

Tips for Independent Review Teams

Richard L. Donnelly ■ Nicola A. Nelson

Independent review teams of government acquisition programs are here to stay. However, the interaction between the IRT and the government program acquisition staff has pulls and tugs of responsibilities and resources, and it has the potential to be unpleasant and unproductive.

An IRT is a team of individuals with various skills and applicable experience who are chosen to review a program with which they are not associated, at least in a day-to-day sense. Usually, their assignment is levied as an addition to their normal responsibilities, so they may feel stressed by additional duties and overwhelmed by documents to read, meetings to attend, and briefings and reports to create.

Often, the independent review is concurrent with major program reviews or milestones such as design reviews, test readiness reviews, or preparation for initial operations. Since this is also a very busy time for the contractor and government program acquisition office, personnel often greet the announcement of an IRT creation with groans about time wasted and resources unnecessarily spent.

How can this situation be turned into one that is positive and actually accomplishes something useful? We think IRT members and government program acquisition managers can benefit by keeping a few simple tips in mind.

The IRT's Point of View

Let's look at a fictional character, Jim, who has just been assigned to be an IRT member on the imaginary ASTER program as it approaches a critical design review. At the first team meeting, he learns that there are approximately 100 program documents in the program library, ranging from top-level system specifications to detailed hardware drawings and software design folders. He will be expected to travel to the contractor's location to attend a three-day meeting and participate in creating and attending out-briefs to the contractor, government program acquisition office, and the head of the organization that requested the IRT. The contractor, busily preparing for the design review, is adding and updating documents daily. And the acronym list is already six single-spaced pages. Jim has to deal with all this in addition to his job as principal investigator on the equally imaginary ZINNIA program.



The Acquisitions Manager's Point of View

But think of Jane, a fictional government program acquisition manager of the ASTER program. For three years, she has devoted her working life to making sure the program runs smoothly, accomplishes its goals, and meets budget and schedule requirements. Sure, there are a few technical risks in the program and possibly some code and hardware that may be delivered late, but the contractor is working hard to keep things on track, and Jane has competent technical support personnel overseeing the contractor's work. Jane doesn't think her program needs an IRT, and her acquisition staff is under considerable time, schedule, and financial pressure as this major review approaches. She cannot spare contractor or staff personnel to educate and attempt to respond to the IRT's questions and concerns.

Donnelly and Nelson work for a federally funded research and development center and have participated in independent reviews of large national security space programs for more than 20 years.

Tips for the IRT Team Member

How do we keep both parties from making this a bad situation? Let's look at Jim first. What tips do we have for him? First, he should work with his supervisor and the IRT leader to plan his travel, delegate or postpone as many other responsibilities as possible, and budget his overall time and energy. He should make sure he understands the IRT charter, scope, and goal. For example, will the IRT consider cost and schedule, or will it have purely a technical focus? Is the IRT output purely advice, or does it have go/no-go authority? Does Jim have a specific assignment for the IRT, such as reviewing software, or is he expected to find and focus on any potential issues or risks?

We suggest Jim approach his task with the expectation that the government acquisition office, along with the contractor, will provide strong management to the program. It is rare that an IRT is chartered to review government management processes or personnel. Even though he may feel that he might have managed the program differently, Jim should focus on fundamental review approaches, taking a fresh, systematic, and complementary look at the program and its components.

An example of a useful IRT finding is, "The program has good software design processes, but these processes were not followed in the operations module." An example of an unhelpful finding is, "The program manager should have noticed a long time ago that software design processes were not always being followed."

Too Much Material, Too Little Time

How does Jim cope with the huge amount of material he is expected to absorb? This depends somewhat on how familiar he is with the ASTER program and how broad the scope of his review is expected to be. One tip we have found useful is to find a theme or methodology and use it to provide context for documents and briefings. The most straightforward theme is design correctness and completeness. However, Jim's technical background most likely won't cover all the program design areas for which the IRT is responsible. One good theme is to review external interfaces by reading interface control or interface design documents, looking for completeness, correctness, consistency, and maturity — including resolution of items not yet specified — and signoff by the external organization. After all, it's always interesting to look at the signature page of interface documents.

Another method is to think chronologically and review the progress from design to development, integration, test, and transition into operations. What happens next, and how does it all tie together? Verification and test can be a theme in itself, ranging from finding requirements that can't be verified; to analyses that haven't been planned for, are incomplete or incorrect, or are behind schedule; to tests that need special equipment not budgeted for.

Tips for a Productive Independent Review

1. Delegate or postpone team members' regular assignments.
2. Ensure government program manager is aware of review team charter and roles.
3. Focus on fundamentals; take a system view of the program.
4. Use a theme to assess and evaluate data and presentations.
5. Ask questions; don't assume inconsistencies are just simple errors.
6. Strive to identify what's missing as much as what's presented.
7. Ask the program for top ten concerns.
8. Be attentive to all presentations.
9. Be curious and connect the dots.
10. Consider the program impact of possible government changes in direction.

