Laboratory Directed Research and Development (LDRD) Day Symposium and Awards for Excellence

September 19, 2007

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CTO and VP of ST&E SMU

Sandia National Laboratories

LDRD Day is an opportunity for communication and recognition

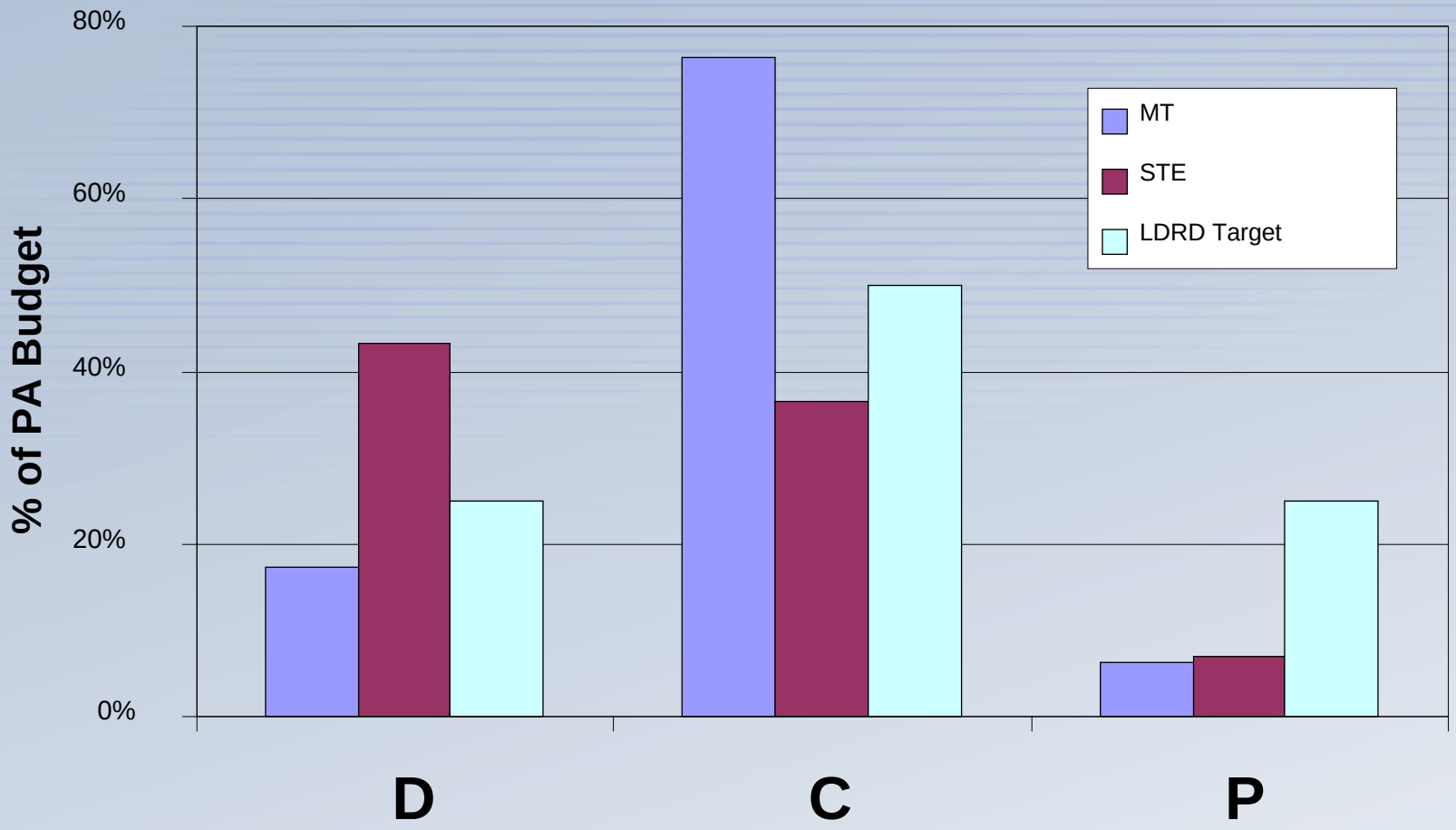
- Showcase wonderful LDRD accomplishments
- LDRD is the ‘seed corn’ for Sandia’s S&T
  - Nurture the core
  - Support the missions
  - Drive the future
- Staff participation in LDRD is key to success
  - High technical risk R&D with potential impact
  - Innovative support of Labs’ mission needs
  - Engagement with internal/external community

