The R&D Proposal:
Putting Your Best Ideas Forward and Avoiding the Pitfalls

Max N. Yoder

Electronics Division, Office of Naval Research, Arlington, VA 22217

Foreword

The motivation for this brochure derives from my under-developed clairvoyant ability. In thirty years of proposal reviewing for the Chief of Naval Research, I simply have not thoroughly mastered (to my satisfaction) the art of determining the intent of a poorly written proposal. Of the literally many hundreds of proposals evaluated, I have found them boring, exhilarating, perplexing, profound, disorganized, highly meritorious, and a few not worth the paper they were written upon. After reviewing research and development proposals from universities, small businesses, non-profit corporations, and major business corporations I have determined that I am reaching a point of diminishing returns – extra sensory perception continues to illude me. Accordingly, I have taken a different approach. With this brochure an attempt is made (in a lighter vein) to share my frustrations with the scientific community in the hope that my colleagues and I will receive a larger percentage of the better-written proposals that are more illustrative of the proposer's intent and therefore more competitive, more assured of winning an award, and yes, more enjoyable to review! (Now these are the laws of the Navy, unwritten and varied they be; he who is wise will observe them, or go down with his ship to the sea! – old Navy proverb.)

This brochure is not intended to serve as an authoritative guide to proposal writing as each proposal must conform to the guidelines specified by the solicitor – and these guidelines can not only be far from perfect but vary considerably among agencies and as a function of time! By avoiding common pitfalls, however, the astute writer can convey the intended message regardless of the rigid format prescribed by the solicitor. The guidelines presented herein seek to guide the writer to achieving the best proposal possible. This document presumes that the writer is technically competent in the field of the proposal; while little is stated here about technical competency, the (mis)direction of this competency is addressed.

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Foreword

Read The Directions or all else could fail!

The first thing in preparing a proposal is to read the guidelines issued by the solicitor – and then REREAD them. This is especially true when there can reasonably be expected to be numerous proposals submitted in response to a specific solicitation. If the reviewer becomes accustomed to looking in a certain section of the proposal for a certain detail and your proposal does not have such a detail in that place, it may be overlooked. Even worse, the proposal may be misdirected to the wrong reviewer. (See Mind the Numbers). Finally, the proposal could be disqualified altogether if a prescribed format is not followed, submission dates are missed, or the proposal is misaddressed.

Organize!

The basic well-organized proposal contains the following sections: (Cover letter, executive summary, objective, background, progress, technical approach, statement of work, facilities, summary, supporting information, budget, bibliography, and personnel). Chapter titles in this booklet relating to these basic proposal sections are printed in capital letters. It is utterly amazing how many proposals are received with the contents of these sections so jumbled and intermeshed that the reviewer becomes confused as to what is actually proposed.

If you really want to turn your reviewer off, omit a table of contents and page numbers! As ridiculous as this may seem, it happens all too often. This usually happens when a proposal is composed at the last minute and there simply was not enough time to sort this all out – or so the excuse usually goes. With modern day word processors, however, there really is no excuse for such an omission. What message is this to convey to the reviewer? Several things come to mind. Among them: (1) the proposer puts things off to the last minute, (2) he, she, or staff are too set in their ways to learn how to use a word processor, (3) the proposer is a totally disorganized person, or (4) the proposer would flunk the Marine Corps personnel evaluation question "gives attention to detail".

Don't Bore The Reviewer!

The second thing in organizing a proposal is to capture the reviewer's attention and to RETAIN the attention of the reviewer. Don't permit the reviewer to become discouraged by not being able to quickly locate particular details. (See section on Nice Features.) Even worse, packing the proposal with irrelevant details and references can not only bore the reviewer, but will lead to the conclusion that you are doing a complete "data dump" in the hope that something fits.

THE COVER PAGE

The cover page should contain the title of the proposal, and complete identification of the principal investigator, the organization, address, and telephone numbers of cognizant personnel – both technical and business. FAX numbers and e-mail addresses are also helpful, but are generally not required. (See Nice Features) If your organization qualifies for special considerations (e.g., minority-owned, female-owned, historically black college or university, Federal Demonstration Project participant), note this here. Also specify your category (e.g., non-profit, educational, small business, etc.). The date of submission as well as the dates of performance should be included. If the proposal contains proprietary information, this should be stated (preferably in large print) and those sections of the proposal containing such information should be identified. When submitting such proprietary information to a military agency, PLEASE, PLEASE do NOT stamp it CONFIDENTIAL or SECRET unless it meets the military definition of these words. If you do, it could be safely stored away in a SECRET vault and not get directed to the cognizant reviewer. Finally, the cover page should be signed by an official of your organization empowered to contractually commit your organization to the proposed work.

