

ESRF External Panel Review Charge to the Panel

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**Engineering Sciences External Review Panel
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Charge to the Panel

- **The Panel will assess us as part of the PEAR:**
 - Elements of the NNSA Performance Evaluation and Assurance Report (PEAR):
 - Quality of science, technology, and engineering
 - Relevance to national need and agency mission
 - Programmatic performance, management, and planning
 - Performance in the technical development and operations of major facilities
- **The Panel will advise us on ESRF strategy:**
 - Vision, mission and implementation
 - Strategic planning
 - Opportunities that should be explored
 - Culture and environment (e.g. innovation, creativity, collaboration)

Charge #1: Assess Elements of Sandia PEAR

Based on what you've heard, please comment on the following:

1. Quality of science, technology and engineering

- a) How well is the work oriented towards addressing important technical issues?
- b) What are some examples of innovative research being performed?
- c) What much impact is the ESRF work having in the engineering sciences field?
- d) How well will the results enhance our experimental and computational capabilities?

2. Relevance to national need and agency mission

- a) How clear is the connection between the research and the nuclear weapon mission?
- b) How clear is the connection between the research and Sandia's Science and Technology mission
- c) How clear is the impact of ESRF on the NNSA mission?
- d) What is the evidence that the researchers understand how their research relates to the strategic mission?

3. Programmatic performance , management and planning

- a) How well is the research coordinated?
- b) How well have we set specific focus areas, metrics and rationale for Sandia's differentiation?
- c) How enthusiastic is the staff for Engineering Sciences research?

4. Performance in the technical development and operations of major facilities

- a) How well have we succeeded in meeting technical and programmatic objectives, performance specifications and facility availability goals?

**Panel is requested to provide feedback on items in blue;
questions in black provide context questions to consider.**

Charge #2: Advise us on ESRF Strategy

Based on what you've heard, questions for Panel to consider:

- 1. How well are we using new tools, such as technology roadmapping and active management of LDRD outcomes, to more effectively implement our strategy?**
2. Have we demonstrated how our WFO portfolio reinforces our strategic direction? ([Focus on WFO in 2010](#))
3. Are we making progress in identifying and tracking the right set of performance metrics to enable progress towards our strategic goals? ([Focus on metrics in 2010](#))
- 4. Can you suggest ways that our strategic framework might be better articulated or used to guide decision-making and management of our research foundation?**

Items in bold should be given priority in the 2009 review

Charge #2: Advise us on ESRF Strategy (cont.)

5. How can we better connect our research to the external community?
 - **How can Sandia work more effectively with relevant researchers in universities and industry?**
6. What other opportunities should we explore?
 - What are the national initiatives with which Engineering Sciences should be more closely involved?
7. How can we clarify the ESRF strategy?
 - **Vision, mission, and implementation**
8. How can we improve the effectiveness of our culture and environment in promoting innovation, creativity and collaboration?

Items in bold should be given priority in the 2009 review



Response to Comments from 2008 ESRF External Panel Review

Summary of Comments from the 2008 Panel

- **ES should continue to develop, clarify, and communicate our strategic plan**
 - A single strategy / roadmap for ES that spans the 7 technical areas
 - Show details on how different pieces of the strategy fit together
 - Articulate how the vision translates into specific goals and actions
 - Be able to deliver a 2-5 minute “hit you in the eyes” pitch
 - Communicate the strategy with the entire ES workforce

Response: Strategic planning and roadmapping exercises this year has helped mature our strategy. We expect this will be evident in the talks.

- **The Panel wants hear more about our business diversification plan**

Response: We’ve been working on diversification and had planned to present it this year but due to time limitations this will be one of the focus topics in the 2010 review.

Summary of Comments from the Panel (2)

- **We should define clear metrics for success**

- Clarifying metrics for evaluating success and guiding disinvestment
- Objectively measuring achievements of high level milestones
- Separate metrics of ES from metrics of ESRF
- Detail how QMU is used for making disinvestment decisions

Response: Work is in progress this year on developing quantifiable metrics for program success. Joel will discuss some examples today and metrics will be another focus topic in the 2010 review.

- **The Panel wants to see more evidence of integrated theory and experiments**

Response: Theory, computation and experiments are tightly coupled through our Focus Areas. We expect this will be more evident in our technical presentations this year.

Summary of Comments from the Panel (3)

- **Concerns about staff issues**

- Low morale among staff from budgetary concerns
- Difficulties recruiting
- Insufficient communication with the staff
- Staff need to be made aware of how funding decisions are related to the strategic roadmap and to budgetary pressures

Response: We recognize that this is an ongoing and difficult problem. We have made some progress on staff communication but we realize that we have room for improvement.

Panel Suggestions for 2009 ERP Meeting

- Explore possibility of longer session in 2009. Perhaps 2 - 2 1/2 days. (Meeting expanded from 1 1/2 days to 2 full days.)
- Would like to review entire portfolio in one year (Unfortunately, reviewing the entire portfolio would take much longer than 2 days)
- More free time for panel members to access email, phone calls, etc. (More white space added into agenda)
- Panel does not need to see details on how funding sources tie together. (To be eliminated except where necessary to show integration)
- Would like to hear more clarification on how ES ensures that research and experimentation are tightly coupled on a day-to-day basis.
Recommendation that ES talk much more about its approach and practice of tight coupling. (Hopefully will be evident in the technical presentations)

**We encourage the panel to provide suggestions again
this year to improve the 2010 Review**