Last year, we articulated 3 goals for LDRD *

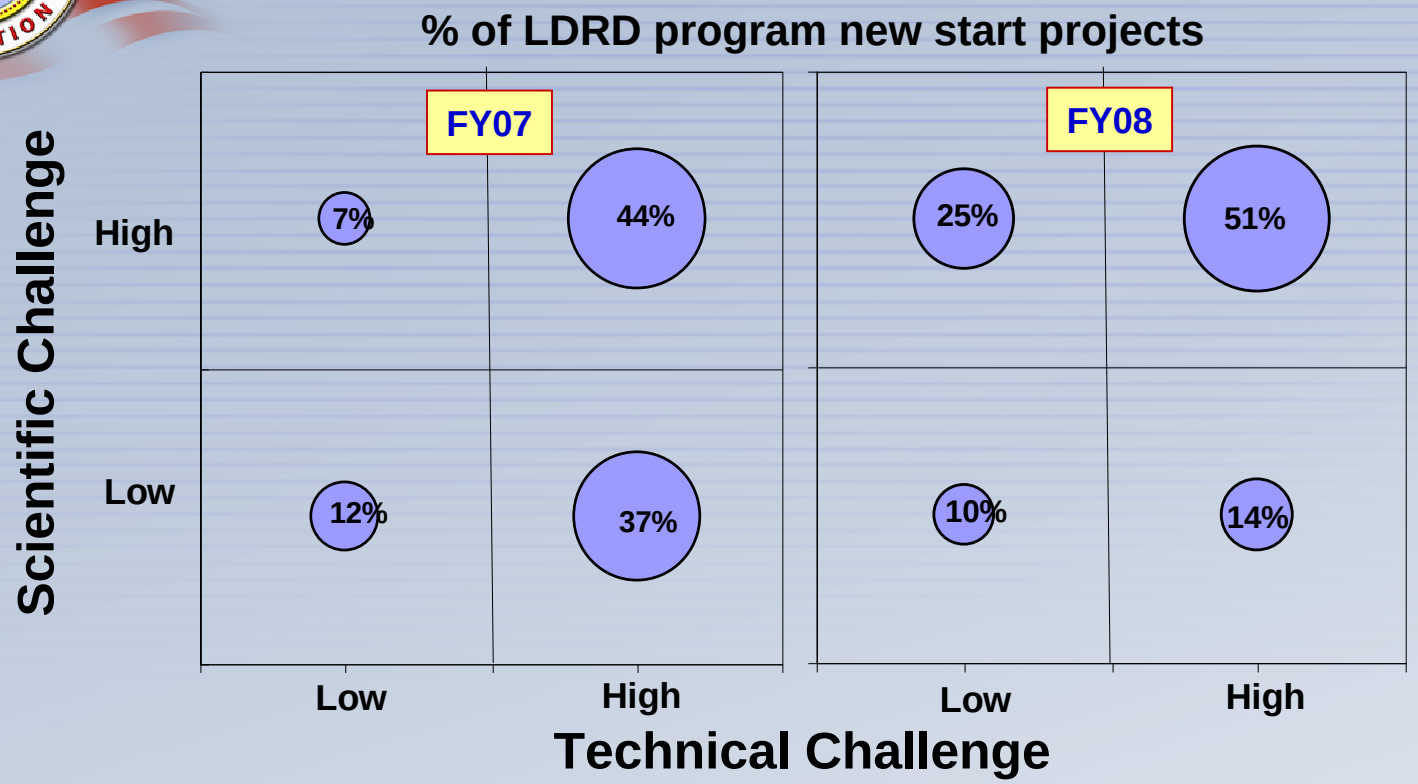
1. More creative, high-risk, leading edge R&D
   - Improve the balance across R-D-A
   - Elevate technical excellence in driving project selection
2. More effective and efficient process
   - Reduce internal stove-piping
   - Be intentional about project size and staff fragmentation
   - Reduce politics and complexity of proposal process
3. Greater external impact and innovation
   - Reputation with customers & external S&T community
   - Fully leverage R&D to mission application