THE EXECUTIVE SUMMARY

An "Executive Summary" serves as a concise abstract and is usually a better alternative than an "Introduction". What reviewer, given the choice, would not prefer to read something designated for executives to that of reading an introduction for the masses? The Executive Summary is best executed in a single page with carefully chosen language stating WHAT it is that you expect to accomplish and WHY your approach has merit above all other approaches. If you are responding to a solicitation, you should not waste time here describing why the outcome of your research will be important; if the solicitor asked for research in the field, that answer is already known! In fact, the importance of the field can usually be omitted from the proposal altogether unless the guidelines called for it OR the proposal is unsolicited. This section should not exceed 300 words.

OBJECTIVE

To orient the reviewer, the next section of your proposal should be the "OBJECTIVE". Refrain from describing herein HOW you will go about your research – that comes later. Carefully and briefly state WHAT it is that you expect to accomplish. This section should not take more than 1/3 page.

BACKGROUND

A "Background" section is required in virtually any research proposal. It provides a means to acquaint your reviewer with WHAT it is that you plan to build upon. A quick way to bore the reviewer is to have an exhaustively long background section with hundreds of references. This is not the way to convince the reviewer that you are well-read and can still prepare a dissertation; to keep the reviewer's attention, along with the referenced material and its description, state which section of your proposal will build upon or seek to "debunk" each reference. In this manner, you have the opportunity to put across your best points twice without appearing redundant. If your proposal is not going to ACT upon that reference, don't describe it in excruciating detail and waste the reviewer's time. Instead, provide a very short summary of related previous work and place this listing in a separate annotated bibliography. In this manner the reviewer will know that you are not only aware of the existing literature BUT WISE enough to realize that it does not DIRECTLY bear on your proposal. If, however, a reference is critical to your thesis, then it is best to abstract the pertinent section of it in an appendix so as to be absolutely certain that the reviewer has access to it.

PROGRESS

If your proposal is a renewal proposal to continue along the same line of research for which you are currently under contract, then you need to provide the reviewer with a progress statement. As a very minimum, this section should provide a listing of all of the reports and publications generated under the current contract. It should also advise the reviewer regarding the importance of your progress and how it compares to alternative approaches. Of course, if you seek continued funding, you must describe what remains to be accomplished and what new research opportunities were revealed during the current contract.

Confusing the Reviewer

A sure way to befuddle the reviewer is to have a section entitled "Background and Technical Approach". This will invariably insure that the reviewer will have great difficulty in determining just what part it is of all the things you described that YOU are actually proposing to accomplish. Even more, this approach has a high probability of leaving the reviewer with the impression that you seek to "re-invent the wheel". More often than not, the reviewer perceives that you are slashing out in all directions in hopes that something may work. Approximately 1/3 of the proposals currently being received commit this fallacy.

ALWAYS separate out YOUR technical approach from the mass of background information and all other possible approaches to the problem.

PROPOSED TECHNICAL APPROACH

Approximately 40% of the weight of the proposal review will be given to the next section entitled "PROPOSED TECHNICAL APPROACH". It is in this section that most proposals are rejected. If you can not hold the reviewer's attention in this section, you may just as well drop all hope of winning the award. You must carefully build on the background and convince the reviewer of the soundness of your approach. Where your approach is risky, admit it – but provide an alternative approach in case your primary one fails. It is absolutely critical that you convince the reviewer that your approach is both sound and unique. Above all, don't convey the idea of "me-too-ism" or that you seek to "re-invent the wheel". This is the section of the proposal where YOU must shine! If previous work (cited in the BACKGROUND) was unsuccessful, this is the place to point out WHY it was unsuccessful and why your new and unique twist is likely to overcome the problems previously encountered. If you believe that previous work drew the wrong conclusions, state that in the BACKGROUND section – not here. If new approach B was recently found to successfully address a problem in given material system and you expect to apply approach B to your new material system, examine why it may go wrong and state the risks. If you don't, the reviewer may and you could be viewed as shallow. Also, propose alternatives in case the risks materialize.

