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**Subject: Proposal Reviews and Archiving**

**Responsible Office: Proposal Development Office**

**1. POLICY**

This directive establishes policies and procedures for NASA Langley Research Center (LaRC) proposal reviews, including details regarding proposal review activities and expected outcomes, Key Decision Points (KDPs), and decision authorities.

This directive also establishes policies and procedures for archiving of proposals and related documents.

**2. APPLICABILITY**

- a. This directive is applicable to all proposals for which LaRC is the lead/submitting institution or a partner to the lead/submitting institution.
- b. This directive is applicable to all LaRC personnel, including contractors to the extent specified in their respective contracts.
- c. This directive is not applicable to contract actions originating from the Office of Procurement.
- d. This directive does not prescribe all phases of proposal development. It specifically does not include the writing of the proposal itself, internal operation of review teams, the actual submission of the proposal, or activities past the point of award (e.g., negotiations, execution).
- e. In this directive, all mandatory actions (i.e., requirements) are denoted by statements containing the term "shall." The terms "may" or "can" denote discretionary privilege or permission; "should" denotes a good practice and is recommended, but not required; "will" denotes expected outcome; and "are/is" denotes descriptive material.
- f. In this directive, all document citations are assumed to be the latest version unless otherwise noted.

**3. AUTHORITY**

- a. The National Aeronautics and Space Act, 51 U.S.C. § 20101 et seq.
- b. NASA Policy Directive (NPD) 1000.0, NASA Governance and Strategic Management Handbook
- c. NPD 1000.3, The NASA Organization
- d. NPD 1360.2, Initiation and Development of International Cooperation in Space and Aeronautics Programs
- e. NPD 7120.4, NASA Engineering and Program/Project Management Policy

#### 4. APPLICABLE DOCUMENTS

- a. NASA Procedural Requirements (NPR) 7120.5, NASA Space Flight Program and Project Management Requirements
- b. NPR 7120.8, NASA Research and Technology Program and Project Management Requirements
- c. Langley Management System (LMS)-CP-4751, Response to Request for Mission Assurance Support in Proposal or Contract Development
- d. NASA Guidebook for Proposers Responding to a NASA Notice of Funding Opportunity

#### 5. DEFINITIONS

- a. **Competitive Analysis.** A review of competitors' probable proposal strategies and solutions for the purpose of informing the LaRC win strategy (i.e., plan for how to **win** the opportunity). The proposal team develops strategies and solutions that are informed by an appreciation of competitors' perspectives. An action plan is developed and implemented based on findings. The findings are leveraged in the Bid/No-Bid Review.
- b. **Flight Hardware.** Hardware intended for operational use in space or airborne applications (as opposed to ground applications).
- c. **Independent Cost Assessment (ICA).** An evaluation, performed in collaboration with technical subject matter experts (SMEs) (e.g., Project Manager, Chief Engineer, technical Branch Management), of a project's cost estimate and project plan, including risks, descopes, schedule, workforce and procurements.
- d. **Independent Cost Estimate (ICE).** A cost estimate prepared by an independent party using an estimate methodology alternate to that used for the Program or project-owned estimate and often supported by historical analogous data. An ICE encompasses the entire project scope across all lifecycle phases, and should be informed by project technical and programmatic risk personnel.
- e. **Independent Schedule Assessment (ISA).** The process of determining schedule validity and performance at a given point in time.
- f. **Letter of Commitment (LOC).** A letter summarizing LaRC's plan and associated costs for accomplishing specific work in support of a Proposal. Such letters shall be signed by a LaRC official with authority to commit the Center and its resources.
- g. **Proposal.** A formal written offer, whether solicited or unsolicited, that details a proposed project and the management and resource plans required for execution. For purposes of this policy, Proposal is further defined as either a *LaRC Proposal* or a *Partnership Proposal*. A LaRC Proposal is a proposal developed and managed by LaRC. A Partnership Proposal is a proposal developed and managed by a non-LaRC institution that includes LaRC as a partner institute.
- h. **Proposal Specialist.** Responsible for administering proposal processes and related resources. Develops the proposal development schedule, proposal outline, and

compliance matrix. Provides configuration management. Assists the Proposal Manager in tracking status and ensuring that deadlines are met.