* LDRD Program improvements initiated in FY06

Progress Report:
Strategic intent of new projects are evaluated



Progress Report:
LDRD is investing in high-risk, leading edge R&D



Scientific Challenge

High: Significant advance in existing or creation of a new scientific framework or field

Low : No change or incremental change in existing scientific framework or field

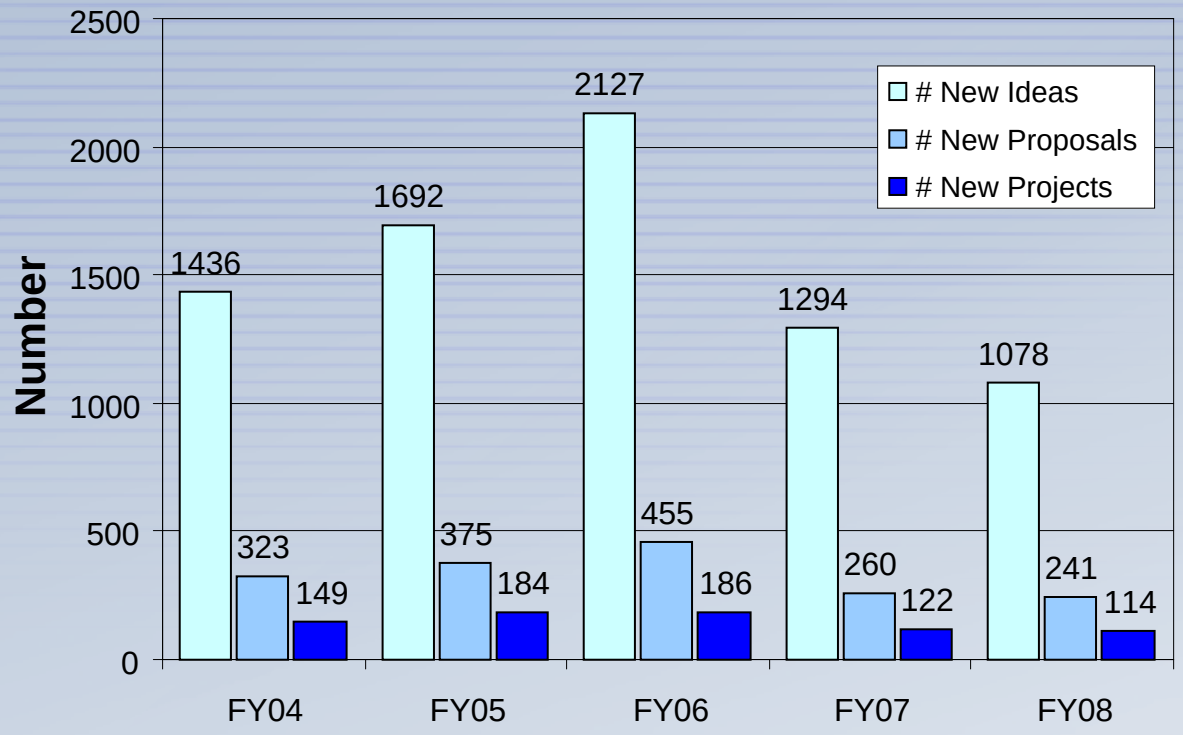
Technical Challenge:

High: Significant improvement of or a first ever product/technology of its kind

Low : No change or incremental refinement or customization of an existing product/technology

