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Red Teaming: Scalable, Adaptable, and Versatile

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Red teaming is a process typically reserved for very large center-level proposals and site visits. However, this powerful process for writing more successful proposals is **sufficiently adaptable and versatile to be usefully adopted for many of the critical waypoints of planning, developing, and writing a more competitive proposal at any scale**. Too often, the first – and final – substantive outside review of proposals occurs when the funding agency makes the funding decision.

The red team review intervenes before the final submission, essentially playing the role of a review panel, but with the enormous **added benefit of helping correct weaknesses and amplifying strengths in a proposal prior to submission**. The alternative is to learn about strengths and weaknesses via reviews of a declined proposal and then attempting to use reviewers' comments to guide the writing of a more competitive resubmission. Often, the resubmission opportunity may be a year or more in the future, or worse yet, the particular program may not be funded in the future, at least on a recurring basis. **These are good reasons for adapting the red teaming process to smaller proposals**. After all, when you submit a proposal, you either get it right or you get it wrong. So every possible effort, **and every possible extra effort**, to get it right must be made. Modifying the red team process to smaller proposals, particularly team proposals, is one extra effort that can result in a big payback for time spent—a funded proposal.

As background, red teaming is an independent process for challenging the assumptions, identifying the weaknesses, and amplifying the strengths of a strategy, process, plan, proposal, operation, idea, concept, etc. Using an independent red team or group for this purpose has a long history in evaluating military strategies, industrial production, cybersecurity, corporate plans, homeland security, and large research initiatives put forward by universities, among many other uses. For example, many corporate and government agencies have been known to hire the most successful computer hackers (hopefully reformed) as “red team” or “white hat” consultants to test the integrity and security of their cybersystems and infrastructures in order to expose vulnerability in the network.

Red teaming tests a system in a way that identifies vulnerabilities, or, in the case of proposals, identifies weaknesses in the arguments put forward, the clarity of the arguments, the **adherence of the proposal to the solicitation guidelines**, etc. Keep in mind that successful proposals approach excellence through repeated revisions that eradicate ambiguities and bring focus, specificity, and clarity to the proposal and its significance to the mission of the funding agency. Narratives relying on excessive generalities and unsupported claims rather than specific and validating detail that advances a research vision will quickly lose reviewers' attention and confidence. The red teaming process can help assure this does not happen.

Red teaming offers enormous benefits in terms of improving the quality of proposals prior to submission. Moreover, especially for team proposals, a red teaming process can be very helpful in reviewing and understanding the program solicitation. After all, a nuanced,

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insightful, and accurate understanding of the solicitation is the first critical step in writing a successful proposal and ***serves as the foundation for the vision, goals, objectives, rationale, outputs, and outcomes*** put forward in the project narrative to convince program officers and reviewers of the significance of the research. ***In the case of team proposals, red teaming the solicitation will help ensure that all team members are singing the same song in the same key.***

Moreover, given the importance of an insightful reading of the solicitation to the ultimate success of a proposal, particularly given that ***small misinterpretations of the solicitation early on may well be amplified into missed opportunities*** during the writing of the research narrative, putting together a red team ***as a first step in the proposal writing process*** to analyze the solicitation together rather than separately, offers a competitive advantage. ***Solicitations, by analogy, place significant, exacting, and often nuanced initial conditions on the logical structure of your proposal***, e.g., what you propose, how you propose it, and the rationale and arguments you make for the significance of your research to the field or the mission-critical objectives of the funding agency.

Moreover, because solicitations are written documents used to convey an often complex set of a sponsor's vision, goals, objectives, and outcomes, they may leave room for significant ambiguity and misdirection to enter the process of accurately "decoding the solicitation." This ambiguity typically arises from several sources, often concurrently, including:

- lack of clarity in some portions of the solicitation itself (talk to the program officer);
- applicant's failure to thoroughly and accurately analyze the solicitation (read it; read it again);
- team members' failure to closely read the solicitation before advancing ideas (put them in in-school suspension);
- the PI or team members' failure to sufficiently understand the research culture and mission objectives of the specific agency in a way that gains a deeper and more nuanced insight into the solicitation (e.g., the capacity to "read between the lines" or "understand the subtext");
- the team's unfamiliarity with the agency's language used to describe its research vision, goals, and objectives at various scales, from the solicitation to the entire agency.