- i. Proposal Manager. Responsible for operational control over the proposal plan. Directs proposal team members. Implements proposal processes and planning. Manages proposal schedules, plans, deadlines, and progress monitoring. Obtains (or advises appropriate managers regarding the need for) proposal staffing and other resources. Oversees the coordination of all proposal activities.
- j. Proposal Team. Responsible for developing the proposal. A Proposal Team typically includes writers, SMEs, and reviewers but may include others such as proposal managers, proposal specialists, graphic designers, cost analysts, schedule analysts, and technical editors.
- k. Proposal Value. The total amount of funding requested for the entire project (over the lifecycle of the project), including the estimated value of any contributed resources. For Partnership Proposals, this value is limited to only the portions attributed to LaRC.
- l. Proposer. Responsible for proposal content – typically the LaRC Principal Investigator (PI) for a LaRC Proposal or a LaRC Co-Investigator for a Partnership Proposal.
- m. Space Flight. All missions, systems, and technologies launched into Earth orbit and beyond, including CubeSats and International Space Station payloads. This does not include balloons or suborbital payloads.

## **6. LaRC Proposal Reviews**

- a. Overview and General Guidance
  - (1) The LaRC proposal review process incorporates best practice proposal reviews and KDPs. Figure 1 illustrates the LaRC proposal reviews, high-level review topics, and expected outcomes. Additional reviews may be requested by the responsible Product Unit Directorate (PUD) depending on value and complexity of the proposal.