Some reviewers may look for driving requirements—if they are being met and within what margin. Jim most likely knows the theme he is comfortable with—after all, many of us use one in our regular work—and this should help him maximize his understanding of the program documents he reads.

Another tip is to always ask questions if something seems incorrect in the document. Never assume it is a typo or that the paragraph is clear to everyone else. Finally, Jim should do what is the hardest task for an IRT, but potentially the most useful—determine what documents might be missing in the material he reviews.

Tips for the Acquisitions Manager

While Jim is reading documents, what advice can we give Jane? Our primary tip for Jane is not to consider an IRT as questioning her professional ability, but to use it as an additional resource available to her. The IRT can increase her management awareness in areas she may not have had time or staff to investigate. To this end, it is sometimes useful to provide the IRT with a summary of her top 10 worries, along with a separate list provided by the contractor. She should understand the IRT's members' backgrounds—perhaps they bring knowledge of a similar program or a technology that could be useful to the contractor. Jane should not try to hide or gloss over risky or unsuccessful areas within the program. A good IRT will find them anyway and may be suspicious that Jane and her staff are covering up other problem areas. Jane should reassure the contractor that she will do her best to serve as mediator between the contractor and the IRT. She can do this by meeting with the IRT or its leader, explaining how

Contractors wanting a successful program outcome will welcome an independent look at potential risks or issues.

her resources are being used and understanding what the IRT needs to do its job. It may be desirable to have the contractor chief engineer or program manager at that meeting because he or she may be aware of corporate resources available to provide background and program education to the IRT.

What Should Happen at the Review

This brings us to the actual review. Jim can continue to use his theme to aid him in following the briefings and discussions and to spot areas that the IRT may question. He should also watch the body language of the presenter and those at the front table. It is important that Jim listen to every presentation, even if it is not in his technical field or review area. He may pick up clues about risks or problems that were not in the documents he read. Jim should never leave the review early, no matter how long and dry the presentations are. The IRT represents a valued effort by the government and deserves Jim's full attention. Finally, Jim should not let a briefer or a manager in a hurry stop him from going back to clarify a point. He should take time to understand slides that trouble him, trusting his professional instincts and following his curiosity. This may mean that a side session with program personnel is in order, as long as Jim doesn't miss too much of the main presentation. Again, one of Jim's most important contributions is to ascertain what is not discussed or is missing from the presentations.

Jim should keep in mind that many program problems relate to government actions such as requirements changes, funding difficulties, or shortfalls in government furnished equipment. He should look for the problems and how the program addresses them if they exist.

Dialogue between the presenters and the IRT before and during the actual review is critical and should be encouraged by Jane. It is always worrisome when, instead of the contractor, the government program acquisition office answers questions at a contractor-led review. It is not the IRT's task to review how well Jane and her staff can answer the IRT's questions. If that were so, the IRT would conduct a review with her program office and there

would be no need to involve the contractor. Instead, the IRT should request that questions be answered by the contractor. This helps better assess the contractor's ability to successfully execute the program. In addition, the contractor will benefit from the viewpoint taken by the IRT and expressed in the members' written or verbal questions and comments. The rationale behind appointing an IRT is that the members are unbiased and have a different perspective from those who are responsible for day-to-day management and execution of the program. They also possess experience and lessons learned from other relevant programs.

Contractors wanting a successful program outcome will welcome an independent look at potential risks or issues. They will also welcome the opportunity to prove that questions can be easily answered and the potential risk has already been mitigated. And it may be that even if the question is easily answered, the thought process or document review that produced the question may show the program office and the contractor a new way of assessing their program. If dialogue is shut off, the reviewer may give up, even if the reviewer thinks the question is valid. Or the reviewer may try to find an answer to the question without involving the program acquisition office. The reviewer may assume the worst when there is actually no cause for concern. None of these results is the desired outcome of an IRT.

The Completed IRT Assessment

Once the review is over, the IRT presents its findings. In general, the IRT, of which Jim is a member, agrees with the known program successes and risks and congratulates the contractor and government acquisition staff on completing a successful CDR. The IRT also provides information on a hardware problem affecting another program using a similar design and suggests further risk mitigation tasks to be considered by the government and the contractor. Jane has the opportunity to set up a series of technical meetings between one of the IRT members and the contractor about a technology they are considering for a follow-on upgrade.

The IRT disbands. Everything gets back to normal, until a few months later, when Jane gets an e-mail requesting her presence on an IRT which will review the ZINNIA program during preparations for its test-readiness review. Jim is leading the ZINNIA efforts. Jim and Jane's roles are reversed, but they've learned from each other in the review of the ASTER program and will successfully continue the IRT cycle.

The authors welcome comments and questions and can be contacted at nickie.nelson@gmail.com and richard.l.donnely@aero.org.