABIR & EMSL
- Roland Hirsch - EMSP
- Judy Nusbaum - ERSD
- Drew Tait
- Ray Wildung

Impact of budget reduction

- $1 M reduction in FY 2005 absorbed through funding delays and/or lost opportunities
- $9.762 M reduction in FY 2006 eliminates all funding to SREL ($7.8M) and surficial science.
  - Remainder absorbed through funding delays and/or lost opportunities

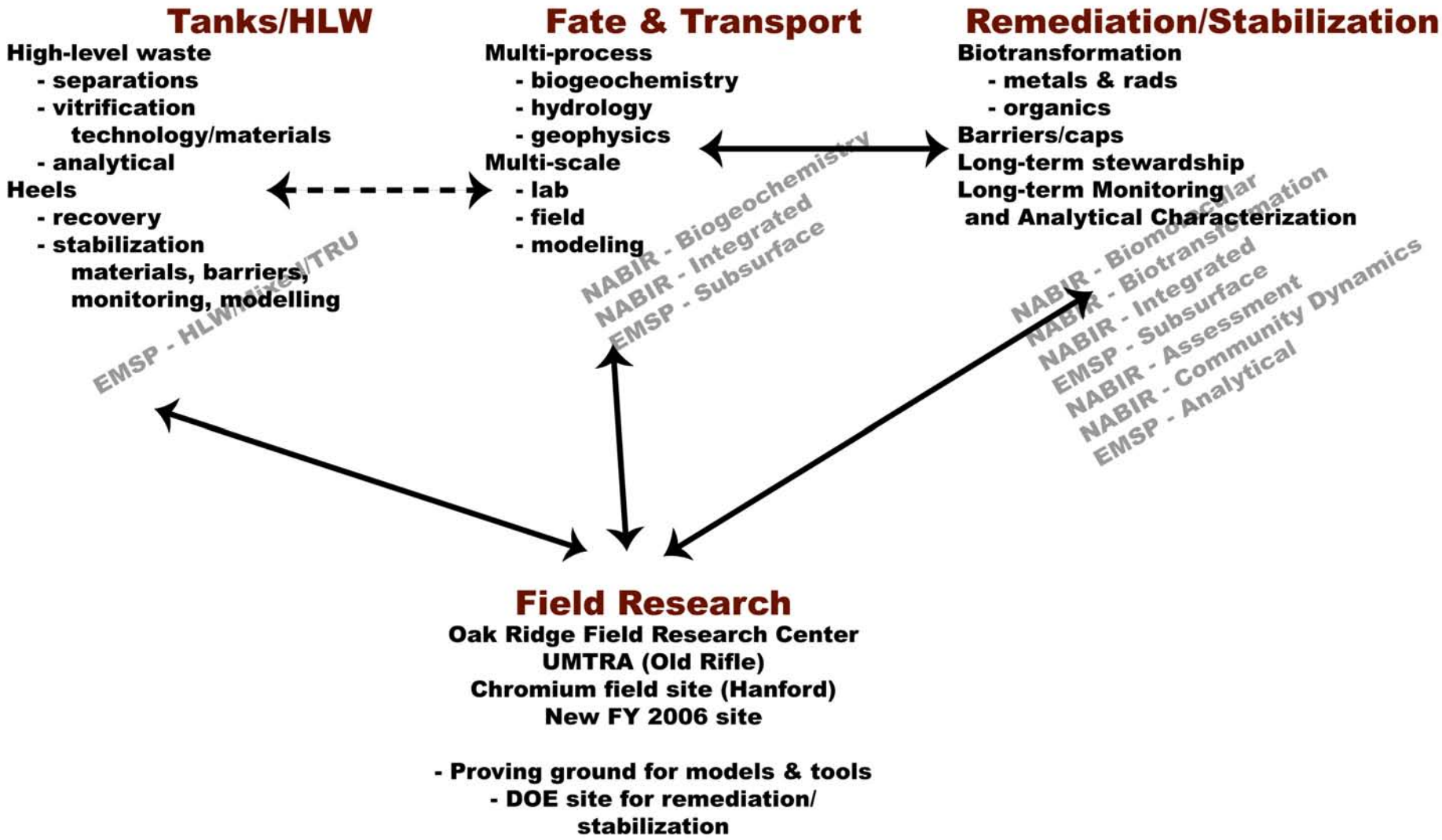
SC 23.4 – Current Structure



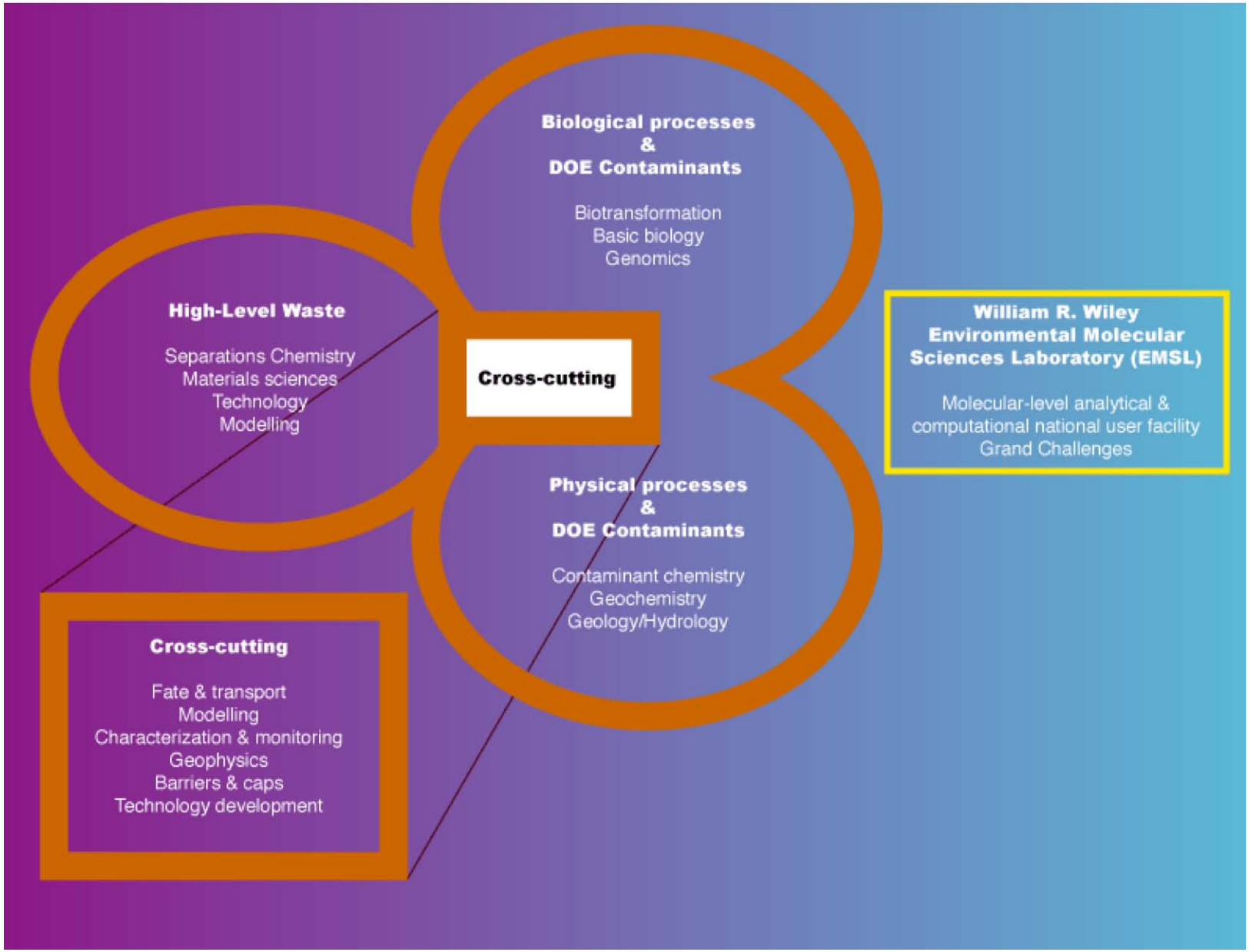
ERSD Reorganization

At the recommendation of the BERAC COV, the Environmental Remediation subprogram has been reorganized. **This new organization integrates research previously conducted under the Natural and Accelerated Bioremediation Research (NABIR) program, Environmental Management Science Program (EMSP), and the Savannah River Ecology Laboratory (SREL).** Furthermore, the SREL will compete for funding within the Environmental Remediation subprogram rather than be included as a separately funded research activity. The integrated approach will provide complementary knowledge and capabilities that will optimize the research results over the structure that was established when three separate research activities from the Office of Science (BER) and the Office of Environmental Management were combined to form the subprogram in FY 2003.