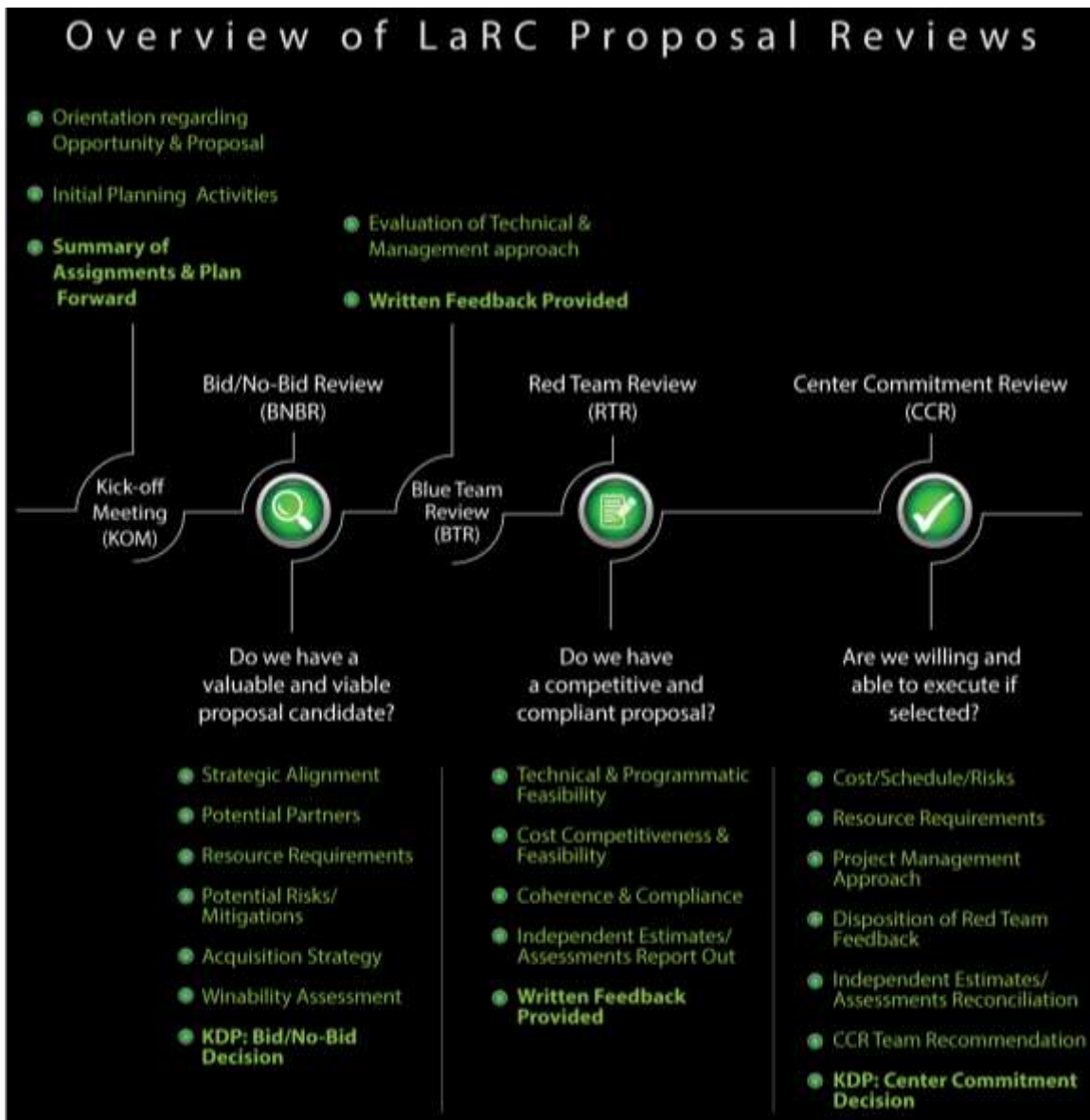


Figure 1. Overview of LaRC Proposal Reviews

- (2) To support the LaRC proposal review process, the scope of the LaRC commitment must be clearly defined in all proposals. For Partnership Proposals, LaRC reviews shall be limited to the LaRC portion of work associated with the proposal (e.g., LaRC work plan, resources, and budget).
- (3) The level of formality and required content for proposal reviews is at the discretion of the Decision Authority and is based upon the following:
  - a. Proposal category: LaRC Proposal or Partnership Proposal
  - b. Proposal activity: Space Flight Investigation, Instrument Development, or Research & Technology Investigation
  - c. Proposal value: Less than \$30M or \$30M+

- d. Other pertinent considerations such as international partnering, other NASA Center participation, and level of agency impact and visibility
- (4) Proposal teams are encouraged to utilize the LaRC Engineering Design Studio to mature proposal concepts.
- (5) Independent estimate or assessment requirements will be determined as follows:
  - a. *Proposal Value <\$5M.* An ICE, ICA, and/or ISA are not required but may be requested at the discretion of the responsible PUD.
  - b. *Proposal Value \$5M and greater, but less than \$25M.* An ICA, ISA, and/or ICE may be required. Manifest Review Meeting members will make a recommendation based on criteria considerations such as: space flight vs. airborne field campaigns, human rating requirement, agency impact and visibility, other NASA Center participation, international partnering, and complexity of team/content. The responsible PUD will make a decision on the requirement(s) and inform the proposal team at the Bid/No-Bid Review.
  - c. *Proposal Value \$25M and greater.* An ICE, ICA, and ISA are all required.
- b. **Kick-Off Meeting (KOM)**
  - (1) **Required for LaRC Proposals valued at \$30M+ but recommended for all LaRC proposals.** A formal KOM is typically conducted for LaRC Proposals valued at \$30M+. A less formal KOM is recommended for proposals valued at less than \$30M.
  - (2) **Purpose.** The purpose of the KOM is to orient participants to the solicitation and proposed project, formalize the proposal team, and conduct initial team building and project planning activities. The KOM should be led by the Proposal Manager.
  - (3) **Attendees.** KOM attendees are representatives from all organizations that will contribute to the proposal and should include, at a minimum, the Proposer, the Proposal Manager, a responsible PUD representative, and a Proposal Development Office (PDO) representative. Depending on the scope and content of the proposal, other participants may include the Science Team, representatives from the appropriate engineering or research organizations, and/or representatives from the appropriate Mission Support Offices.
  - (4) **Timeframe.** The KOM should be scheduled as soon as LaRC is aware of the forthcoming opportunity; early enough to allow for project planning activities and assessments required prior to the first KDP.
  - (5) **Outcome.** Summary of action items.
  - (6) **Briefing Package.** See Appendix A for an outline of the formal KOM briefing package content.

