Improving the Administrative Quality of Proposals and Workload Balancing

Michelle Christy, Director
Shawna Vogel, Associate Director
Office of Sponsored Programs
April 10, 2014
We have been on a long journey….
Proposal Process Improvements Since 2010

- Proposal review training in OSP – standardizing reviews, ID key training issues
- Credentialing – authorizing CA to submit proposals – removes work
- Proposal review tool – tracking proposal quality – ID key training issues
- More robust Coeus validations – improves quality – removes work
- Coeus training for DLCs – trains users in proposal standards, emphasis on key proposal issues
- Proposal “where is it” reports – tracking proposals around campus, and within OSP
- PI / Investigator Certification – better information for proposal review
- All Proposals in Coeus – standardization, tracking, error checking, etc.

Now…. Moving proposals for additional efficiencies in OSP, and seeking your help in reducing the number of issues that need to be corrected
IMPROVING THE ADMINISTRATIVE QUALITY OF PROPOSALS

ELIMINATING RE-WORK FROM THE SYSTEM; ALLOWING MORE TIME TO DEVELOP THE TECHNICAL PORTION OF THE PROPOSAL
Administrative Quality: Overview

Percentage of Error Types Reported on Proposals Submitted FY11 thru FY13

- Drop in proposals with no issues
- Increase in % with Agency Specific, Budget and RFP Issues
- Drop in % with Sign. & Disc. Errors
- Solved as part of new COI project

FY Totals
- 2011: 2183
- 2012: 2384
- 2013: 2315
Areas outlined in RED indicate 5-Day Waivers issued. Decrease in waivers is largely due to increase in proposals submitted with “no deadline date provided”.

**Fiscal Year Overview**

- **2011**
  - Total: 1532 (60.8%)
  - >= 5 Days: 209 (8.15%)
  - 0 Days: 234 (9.3%)
  - 1 Day: 163 (6.5%)
  - 2 Days: 122 (4.8%)
  - 3 Days: 81 (3.2%)
  - 4 Days: 142 (5.6%)

- **2012**
  - Total: 1551 (61.3%)
  - >= 5 Days: 179 (7.1%)
  - 0 Days: 172 (6.8%)
  - 1 Day: 159 (6.3%)
  - 2 Days: 116 (4.6%)
  - 3 Days: 100 (4.0%)
  - 4 Days: 140 (5.5%)

- **2013**
  - Total: 1437 (57.4%)
  - >= 5 Days: 533 (21.3%)
  - 0 Days: 107 (4.3%)
  - 1 Day: 116 (4.6%)
  - 2 Days: 88 (3.5%)
  - 3 Days: 61 (2.4%)
  - 4 Days: 86 (3.4%)
We are Here to Support You

• OSP will continue to provide resources on proposal development strategies, sponsor-specific guidance, Coeus training and support

• We will review proposals, provide feedback, but DLCs and the School can decide to take risks as they see fit
Next Steps to Improve Administrative Quality

• Reviewing details with schools and their staff
• What kinds of goals can we set for “no issues” for FY15?
• How best to increase DLC expertise on sponsor-specific issues?
• Reward top departments with shorter OSP deadline

• And then…
  – What is the “low hanging fruit” that could quickly make a difference?
  – “Best practices” from DLCs with lowest error rates?
  – Other ideas / suggestions for improvement?

• Review progress in Fall 2015
WORKLOAD BALANCING

MORE EFFICIENT USE OF OSP RESOURCES; ALLOWING MORE TIME TO DEVELOP THE TECHNICAL PORTION OF THE PROPOSAL
Challenge: How do we give the PIs more time to work on the SOW, while retaining the benefits of a full OSP proposal review

Origins of project:

- Recommendation by Ian Waitz that we talk with now Chancellor Cynthia Barnhart
- Suggested we seek professional advice for optimizing the proposal process through the Operations Research Center (ORC)
- OSP had consulted with Professor Bertsimas about this problem before; new emphasis in the VPR to take a data-based approach to system improvements
- Project commenced Fall of 2012
OSP Teaming with ORC