SC 23.4 Science Themes



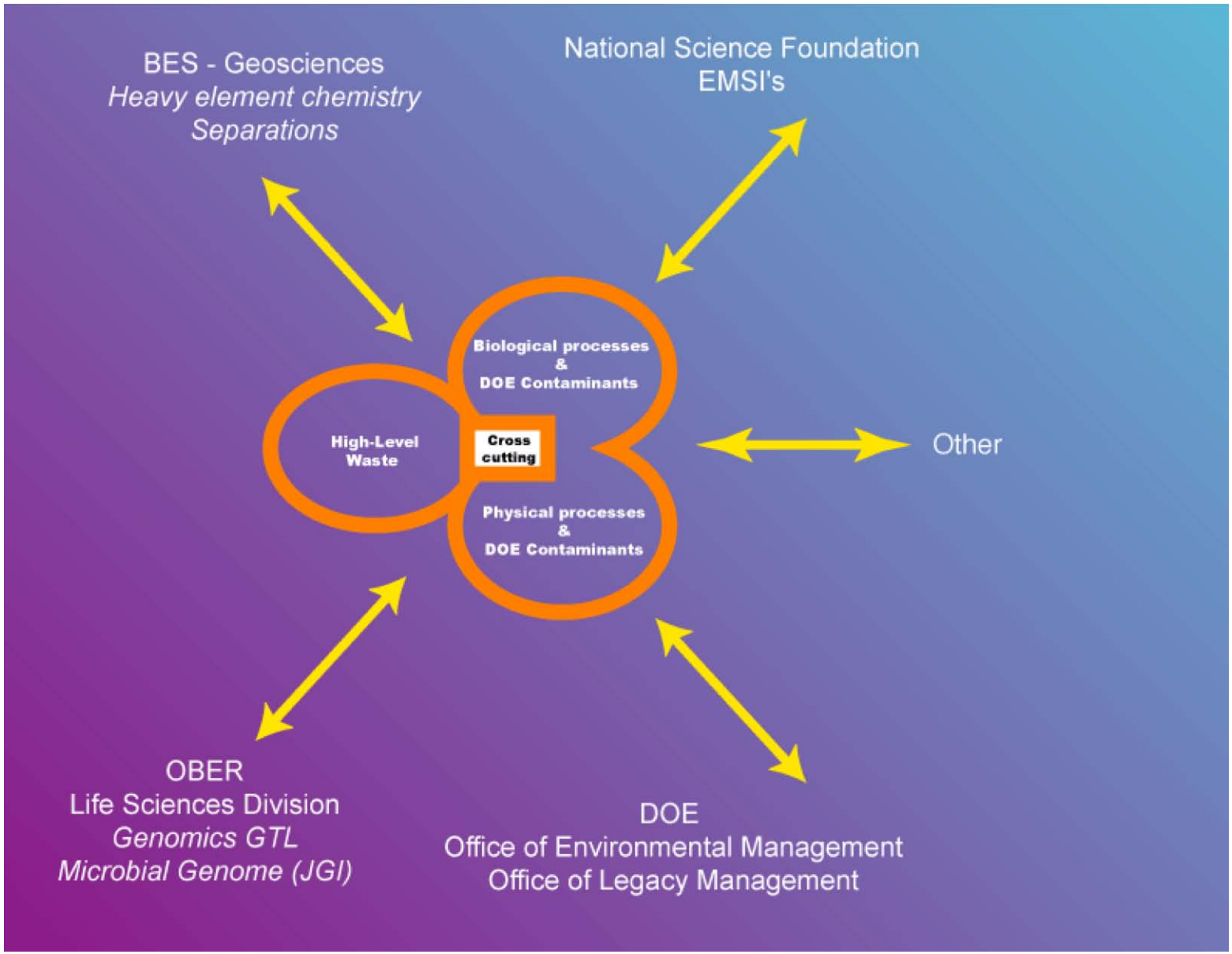
SC 23.4 – Proposed management structure



