RESEARCH AND RANKINGS

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and
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The ERC Data Standization Committee

Lester Gerhardt (Chair) – Rensselaer Polytechnic Institute
Romayne Botti – Carnegie Mellon University
Carl Anderson – Michigan Tech University
Christopher Bowman – University of Colorado, Boulder
William Dunne – University of Tennessee
Michael Isaacson – University of California, Santa Cruz
Heidi R. Ries – Air Force Institute of Technology
Ralph Zee – Auburn University
Explicit Research Parameters

• Total Research Expenditures

• Research Expenditures/Faculty
Evolving Changes in Research Parameters

• Balance

<table>
<thead>
<tr>
<th>Total Research Exp.</th>
<th>Res. Exp./Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>all(25%)</td>
<td>none</td>
</tr>
<tr>
<td>1/2</td>
<td>1/2</td>
</tr>
<tr>
<td>15% current</td>
<td>10%</td>
</tr>
<tr>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

• Definition of Faculty
- Research Active Faculty
- All Tenured & Tenure Track Faculty - current
- Future Considerations
The Database

• 192 Schools Reported Research Expenditures to ASEE on Time (6 Additional Schools Reported Information Updated in Time for Publication)

• 24 Schools (12.5%) Were Contacted Regarding Substantial Changes in Research Expenditures (Both Dollar Amount and Percentage Considered)
  - 10 Cases Required Extended Dialogs
  - 5 Cases Proved Especially Difficult
  - Data From the Prior Year was Used for One School because of Lack of Compliance or Proper Justification

• 135 Schools Reported Data to ASEE and USN
  - 16 Were Contacted Because of Different Totals
Selected Stats-2008 to 2009
Research Expenditures-
Percentage Change Reported

<table>
<thead>
<tr>
<th>Percentage Above/Below*</th>
<th>Number of Univ.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 20%</td>
<td>30</td>
</tr>
<tr>
<td>Above 10%</td>
<td>60</td>
</tr>
<tr>
<td>5% to 10%</td>
<td>35</td>
</tr>
<tr>
<td>-5% to -10%</td>
<td>10</td>
</tr>
<tr>
<td>-10% to -20%</td>
<td>20</td>
</tr>
<tr>
<td>Below -20%</td>
<td>8</td>
</tr>
</tbody>
</table>

*Rounded
Selected Stats-2008 to 2009
Faculty Hiring-
Percentage Change Reported

<table>
<thead>
<tr>
<th>Number of Hires/Lost*</th>
<th>Number of Univ.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 5</td>
<td>20</td>
</tr>
<tr>
<td>Zero to 5</td>
<td>70</td>
</tr>
<tr>
<td>Faculty Decrease</td>
<td>80</td>
</tr>
</tbody>
</table>

*Rounded
### Research Expenditure Increases

<table>
<thead>
<tr>
<th>Range</th>
<th>Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 65%-75%</td>
<td>6</td>
</tr>
<tr>
<td>• 45%-50%</td>
<td>3</td>
</tr>
<tr>
<td>• 25%-40%</td>
<td>9</td>
</tr>
<tr>
<td>• 20%-24%</td>
<td>4</td>
</tr>
</tbody>
</table>

### Dollar Increases

<table>
<thead>
<tr>
<th>Range</th>
<th>Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Above $20M</td>
<td>2</td>
</tr>
<tr>
<td>• $5M-$15 M</td>
<td>10</td>
</tr>
<tr>
<td>• $2M-$5M</td>
<td>6</td>
</tr>
<tr>
<td>• $1M-$2M</td>
<td>4</td>
</tr>
</tbody>
</table>
Actions Taken

• Query Letter for Additional Explanation of Large Increases in Research Expenditures (Amount and/or Percentages)

• Follow up to Higher Administration if Unsatisfactory Response

• Use of Last Year’s Data if Inadequate Response to Query
Questions Asked for Verification

• You are Reporting Expenditures and Not Awards?

• Only the Expenditures Portion Associated With Engineering Faculty/Staff is Being Counted?

• None of These Expenditures are for Capital Costs or Construction?

• Only External Funding is Included?
Categories of Issues

- Unusually Large Research Expenditures (Am’t/%)  
- Large Change in Faculty Base (Up & Down)  
- Just Plain Errors  
- Mergers & Acquisitions (Centers, Labs, etc.)  
- Change of Personnel (Staff, Financial, Dean, etc.)
  - New Dean Felt Past Figures Were Inflated  
  - New Dean Felt Past Figures Erred on Low Side  
  - New Person Doing Survey Didn’t Know the Rules  
- Used Awards not Expenditures  
- Adding in Prior Year Errors in This Year (Errors in the Estimate of Submitter)  
- Finance Can’t Separate Out SoE Figures in Interdisciplinary Research, so Counted it All.  
- State Funds Counted @ 20% Since State Says Professor Should Use 20% Time for Research  
- Unrealized O/H Counted as Research Expenditure  
- PI in SoE and Others External to SoE Included
Quotable Quotes

• Thank You for the Chance to Justify Our Numbers. We Are Proud of Our Growth.

• Believe Me, We Have Just Had a Lot of Growth. Not Sure What Else You Want.

• Your Insinuations Are Most Distressing. We Discovered That The Number of Grants Were Entered Incorrectly.

• The Office of Research Did It.

• Expenditures Were Reported in the Wrong Category (State Vs. Private)

• We Did Report Awards Not Expenditures. Information is in the Dean of Finance and They Have Not Been Able/Willing to Share This.

• There is Research Collaboration Between the Center Director and Some Members of the Engineering Faculty, so We Counted It.
Categories of Responses and A Special Thank You

• Thank You for Finding These Errors and Helping to Level the Playing Field
• The Data Supplied is Correct. We are Not to be Questioned
• Thank You for Pointing Out Our Errors (Same Person)
  - Up 67% ($26 M) Originally; Final Result - Down 15%

OVERALL, THIS PROCESS IS APPRECIATED AND PARTICIPANTS ARE RESPONSIVE AND HELPFUL. USE OF THE ASEE DATA HAS ENHANCED BOTH ASEE AND THE USNWR RANKINGS CREDIBILITY. THE NUMBER OF ‘EXCEPTIONS’ HAVE CONTINUALLY BEEN DECREASING AND BILATERAL RESPECT FOR ALL PARTIES CONCERNED HAS BEEN INCREASING.
Increased Public Awareness of Rankings

• Use of ASEE Data and Review Adds Credibility and Responsibility

• Greater Use of Rankings by Parents/Students
  - Top 50 on First Page

• Heightened Awareness of Parameters in Media
  - Opinion surveys
  - NAE Memberships
For Future Consideration

• Broaden Definition of Faculty
  - Include Full Time Research Faculty?

• Review Balance of the Two Parameters Used

• Refine and Update Guidelines to Reflect Trends to M & A and Interdisciplinary Activities
  - Center Responsibility
  - Government Labs Responsibility
  - Non-Engineering Faculty
  - Joint Appointments, etc.
  - Handling of Unresolved Data Issues

• Overall Determine How/If to Count Those People That Generate the Expenditures Counted

• Develop List of DOs and DON'Ts