c. **KDP: Bid/No-Bid Review (BNBR)**

- a. **Required for all Proposals.** A formal BNBR briefing is typically conducted for LaRC Proposals valued at \$30M+. BNBR for proposals valued at less than \$30M are typically less formal and involve fewer participants. For example, a short meeting or email between the LaRC Proposer and Branch Head may be all that is required for BNBR of some LaRC proposals valued at less than \$30M such as those for technology development or data analysis (e.g., Research Opportunities in Space and Earth Science (ROSES) and NASA Innovative Advanced Concepts (NIAC)).
- b. **Purpose.** The purpose of the BNBR is to confirm the competitive viability, strategic alignment, and Center interest in developing a bid for the opportunity.
- c. **Panel Members.** BNBR panel members are determined by the Decision Authority. Proposal value and complexity are factors in consideration. At a minimum, panel members should include representatives from the responsible PUD and the directorates providing resources to support proposal development and/or project implementation.
- d. **Timeframe.** The BNBR should occur ~3 months prior to the proposal submission deadline – following initial planning activities and assessments.
- e. **Briefing Package.** See Appendix A for an outline of the formal BNBR briefing package content.
- f. **Outcome.** The Decision Authority shall render a written Bid/No-Bid Decision – within 1 week following BNBR.

d. **Blue Team Review (BTR)**

- (1) **Recommended for all LaRC Proposals.** No formal briefing is necessary.
- (2) **Purpose.** The purpose of the BTR is to evaluate the strengths and weaknesses of the proposal at ~65% completion to ensure that technical and management approach issues are resolved in a timely manner; potential IT security implications are identified; major disconnects, deficiencies, or inaccuracies are identified; and win themes, features and benefits, proof statements, and graphics/charts convey the appropriate messages.
- (3) **Team Members.** BTR members are typically peer scientists, managers, engineers, IT security personnel (if space flight or instrument development proposal), and project planning and control (PP&C) personnel recommended by the PI and/or center management.
- (4) **Timeframe.** The BTR should occur ~2 months prior to the proposal submission deadline; early enough to accommodate major revisions and allow leadership to provide a course correction, if necessary.
- (5) **Evaluation Agenda.**
  - a. Confirm completion of all trades, including technical, programmatic, teaming, and roles

- b. Locate and determine effectiveness of discriminators and win themes
  - c. Identify any gaps in content/information or available resources
  - d. Identify inconsistency between sections and/or narrative themes
  - e. Gauge whether your organization has the right qualifications and resources to win
  - f. Ensure story accuracy
  - g. Ensure responsiveness to stakeholder needs
  - h. Ensure technical/management approaches are compliant with requirement
  - i. Identify potential IT security implications.
- (6) **Outcome. BTR members shall provide written feedback of their evaluation to the Proposal Manager or Proposal Specialist.**
- e. **Red Team Review (RTR)**
- (1) **Required for all Proposals.** A RTR and a formal RTR briefing are typically conducted for LaRC Proposals valued at \$30M+. The RTR briefing is led by a Chairperson appointed by the responsible PUD. RTR feedback and briefing for proposals less than \$30M are typically less formal and involve fewer participants. For example, emails from the review team members to the LaRC Proposer with suggested edits and comments may be all that is involved for RTR of some LaRC proposals valued at less than \$30M such as those for technology development or data analysis (e.g., ROSES and NIAC).
  - (2) **Purpose.** The purpose of the RTR is to confirm completion of proposal estimates and any independent estimates and/or assessments; assess IT security considerations; and evaluate the strengths and weaknesses of the proposal document at ~85 to 90% completion for coherence, completeness, competitiveness, and consistency.
  - (3) **Team Members.** RTR members are typically senior scientists, managers, engineers, IT security personnel (if space flight or instrument development proposal), and PP&C personnel determined by the responsible PUD. Proposal value and complexity are factors in consideration.
  - (4) **Timeframe.** The RTR should occur ~1 month prior to the proposal submission deadline.
  - (5) **Outcome.**
    - a. RTR members shall provide written feedback of their evaluation to the Proposal Manager or Specialist.
      - i. Strengths and weaknesses shall be identified.
      - ii. Weaknesses shall be further categorized as follows:
        - 1. Critical: "Show-stopper" and, unless resolved, the proposal should not go forward.