The ORC Team

• Dimitris Bertsimas – Professor, Sloan School of Management; Boeing Leaders for Manufacturing Professor of Management, co-director, Operations Research Center
• Chaitanya Bandi – graduate student
• Nataly Youssef – graduate student

The OSP Team

• Shawna Vogel – project lead (R)
• Steve Dowdy leading data and Coeus effort
• Others – added as the project developed
Monthly Proposal Volume by OSP CA

Each colored line represents an OSP Contract Administrator

Avg. = 11.38
Defining the Goal

Improve overall OSP service to PIs and DLCs

• Pre-award
  – Reduce proposal review time from 5 days; more time to work on the technical proposal
  – Smooth proposal workload per CA
  – Equitably distribute proposals amongst CAs
  – Standardize OSP feedback to DLCs
  – Increase breadth and depth of sponsor-specific knowledge amongst all CAs

• Post-award
  – Allow CAs to more quickly address other issues related to sponsored project management such as: negotiations, award set-up, funding distributions, etc.
  – Enable OSP to respond to various emergency situations
Adding Flexibility to the Supply Chain

Adding 30 links

Plant 1

Plant 2

Plant 3

Plant 4

Plant 5

Plant 6

Product 1

Product 2

Product 3

Product 4

Product 5

Product 6

Expected Demand Satisfied ≈ 55400
Improvement: 14.7%

Adding 6 links

Plant 1

Plant 2

Plant 3

Plant 4

Plant 5

Plant 6

Product 1

Product 2

Product 3

Product 4

Product 5

Product 6

Expected Demand Satisfied ≈ 55000
Improvement: 13.9%
### Initial Results from the Algorithm

<table>
<thead>
<tr>
<th>OSP Structure</th>
<th>Max Imbalance</th>
<th>Average Imbalance</th>
<th>Unit Changes</th>
<th>Response Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current System</td>
<td>34</td>
<td>23</td>
<td>0</td>
<td>93 hrs/3.9 days</td>
</tr>
<tr>
<td>Sample Solution</td>
<td>18</td>
<td>14</td>
<td>7</td>
<td>73 hrs/3.1 days</td>
</tr>
</tbody>
</table>

Adding flexibility reduces load imbalance almost 50% and decreases total review period 20%
Integration of ORC Algorithm into Coeus
Parallel Testing Results

Workload balancing will distribute proposals more evenly among CAs and allow them to get to other tasks sooner.

PROPOSALS PER CA

Before WB

After WB
Workload Balancing Process Flow

Proposal prepared in DLC → Dean Approval (as needed) → Proposal arrives in OSP → Workload Balancing Software → System generates email to PI, Aggregator and OSP Approver with proposal assignment → OSP Approver* takes ownership → Liaison Review/Approval (as needed) → Approver approves proposal

Revisions/corrections (as needed)

* The Point of Contact (POC) for the DLC will often be the OSP Approver selected by the software. In specific cases, the POC may reserve a proposal during proposal development to ensure that he/she will be the OSP Approver.
Workload Balancing Software at Work

POC = “Point of Contact” – OSP CA assigned to unit.
Going Forward

- In most cases the POC will be handling the proposals for their units unless WB determines that the POC is over capacity.
- If over capacity, WB will assign the proposal to another CA who has flexibility on the sponsor.

I have a suspicion that I’ve reached my capacity…
Going Forward

• **POCs will still be handling** all of the other activity for their units
  • Award negotiations
  • New accounts
  • COEUS updates
  • Questions

• **We have developed DLC-specific guidance** to help CAs get to know your DLC

• **We have developed notifications and reporting** to assist in tracking proposal whereabouts
WB: Email Notifications

After a proposal is assigned by WB, a notification email will be sent to:

- Principal Investigator
- DLC Aggregator who submitted the proposal
- Assigned OSP Approver

Each DLC should decide on business practices to ensure that all necessary DLC administrators receive the notification e-mail.
OSP Reviewer column in CoeusLite will show which OSP representative is handling the proposal.