THE STATEMENT OF WORK (SOW)

For those writers that have a tendency to intermix the background and the proposed approach, this section is critical to separate the two. Unfortunately, it is usually absent in the proposals that need it most! A statement of work (SOW) is not a reiteration of the Technical Approach. Rather, it is a concise "bulletized" listing of one or two sentence statements describing WHAT (tasks) you will be performing (e.g., you will design and fabricate a new surface analyzer and use it to examine the nucleation of semiconductor materials) and NOT the goals you expect to accomplish. You should also indicate the time frame of each task and whether it will run in parallel with other tasks or follow sequentially. An alternative approach to the bulletized statements is a horizontal bar graph using time as the abscissa.

FACILITIES

A winning proposal must inform the reviewer of the facilities available to conduct the work. As strange as it may seem, all-too-many proposals omit such information. If there are limitations to these facilities, you should note them and propose "work-arounds" or provide a rationale for requested support for additional equipment, facilities, or materials. In certain cases it may be prudent to front-end-load the proposal with equipment rather than salary support so that investigators are not working with "one hand tied behind their back". Most agencies seldom have the capability to support the front-end-equipment loading in addition to a full time salaries. (See BUDGET)

SUPPORTING INFORMATION

This section is sometimes required in the solicitation. In any case, it is helpful. A listing of other research projects currently funded by the principal or co-investigators and a listing of other proposals outstanding and to whom they were submitted will avoid problems later on. Also a brief description of your current or proposed interactions with related government agencies is a very effective means of getting good references for your work.

SUMMARY

A SUMMARY should be brief – 1/2 page is ideal. State again what you expect to accomplish, by what means, and why your approach is unique.

BUDGET

Any proposal must have a budget. Insure that non-expendable equipment and expendable equipment are listed separately. There should be a separate budget for each year plus a combined (total) budget. These budgets must be sufficiently detailed to permit a meaningful evaluation. Any matching funds by your organization or others should be listed. It is almost always a good idea to keep dollars/year a constant as federal budgets generally do NOT increase at the rate of salary inflation. To "smooth" your yearly budgets, seek to place equipment expenditures or other non-recurring expenses up front. This provides the added advantage of more efficient utilization of the investigator if he or she has adequate equipment. If the total equipment expenditures exceed 15% of the total budget, you should justify this – particularly if it is known that competitor X already has such equipment on board.

REFERENCES

If you place your references as footnotes rather than endnotes, this section is not required. Footnotes, of course, are much easier for the reviewer. In the case of multiple writers, the use of footnotes is also much less likely to result in misnumbered references. Top-of-the-line word processors all have automatic footnoting capability. (See also Nice Features) Only when allowable page limitations are set and you refer to the same references frequently is it prudent to use endnotes rather than footnotes.

BIBLIOGRAPHY

It is in this section that you place your indirect references if you wish to convince the reviewer that you are well-read in the field. Annotating these references is very helpful. This section is separate and distinct from the direct references. Unless the solicitation specifies otherwise, the vita of the principal investigators goes in PERSONNELL and not here.

PERSONNEL

If You Got It, Flaunt It!

As a minimum, this section should contain the names of and brief biographical information regarding the principal investigator and co-investigators. Young and relatively unknown (to the soliciting agency) investigators should give particular attention to this section. While competition for research dollars is keen and getting more so, the competition in those programs set aside for young investigators is particularly keen. Typically 20% of all such proposals received are scored as outstanding while there typically is funding for but 10% at most. It then becomes a task of determining who is first among equals. Frequently this is decided by the past history/experience/awards of the proposer. If there is a long series of achievements – even going back to high school – then it is plausible to perceive that such performance will be continued. If such achievements are not documented, however, the reviewer has no knowledge of them and may well defer to the competitor that has a well-documented record of achievement. If you are older and more experienced and planning on breaking into a new field, it is helpful for the reviewer to know whether or not you have previously changed fields and, if so, what contributions you made to the new field.

Your RELEVANT publications record is important; list it. If you have other publications, make a statement as to the number published in refereed journals and the number published elsewhere. List also your patents that are relevant. If a paper is an invited paper, specify it as such.