- (6) **Briefing Package.** See Appendix A for an outline of the formal CCR briefing package content.

g. **Decision Authorities**

<b>LaRC Decision Authorities for Proposals</b>		
	<b>Proposal Value</b>	
<b>Key Decision</b>	<b>Less than \$30M</b>	<b>\$30M +</b>
<b>Center Commitment</b> (approval to submit proposal)	Responsible Product Unit (PU) Director or Designee	Center Director or Designee
<b>Bid/No-Bid</b> (approval to develop proposal)	Responsible PU Designee	PU Director

Figure 2. LaRC Decision Authorities for Proposals

**7. Archiving**

- a. All submitted proposals and related documents (e.g., solicitations, evaluations, briefing packages, etc.) shall be archived in the LaRC Proposal Repository (Prop-R).
- b. Submitted proposals shall be delivered to the PDO within five (5) business days following submission and any briefing packages shall be delivered within five (5) business days following briefing.
- c. The LaRC Prop-R will be used to:
  - (1) Capture LaRC’s “portfolio” of proposals.
  - (2) Compile lessons learned.
  - (3) Extract data for incorporation into the Proposal Metrics Database (PMD).
  - (4) Identify best practices and winning techniques.
- d. The Prop-R shall be located on a secure LaRC server with restricted access, limited to individuals in the PDO, and controlled by permissions.
- e. Release of proposals shall be restricted as follows:
  - (1) Requests from non-Federal Government sources for proposals shall be processed in accordance with the Freedom of Information Act (FOIA).

- (2) Requests from Federal Government sources for proposals shall be processed as follows:
  - a. *For LaRC Proposals selected for funding, the following information may be provided:*
    - i. Name of proposal;
    - ii. Proposer name and contact information;
    - iii. Proposal abstract or executive summary;
    - iv. Full text of the proposal – following coordination with the Proposer for redaction of any sensitive information
  - (3) *For all other Proposals, only the Proposer name and contact information shall be provided.*

## **8. Responsibilities**

- a. LaRC Proposers shall:
  - (1) Ensure that proposals align with the latest NASA Strategic Plan and LaRC priorities and supporting roles.
  - (2) Obtain approval from line management before pursuing a proposal opportunity.
  - (3) Notify the PDO of planned proposal pursuits and discuss the LaRC review process and any requests for tailoring.
  - (4) Utilize the PDO Cost Estimation Team for development and/or validation of all proposal estimates.
  - (5) Complete the Proposal Reviews described herein.
  - (6) Provide submitted proposals to the PDO for required archiving.
  - (7) Provide feedback to PDO on the solicitation and proposal process following proposal selections and outbriefs.
- b. The PP&C Capability Office shall conduct independent estimates and assessments as required or requested.
- c. The Proposal Development Office shall:
  - (1) Manage and lead the LaRC proposal development and review process.
  - (2) Coordinate with the Office of the Chief Information Officer (OCIO) to understand IT security considerations and obtain guidance regarding review criteria and exclusions.
  - (3) Review small technology development or data analysis proposals to identify IT security scope and potential implications using guidance from the OCIO. The PDO proposal development specialist will review the proposed concept and resources for IT-related procurements and tasks. Unless the proposal meets criteria for exclusion, it will be reviewed with the cognizant IT

professional of the responsible PUD (or OCIO if no PUD IT professional) for an initial assessment and determination regarding next steps.