Progress Report:
LDRD process is more effective and efficient

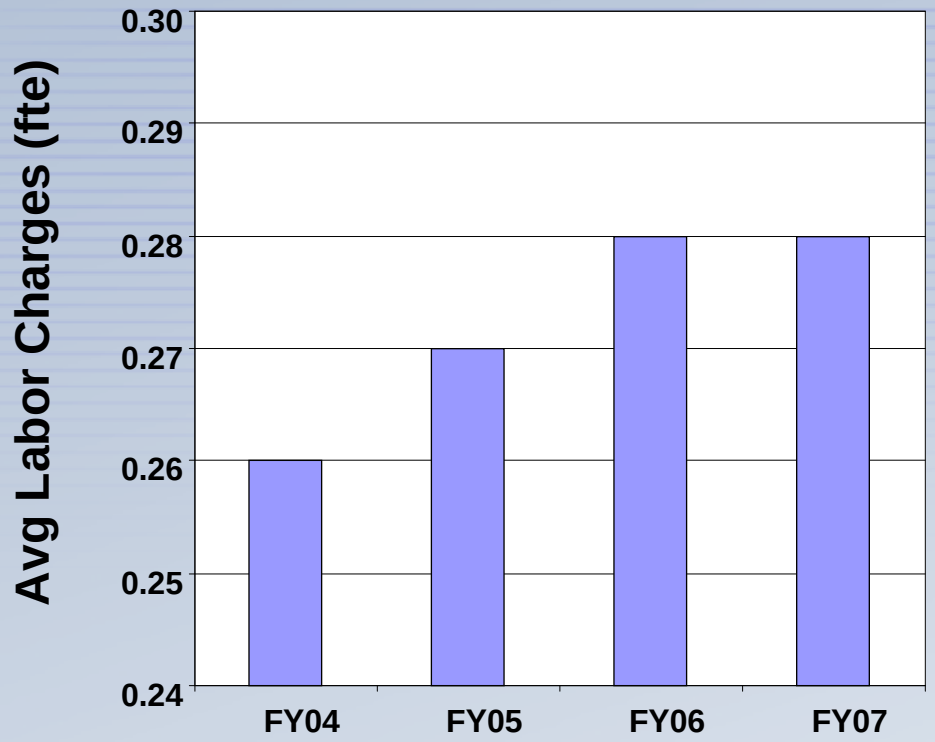
Process is reducing level of effort for both IA team and PIs



Technical excellence considered during project selection

- Inclusion of technical staff on all IAs
- Review comments provided to PI for use in oral interview