Nice Features

Your proposal has now been read and suddenly the reviewer (while reviewing the next proposal) recalls a point that you made about the new "what-cha-ma-call-it" instrumentation

to be integrated into the "dodat". Didn't proposal X also describe something similar to that? I'd best go back and review them both. Proposal X had a table of key words and where to find them, but your's did not. After searching your 100 pages for 3 minutes without success, the reviewer comes to the conclusion that you probably didn't mention the what-cha-ma-call-it after all and then forgets about what may be a significant decision-making point to your proposal. Key words and their page numbers can be compiled with modern word processors in less than a minute – avail yourself to this feature!

A good reviewer will look frequently at the references. If your reference page is buried in a difficult-to-find location it adds to the time required to review your proposal – particularly if you have 732 references! This added time increases the probability that the reviewer will be distracted by a proportionately larger number of telephone calls and similar impromptu administrative duties while trying to review your proposal. Make your proposal references easy to observe by placing them as footnotes rather than endnotes. Most modern word processors make this a very simple task.

Your preferred period of performance will not always coincide with agency funding availability. To avoid several iterations of paperwork between the proposer and the funding agency, a nice touch is to state the preferred period of performance as well as an acceptable period of performance for which the budget figures remain valid.

Depending upon the correlation of your submission dates and the agency funding cycle, telephone numbers can and do change and the ability to contact you can become diminished. Therefore, alternative forms of communication addresses can prove valuable. FAX and e-mail addresses are efficient approaches to avoid "telephone tag".

A Moving Evaluation Standard

What may have sufficed as a meritorious proposal 10 years ago no longer does. The primary reason for this is that the competition is getting MUCH stiffer – both technically and in their ability to write an outstanding proposal. Ten years ago it was indeed a rare occasion to receive a proposal whose background section was nearly as comprehensive as that of a doctoral dissertation. Now it is frequent. This can be either good or bad – depending on how you ORGANIZE that background section. (See Organize!)

For those pioneering a truly embryonic field where there is little precedent for guidance, the experienced reviewer will appreciate a proposal that may be a bit vague in its approach. After a few years of maturity in that field, however, the same type of proposal will no longer suffice. If you have not "focused in" your work by that time, you may be surprised to find that someone else's proposal was selected instead of your "renewal". Increasingly, established "giants" in a field are finding that they are losing awards simply because the competition is submitting better organized proposals. With the advent of the Freedom of Information Act, it behooves the reviewer to provide a fair review BASED ON THE PROPOSAL. As available research dollars become scarce, your competition is certain to do all that is in their power to make their proposal more acceptable than yours.

If you have no choice but to place references as endnotes, then annotated references are very helpful to the reviewer (e.g., a line or two describing the major point of the reference following the citation).

Unsolicited Proposals: Target Them Correctly

Know your odds! Be a good gambler. Don't "shotgun" your proposal – its almost always a waste of your time and that of the reviewer. I once received a proposal entitled "An Investigation of the Mobility of the Prairie Chicken on the Nebraska Plain". While it may have been an outstanding proposal, it was inappropriate for the electronics research program that I was funding! While most unsolicited proposals are not that far off the mark,

many may just as well be as they propose efforts in areas no longer of interest or greatly downsized.

There are ways to better-know your target. First, telephone and determine if your proposed work falls in the field of interest. A colleague of mine while working in our London office let it be known that he was interested in research in pain. He received several inquiries from French bread factories! While language difficulties may not be your problem, being off target will cause us both wasted time and energy just the same. Second, even though you know for certain that a specific agency is known for its funding of research in "thing-a-ma-jig" phenomena, and you have just had the most amazing insight into thing-a-ma-jig advances, it may well be that this agency no longer has (1) any interest in thing-a-ma-jigs or (2) any funds left for such research.

Generally those working in government agencies are familiar with the programs of colleagues in other agencies. Calling in advance can also provide you with leads as to who may be eager to receive your proposal.

Unintentional Insults

While working in the "Surface and Amphibious Programs" of the Office of Naval Research, I once received a proposal addressed to the Surface and Ambiguous Programs, Office of Navel Research. Even though my program may have seemed to some as ambiguous, I would have thought that the sender would have been consistent enough so that his subject matter addressed belly buttons; it did not. Everyone likes to see their name spelled and pronounced correctly and this goes for government agencies as well. Even though you may have an outstanding proposal, if you misspell the name of the agency receiving it, this does raise doubts as to your ability to properly research the subject matter.