- Before received by OSP – Column will be blank.
- After received by OSP – CA assigned as OSP Approver
WB: Updated Approval Maps

Proposal whereabouts can also be tracked via the approval map in Coeus

- Before received by OSP – OSP Point of Contact
- After received by OSP – CA assigned as OSP Approver
New online reports will help DLCs track the OSP Approver and where proposal is in the approval process.
WB: Vacations/Absences

- During POC vacations/absences, the WB software will assign new proposals to other CAs
- For proposals that have already been assigned, OSP will transfer coverage to a new CA and changes will be communicated to the DLC
Proposal reviews will be more streamlined if:

• Aggregators attach background documents to the proposal before routing:
  – Late proposal waivers
  – Commitments on cost-sharing, underrecovery
  – Background emails from sponsor, POC, Coeus-help, etc.
  – Solicitation

• Aggregators and Approvers include notes in their Approval Comments regarding prior conversations not included in attached documents

Notes and supporting attachments help all approvers (OSP, Department Heads, Assistant Deans) understand the context for proposal review and allow faster approvals
OSP Approvers will be able to reserve certain proposals according to OSP guidelines. Examples:

- **Change/Corrected S2S Proposal** -- often urgent
- **Revised budget** -- if routed in Coeus as a Resubmission proposal

DLC Aggregators should communicate new proposal number to OSP Approver that handled original proposal.
In Summary:

- Multiple ways to know who “owns” the proposal at OSP

- Communicating context to Approvers is key

- We’re all working to get to know your DLC better

- We invite you to get to know us better too….
WB: Implementation & Follow Up

- Notification and go-live mid-May
- Coeus-help for questions and comments
- Gathering of feedback from research community
- System adjustments as needed
OSP Resources

- OSP Website: osp.mit.edu
  - OSP Forum Powerpoint Presentation
  - Additional guidance on WB

- Initial support inquiries: Coeus-help@mit.edu
EXTRA SLIDES
Discussion of Key Issues

What do we think could be the source of the issues in these areas?

- Budget
- Agency Specific
- RFP Issues
Proposal Errors – Common Budget Issues

- Budget and justification do not match
- Statement on revised equipment threshold not included
- Budget input in Coeus and the budget in proposal package do not match
- Budget addition and input errors
- Personnel not budgeted correctly
- Required items not budgeted
- Unallowable items are budgeted but not adequately justified
OSP Solutions: Budget Issues

Budget Development page on OSP website

Budget Tool in Coeus
Proposal Errors – Common Agency Issues (NIH)

- Missing letters of participation for all Other Significant Contributors and Consultants
- Signed PHS398 or equivalent not provided for all subawards
- Page limits not adhered to
- Documents/Uploads do not contain NIH required information
- Incorrect start date
- Effort not included for PD/PI
- Biosketch does not conform to NIH requirements
- Information does not appear correctly on the SF424 forms
- Congressional district not listed correctly
- Missing required salary rate information
Proposal Errors – Common Agency Issues (NSF)

- Postdoctoral Research Mentoring Plan: missing, length issues, attached at incorrect location according to standard agency guidelines
- Data Management Plan: missing, length issues, attached at incorrect location
- Biographical sketches: don’t conform to NSF requirements
- Project Summary: missing sections on Intellectual Merit or Broader Impacts
- Project Description: missing description of results from Prior NSF support
- References Cited: use of et al instead of listing all authors in order
- Budget: doesn’t conform to NSF limit of 2 months on salary compensation from all NSF grants
- Current and Pending support doesn’t contain required or correct award information
- General Purpose equipment isn’t justified to support allowability
- Conference (and participant support expenses for NSF) not sufficiently requested/justified to support allowability
- Requested start date less than 6 months from submission date
Each RFP is unique, making it difficult to list all of the specific issues. It is important to read the RFP in light of the following:

- Does proposal conform to requirements of solicitation (missing elements, length issues, etc.)?
- Do subcontract proposals conform to solicitation requirements?

In many cases the RFP overrules agency-specific proposal guidelines, so the issues parallel the examples cited for agency-specific issues.
OSP Solutions: Agency & RFP Issues

Sponsor Information and Checklists on OSP Website

Roles and Responsibilities page on OSP website