Progress Report:
PIs are devoting more time to R&D



Senior Steering Committee reduces stove piping and politics

- Integrate strategy and management
- Communication and standardization

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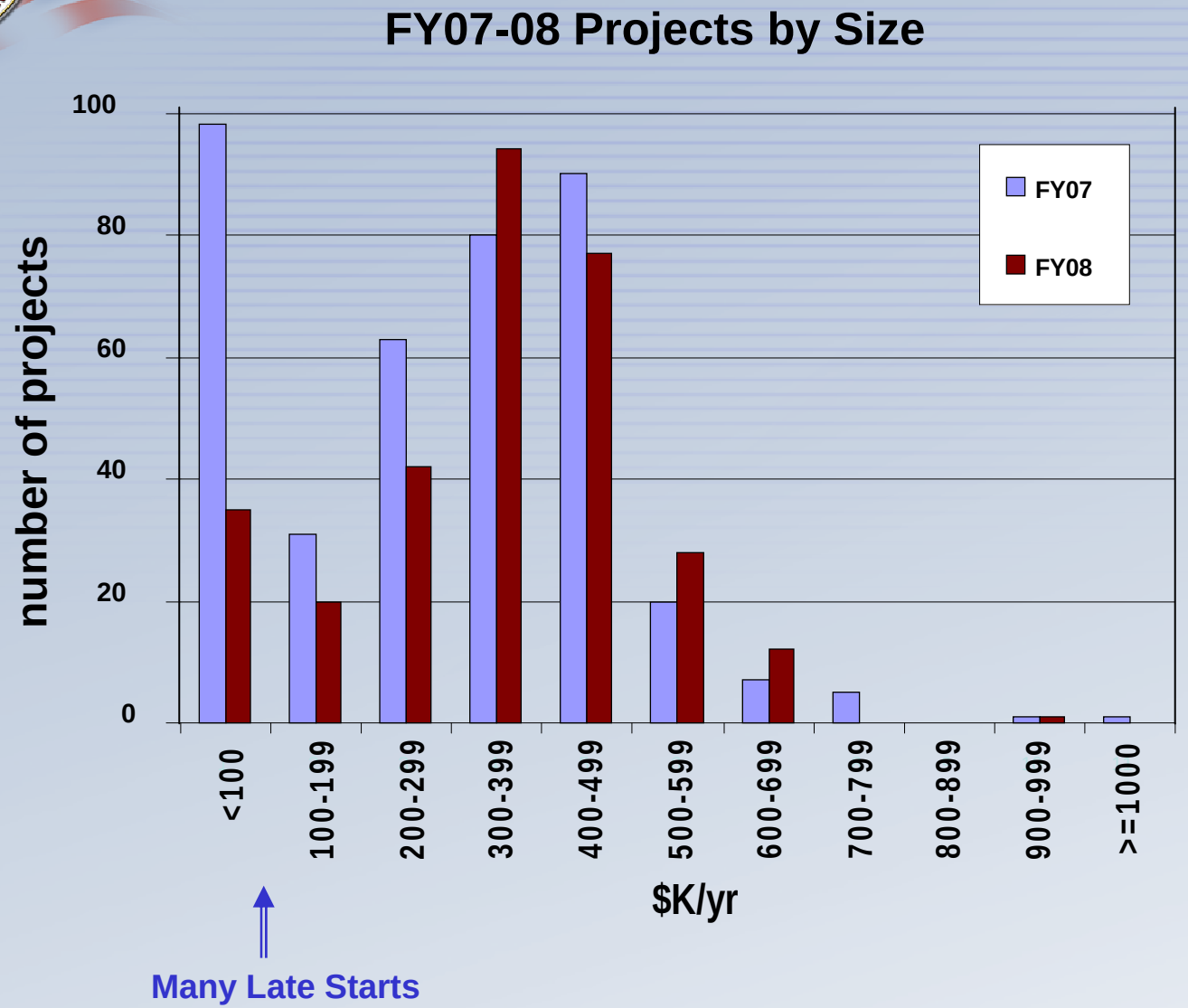
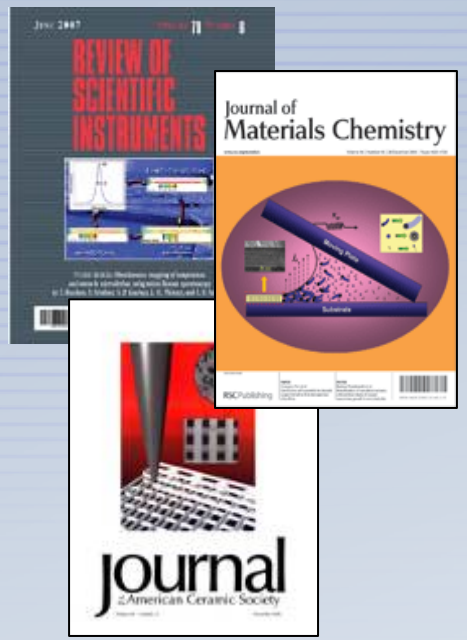
Progress Report:
LDRD budgets are uniformly distributed



Progress Report:
LDRD focuses on external impact and innovation

Publications

Five of SNL's top ten most highly cited publications in 2002-2006 were supported by LDRD