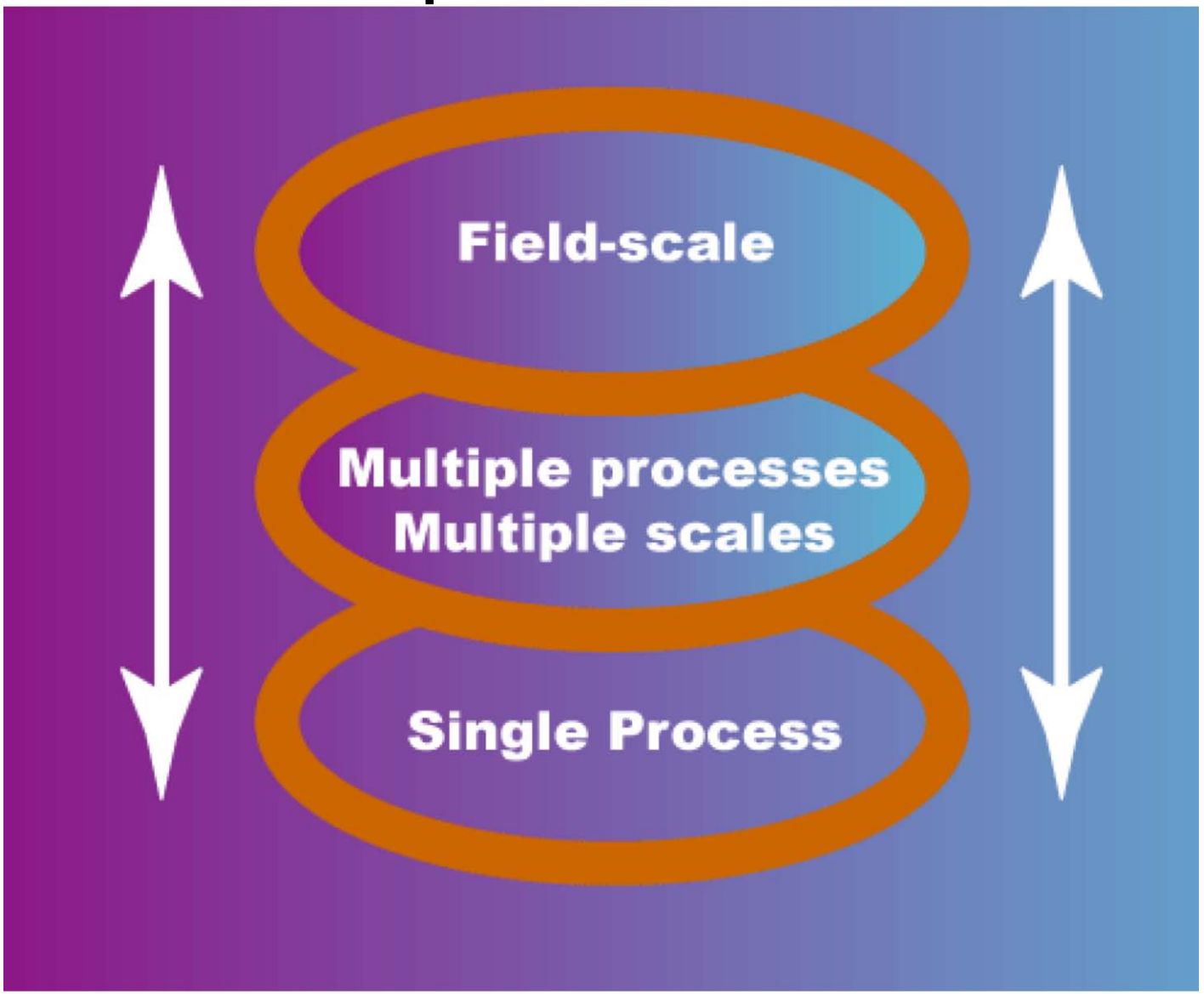
SC 23.4 – Continued support for User Facilities and Field Sites