Avoiding Fatal Flaws

The fatal flaw is typically included by a new-comer to a discipline, but all-to-often is committed by established researchers. As an example in heteroepitaxial semiconductor growth, after a diligent search a substrate is found that has an exact lattice match to the material being proposed as an overgrowth. The researcher is so delighted by the new and unique find that he/she overlooks the fact that at the growth temperature proposed for the overlayer, the new substrate sublimes!

Another typical example is to "plug the transistor into a vacuum tube socket". In the late 1950s, the U.S. Navy decided to introduce transistors into the fleet. The vehicle chosen was a radar repeater common to many ships and installed in various places on the ship. Confident that the new contractor would be successful, the old vacuum tube production lines were closed down and the new transistorized repeaters ordered. The new Navy missile frigates were being built and they were to receive the first of these new radar repeaters, but the repeaters were not available and did not become available for several more years. The frigates were eventually equipped with repeaters cannibalized from the mothballed fleet! The vacuum tube circuits of the old repeaters were high voltage, high impedance circuits while the transistors were better-suited to low voltage, low impedance circuits. When new technologies are being introduced it is imperative that they should not be considered ONLY in a replacement sense; rather they should be evaluated for new and useful properties of their own. A recent example is that of wide bandgap semiconductors. In many of these materials it is difficult to make both P and N type material. Yet many proposers have gone to great lengths to create a P-N junction in that material for use in a photodetector. I ask them why and they say because that is the way photodiodes are made. I ask them why they are made that way and after a bit of further investigation they come up with the correct answer: because the P-N junction is necessary to reduce the leakage (dark) current. While this is true of the conventional lower bandgap semiconductor, the newer high bandgap semiconductor

typically exhibits no measurable leakage current up to 300 Celsius! Why then complicate the device design by saddling the new material with complicating requirements appropriate only for the former materials? The same applies for inversion mode field effect transistors. Why back-dope the high bandgap channel and introduce un-needed ionized impurity scattering when the intrinsic "off" current is minuscule?

Recently a new approach to epitaxial growth of semiconductor crystals was pioneered. Its efficacy is manifested in a supersonic jet wherein heavy molecules are diluted and carried in a gas of much lighter and faster molecules. By adjusting the gas velocity, the kinetic energy can be precisely adjusted to within 1/10 eV of energy. The approach provides a new and controllable variable (kinetic energy) to facilitate the growth of semiconductor crystals. Unfortunately, the semantic terminology "epitaxy with a hammer/bang" has been assigned by some to this approach. To a reviewer versed in semiconductor crystal growth and ever-mindful that it is exceedingly easy to damage a crystal and create unwanted charge trapping sites therein, the vision of applying a hammer to such a crystal is abhorrent! Even worse, two such proposal writers appeared to be so enamored with the "catchy" new semantic terminology that they did not succeed in convincing several reviewers of the intrinsic power of their new approach. Choose your words to preclude subliminal mis-connotations!

Weak Links You Must Avoid

The weak link is typical of the multi-investigator proposal. Professor Z has a great deal of influence in the department and has an outstanding new idea that he wants funded. The university is preparing a new proposal responsive to a major new government initiative and Professor Z feels that this would be a good way to get some initial money for his pet project – even though it is largely inappropriate for the solicited objectives. The reasoning goes that the solicitor should not object as it only consumes 4% of the total budget. Such inappropriate work is always conspicuous and repellant to the reviewer. When this otherwise outstanding proposal is finally compared to another equally outstanding proposal that does not have the 4% superfluous loading, it is easy to determine which one will win the award.

The Patchwork Collage

The patchwork collage is also typical of a multi-investigator proposal. It was created on three or more basically different wordprocessors and never fully integrated into one document until final printing. The reviewer immediately begins to wonder if the proposed research will also be equally disjointed with each professor taking his money and running off to his private fiefdom never more to be seen until he runs out of money. The patchwork collage almost invariably contains an integrated list of references in the rear and this list will almost always contain numbering errors that do not correlate with the text. (See also Nice Features) The reviewer begins to wonder if the investigator responsible for integrating the proposal will also be responsible for integrating the research.