Furthermore, adapting and scaling the red teaming process to smaller proposals is an excellent way to improve the competitiveness of your proposal, and hence your success. The process itself is flexible enough to be used on smaller proposals. Recall that ***red teaming is based on challenging assumptions, identifying weakness, and amplifying strengths.***

Therefore, the goals of a red team for smaller proposals are the same as they are for larger proposals, but the team is smaller in size and the process less time consuming. However, some basic assumptions remain. The ability of the red team to offer an informed and intelligent ***"outsider's perspective"*** by reviewing the document from a fresh and/or different vantage point is the key factor. Proposal teams spend extensive time and effort developing ideas and drafting text that goes through multiple iterations. In the process, they often become so familiar with their own writing and their own descriptions of the research vision, rationale, goals, objectives, and outcomes that ***they can lose the ability to judge how others might***

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perceive what they have written, i.e., program officers and reviewers. This is where red teaming enters the picture.

Moreover, the red teaming process needs to be unflinchingly objective and conducted in the spirit of Tom Hank's comment to right-fielder Bitty Schram in the movie *A League of Their Own*: "**Are you crying? Are you crying?! There's no crying in baseball!**" The same admonition needs to apply to the red team review process when giving feedback to proposal authors. It is always better to hear frank, open, and honest criticism from **red team friends** who want you to be successfully funded rather than harsh or tepid comments from reviewers whose interest lies not in your success, but only in the integrity of the award process. Below are some of the key goals of a red team review process.

What are the goals of a red team? Conduct a comprehensive, exhaustive, and extremely fine-grained review and evaluation of the proposal narrative prior to submission, including, for example, to:

- find weaknesses, deficiencies, and ambiguities in the proposal text;
- identify inconsistencies and omissions between the proposal narrative and the requirements of the solicitation and review criteria;
- play the devil's advocate when necessary;
- challenge the vision, assumptions, and other statements in the text that are not well supported or clearly stated, or are poorly argued;
- make observations on the persuasiveness of the arguments put forward by the author(s) describing the uniqueness of their research and how compellingly they make the case for funding; and
- offer suggestions that both **correct identified deficiencies and better amplify identified strengths.**

When should the red team conduct the review?

The timing of the red team review is important in order to optimize the benefits of the process. **Consider four key factors when scheduling a red team review:**

1. the proposal narrative should be sufficiently complete and as close to final as possible to allow a thorough, substantive review;
2. the red team must have time to conduct a very finely-grained and exhaustive reading of the solicitation, review criteria, supporting documents, and the narrative, and then generate a detailed review document reflecting its recommendations;
3. the red team must have sufficient time to meet with the proposal team and present their recommendations; and
4. the authors must allow sufficient time to consider the recommendations of the red team and make those changes to the proposal with which they agree.

What is the role of red team members and what key factors should red team members address in their review?

- Clarity of the research vision
- Strength of the case made for the significance of the research

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- Clarity of the statement and substantive claims of research synergy in the proposal
- Responsiveness of the narrative to all items/requirements listed in the solicitation
- Accessibility of the writing to the intelligent reader outside the discipline
- Appropriateness of the specificity, detail, and examples supporting the research goals and objectives
- Appropriateness of the synthesis of ideas with performance and operational detail
- Strength of the case made for the research team's capacity to perform
- Strength of the evidence of institutional capacity in place to support the project
- Strength of the case made that the management team's expertise will ensure success
- Clarity, logic, and strength of proposal arguments
- Persuasiveness of the claim that the project clearly contributes to the interests and objectives of the funding agency
- Likelihood that the narrative will convince a review panel
- Persuasiveness of the claim that the proposed project clearly advances the research objectives required by the solicitation.

What are the key documents needed for a red team review?

The key documents needed are the solicitation and any documents referenced in the solicitation, a close-to-final draft of the proposal, and any supporting documents, prior proposals, and prior reviews that have informed the proposal process. Based on these documents, red team members may find it helpful to construct a scoring matrix or table based on the above key factors as well as other factors red team members feel are important based on the specific solicitation. The scoring matrix will help guide the red team members in the review process and will structure the process of recording the comments/scoring for each of the key items.