- Environmental Molecular Sciences Laboratory
- Oak Ridge Field Research Center
- Old Rifle UMTRA & Hanford Cr sites
- Soon to be released opportunity for additional field research
- Beam-line support for BER users at four DOE synchrotron light sources

SC 23.4 - Collaboration



Increased emphasis on field research



Revised management structure

- Three major elements with defined scope
- Annual solicitation from each element emphasizing themes within that scope
- Annual opportunities for “outlier proposals”

Reorganized ERSD seeks to advance the science needed to support cleanup of the DOE complex by:

- Supporting critical areas of science
- Integrating the entire research program
- Emphasizing scaling and application to field scale
- Funding research that supports ERSD long-term goal and DOE clean-up mission
- Providing annual funding opportunities for all areas within its scope
- Increasing “ceilings” on award amounts
- Toughening policy on “soft landings”

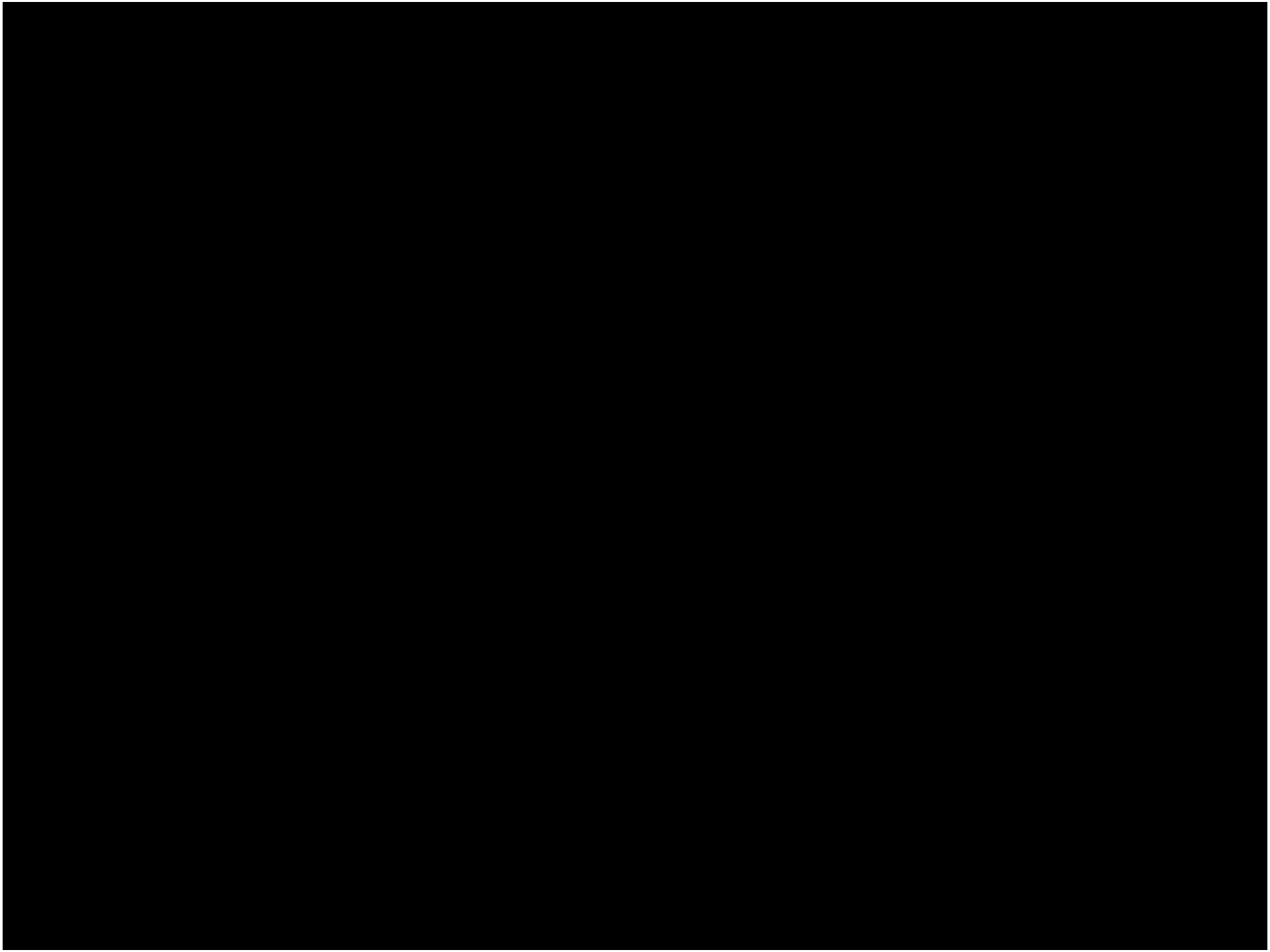
Summary

- Current programs have made important contributions to DOE's clean-up effort
- Support some of the best scientists and the most important environmental research in the country
- Integrating environmental remediation research in BER
- Working to provide the science community with long-term support to address DOE cleanup needs

What's next?

- Focus on field-scale needs
- We need you
  - Scientifically as investigators
  - Philosophically & physically
    - Details
    - IPA's
    - Review committees

Questions?



Backup

Biological & Environmental Research

(dollars in thousands)