- i. clarifying discussions with the submitting PI or Co-Investigator
  - ii. inclusion of proposed work into the responsible PUD's security plan
  - iii. modification of proposed work to include additional IT resources
  - iv. disapproval of procurements that violate NASA and LaRC IT security policies, etc.
- (4) Assist proposal teams with resource needs such as proposal management, cost estimation, graphics, technical editing, schedule development, etc.
  - (5) Assist proposal teams with proposal tools such as compliance matrices, checklists, and templates.
  - (6) Coordinate with the responsible PUD to discuss proposal reviews and any requests for tailoring.
  - (7) Notify Proposers of decisions regarding tailoring requests.
  - (8) Coordinate LaRC proposal reviews and document outcomes.
  - (9) Provide statusing of proposal development efforts to the responsible PUD.
  - (10) Manage and maintain the LaRC Prop-R.
  - (11) Manage and maintain a LaRC PMD to enable collection and reporting of pertinent LaRC proposal metrics for assessment of LaRC's potential, projected, and actual competed proposal funding profile.
  - (12) Develop and/or validate all proposal estimates.
- d. Organizational Unit Managers shall:
- (1) Support assignment of organization personnel, as applicable.
  - (2) Support the LaRC proposal process and related reviews, as applicable.
- e. The PUDs and Decision Authorities shall:
- (1) Support the LaRC Proposal Process and related reviews, as applicable.
  - (2) Render KDP decisions, as applicable.
  - (3) Coordinate with the PDO to discuss required and recommended LaRC proposal reviews as well as any requests for tailoring of formality or content.

## **9. MEASUREMENT/VERIFICATION**

LaRC's performance shall be reviewed and assessed annually using data from the LaRC PMD. Metrics shall include a yearly assessment of:

- a. LaRC Proposals
  - (1) Number submitted
  - (2) Number selected



## Appendix A: Formal Briefing Package Outlines

Kick-off Meeting (KOM) Briefing Package Outline	Bid/No-Bid Review (BNBR) Briefing Package Outline
Outcome: Summary of Actions/Assignments, Path Forward	Outcome: Bid/No-Bid Decision
<b>PDO / Project Jointly-Developed Charts</b>	<b>PDO-Developed Charts</b>
<ul style="list-style-type: none"> <li>• Introductions</li> <li>• Opening Remarks/Welcome and Agenda Review</li> <li>• Overview of Opportunity &amp; Project Strateg</li> </ul>	<ul style="list-style-type: none"> <li>• Overview of Opportunity</li> </ul>
<i>Evaluation &amp; Selection Criteria</i>	<i>Include major changes since last announcement</i>
<i>Strategy &amp; Offering</i>	<ul style="list-style-type: none"> <li>• Proposals being Developed (only applicable if more than 1)</li> </ul>
<i>Win Themes, SOWT, Ghosting</i>	<ul style="list-style-type: none"> <li>• Key Proposal Development Dates</li> </ul>
<i>Trade Studies</i>	<ul style="list-style-type: none"> <li>• BNBR Purpose per LAPD 7120.9</li> <li>• BNBR Outcome per LAPD 7120.9</li> </ul>
<i>Science Overview</i>	<ul style="list-style-type: none"> <li>• Presenter Agenda and Time</li> </ul>
<i>Technical Offering</i>	<b>Project-Developed Charts</b>
<i>Competitive Landscape</i>	<ul style="list-style-type: none"> <li>• Overview of Proposed Project (with Graphic)</li> </ul>
<i>Instrument Overview</i>	<ul style="list-style-type: none"> <li>• Science Objectives and Deliverables (problem and solution)</li> </ul>
<i>Project Schedule</i>	<ul style="list-style-type: none"> <li>• Instrument and Models</li> </ul>
<i>Deliverables</i>	<ul style="list-style-type: none"> <li>• Deployment Concept (if applicable)</li> </ul>
• Project Org Chart w/Team and Roles & Functions (including partners)	<ul style="list-style-type: none"> <li>• Why this particular proposal announcement?</li> </ul>
• Team Communication Plan	<ul style="list-style-type: none"> <li>• Stakeholder Value and Relevance to NASA</li> </ul>
• Cost Estimate Methodology and Fidelity	<ul style="list-style-type: none"> <li>• Alignment w/NASA Strategic Plan &amp; LaRC Roles (Why LaRC?)</li> </ul>
• Proposal Development Process	<ul style="list-style-type: none"> <li>• Top-level project schedule (planning and prep, campaigns, data analysis)</li> </ul>
- proposal development schedule w/proposal reviews and KD	<ul style="list-style-type: none"> <li>• Proposed Project Organization Chart</li> </ul>
- templates	<ul style="list-style-type: none"> <li>• LaRC Team and Roles, including partners</li> </ul>
- style guide	<ul style="list-style-type: none"> <li>• Summary of Trades/Remaining Trades</li> </ul>
- collaboration tools	<ul style="list-style-type: none"> <li>• ROM/Preliminary Cost Estimate to include Acquisition Strategy</li> </ul>
- document control	<ul style="list-style-type: none"> <li>• Workforce Summary (FTE and WYE) by WBS</li> </ul>
	<ul style="list-style-type: none"> <li>• Other Resources (e.g., aircraft, facilities, fabrication)</li> </ul>
	<ul style="list-style-type: none"> <li>• Top Risks and Mitigations</li> </ul>
	<ul style="list-style-type: none"> <li>• Winability Assessment, Competitive Landscape</li> </ul>
	<b>PDO-Developed Charts</b>
	<ul style="list-style-type: none"> <li>• Recommendation and Decision Documentation</li> </ul>

<b>RTR Briefing Package Outline</b> Outcome: Proposal Evaluation Feedback	<b>CCR Briefing Package Outline</b> Outcome: Panel Recommendation and Final Decision
<b>PDO-Developed Charts</b>	<b>PDO-Developed Charts</b>
• Overview of Opportunity	• Overview of Opportunity
• Overview of Proposed Project	• Key Proposal Development Dates
• Key Proposal Development Dates	• CCR Board Members
• RTR Purpose per LAPD 7120.9	• CCR Purpose
• RTR Outcome per LAPD 7120.9	• CCR Outcome (Panel recommendation and Final decision)
• RTR Feedback - Dispositioned as:	
<i>Major Strengths</i>	<b>Project-Developed Charts</b>
<i>Major Weaknesses</i>	• Goals & Objectives
<i>Minor Strengths</i>	• Overview of Proposed Project
<i>Minor Weaknesses</i>	• Deployment Concept w/Graphic
• Proposal Cost Estimate	• Measurements & Models
• ICE/ICA/ISA Report Out	• Importance to LaRC Business Strategy
• IT Security Report Out	• Response to Stakeholder Goals and Requirements
• Cost Risk Analysis	• Clarity and Maturing of Partnerships
	• Science Team
	• Project Org Chart
	• Project Schedule
	• Deviations from NASA/LaRC Requirements
	• Project Cost (includes any Center Contributions)
	• Cost by Partner
	• Reserve Strategy
	• Workforce Summary (FTE and WYE) by WBS
	• Descope Options
	• Project Risks and Mitigations
	• Disposition of Significant Red Team Feedback
	• Disposition of IT Security Feedback
	• Reconciliation of Project Cost and ICE/ICA
	• CMC Requested Assistance at Selection
	• Conclusion/Summary Chart
	<b>PDO-Developed Charts</b>
	• Recommendation and Decision Documentation