Innovation

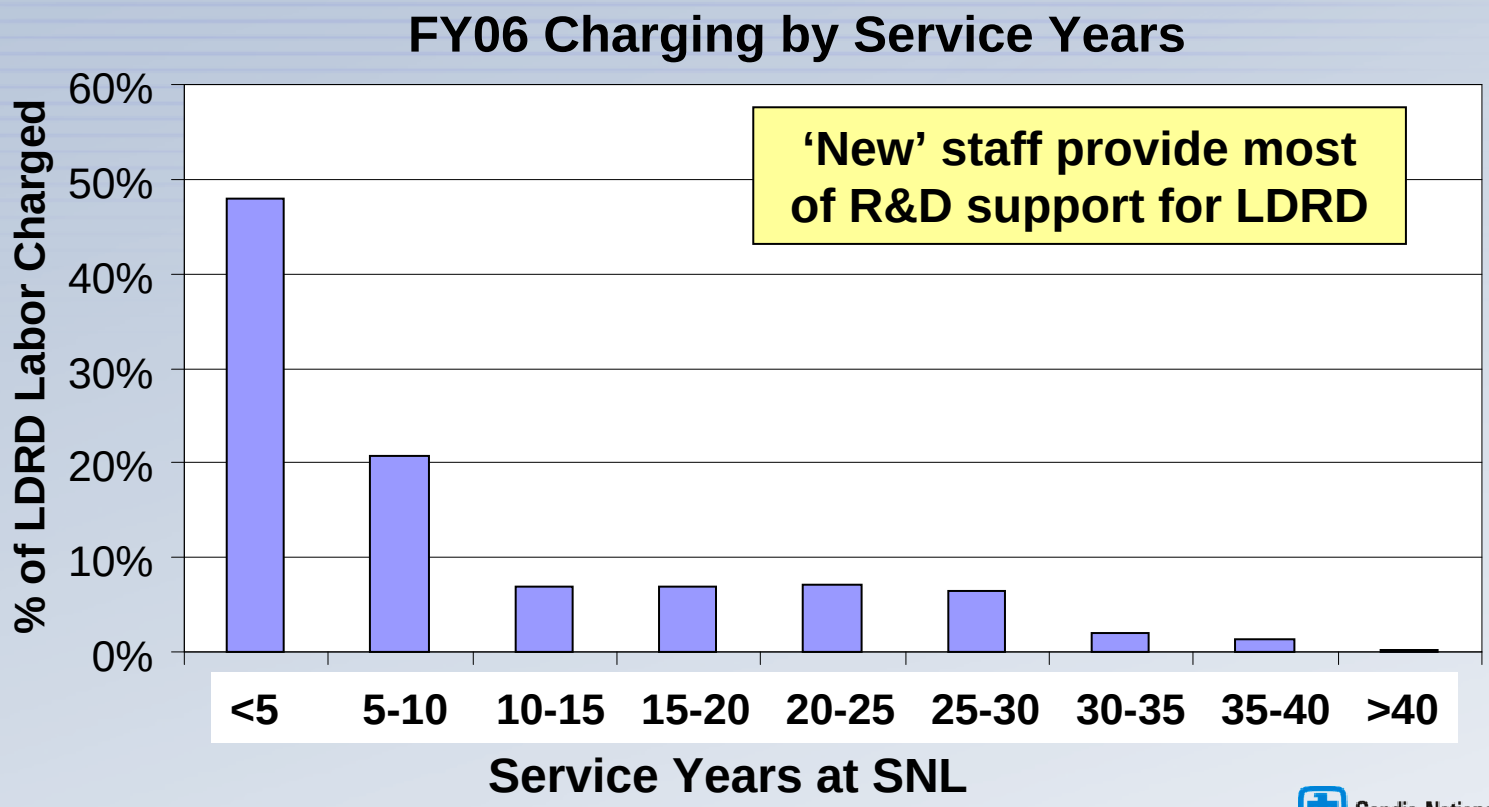
60% of SNL's R&D 100 awards since 1992 were supported by LDRD

Managing Outcomes

- **Single Project Manager for similar projects**
- **Annual milestone for PI to communicate results**
- **Annual IA review of terminating LDRD projects**

LDRD supports the Labs' future workforce

- ~50% of postdocs and ~30% of technical LTEs are supported by LDRD, which is more than any other program at SNL.
- >50% of postdocs and technical LTEs converted to full-time staff were supported by LDRD



LDRD Program impact far exceeds its 8% Assessment

LDRD program is responsible for

- Over 40% of SNL's total number of technical advances
- Almost 50% of the patent applications
- About 35% of issued patents
- 80% of SNL's R&D 100 Award winners in FY07
- About 20% of SNL's refereed publications during 2002-2006
- SNL's leadership position relative to other national labs in optoelectronics, electrical engineering, and applied physics
- 50% of SNL's top-ten most highly cited papers were supported by LDRD