	FY 2004 Comparable Appropriation	FY 2005 Original Appropriation	FY 2005 Adjustments	FY 2005 Comparable Appropriation	FY 2006 Request
Biological and Environmental Research					
Life Sciences	200,320	204,011	-1,175[a]	202,836	204,035
Climate Change Research	137,997	142,959	-1,965[a]	140,994	142,959
Environmental Remediation	104,758	105,272	-816[a]	104,456	94,694
Medical Applications and Measurement Science	180,973	124,348	-642[a]	123,706	14,000
Subtotal, Biological and Environmental Research	624,048	576,590	-4,598	571,992	455,688
Construction	0	10,000	-80[a]	9,920	0
Total, Biological and Environmental Research	624,048[bc]	586,590	-4,678	581,912	455,688

Environmental Remediation Sciences

(dollars in thousands)

	FY 2004	FY 2005	FY 2006 Request	$ Change	% Change
Environmental Remediation					
Environmental Remediation Sciences Research	59,929	58,111	48,600	-9,511	-16.4%
General Purpose Equipment (GPE)	959	959	403	-556	-58.0%
General Plant Projects (GPP)	4,811	5,584	6,140	+556	+10.0%
Facility Operations	39,059	37,228	37,138	-90	-0.2%
SBIR/STTR	0	2,574	2,413	-161	-6.3%
Total, Environmental Remediation	104,758	104,456	94,694	-9,762	-9.3%

"Environmental Remediation Sciences reduced based on fiscal constraints in FY 2006. BER will focus research activities on GTL and Climate Change in support of the DOE goals and objectives. The Environmental Remediation research subprogram will focus research efforts on subsurface science and high level radioactive waste in support of high priority DOE goals and objectives for environmental cleanup. As a result, research funding for surficial science including radioecology and surficial fate and transport will be phased out in FY 2005 and terminated in FY 2006. (-9,511)"