Keeping In The Forefront (Beating an old horse to death)

Most blacksmiths did not adjust well to the introduction of the automobile. It is human nature to do the comfortable thing and avoid change, but this can be costly. As a current example, in semiconductor technology, the decade of the 1980s saw a great deal of development of computer codes to determine the bandstructure of semiconductors. While they are not yet perfect, they appear to be adequate for most applications. As new wideband semiconductors are introduced, the theorists would like to apply these codes to determine the bandstructure of the new higher bandgap materials and heterojunctions therein. Unknown to many, the bandstructures have ALREADY been determined, but not published. The problem is somewhat akin to the situation in the country church where there was a petition before the congregation to purchase a new chandelier for the ladies' powder room. One fellow got up and said that there were three very good reasons why the church should

not purchase the chandelier: (1) most people could not even spell it, (2) if they did get it there would probably not be anyone qualified to play it, and (3) what they really needed was a new ceiling light in the ladies' powder room! What the new high bandgap semiconductor community really needs is theory directed toward understanding how nucleation occurs and models to predict the optimum precursors and conditions under which they should be used. I have told this to many theorists, but the message apparently falls on deaf ears. Proposals keep rolling in to address bandstructure alone! The reasons I'm given is that the codes exist for bandstructure but they do not exist for nucleation. This is really no excuse. Long range research money would be much better applied toward the development of new codes and models addressing the relevant issues of nucleation than to problems in bandstructure that may never be realized if the semiconductors in question can not be synthesized. Retraining is required, and this does not come easily, but for those who are young in spirit, it IS the place of action – and funding.

A Picture Is Worth A Thousand Words

If you are proposing research on a given topic, you should be an authority on that topic. If you are not, you should be well on your way to becoming one. In any case, you should have a considerably greater depth of knowledge about that topic than does your proposal reviewer. You MUST educate the reviewer! This should be done in the BACKGROUND and in the TECHNICAL APPROACH sections of the proposal. All too often the writer assumes that the reviewer knows everything about the subject that the writer does. Seldom is this true. All too many proposals are received sans graphs, pictures, charts, or other pictorial illustrations that would instantly convey to the reviewer just what the proposer had in mind. Without them, the reviewer frequently must guess. It is an extremely rare occasion that the winning proposal is devoid of graphical illustrations.

Mind The Numbers!

Nothing is as frustrating to the reviewer as a reference that does not correlate with the topic being discussed. (See also Nice Features) This is most frequently found in the "patchwork collage" multi-investigator proposal. Time spent here in going through your proposal and its references is time well-spent.

Other number problems are usually found in the BUDGET section and in the correlation of the totals in that section to those expressed on the cover page. Check the totals, then compare the totals.

Still other numbers that you should get correct are the numbers identifying the solicitation. In comprehensive solicitations which may involve several different scientific disciplines there are guidelines and examples given for proper completion of the proposal cover page. You as a scientist must check this page before the administrative group sends out the proposal. If your proposal gets to the wrong group for evaluation, the results can be devastating. This is particularly true when your title and contents could be interpreted as having some bearing on the misdirected field.

Notes For The Unknown

If yours is a small or relatively unknown organization or if you are a new investigator in the field, there is a very high probability that you will tend to propose/promise far more than you can possibly be expected to deliver within the cost and time allowed. The astute reviewer will ponder as to which aspect of your proposal the emphasis will be placed. How can the reviewer ascertain if your emphasis will coincide with theirs? Avoid over- proposing like the plague! Only a neophyte reviewer will fail to note this.

If you are small, your facilities will draw disproportionate attention from the reviewer. You MUST draft your PROPOSED TECHNICAL APPROACH very skillfully to refer to

your EXISTING facilities whenever possible. When these facilities do not yet exist, but are scheduled to become available before or during the proposed contract period, CLEARLY indicate this. If you will be using facilities of a subcontractor or consultant, clearly point this out. Also illustrate how this will not be a cumbersome arrangement (e.g., you have been working together harmoniously for several years). Government funding agencies will typically provide necessary equipment to educational and nonprofit organizations if this equipment is necessary to implement a novel new approach. After a very few such equipments have been installed at different facilities, it is very unlikely that such equipment will be supplied to late-comers to the field. (See also section of FACILITIES)

If you are new to the field or otherwise unknown to the reviewer, you must place an even greater effort in convincing the reviewer in the PROPOSED TECHNICAL APPROACH and PERSONNEL sections of the proposal that you have the requisite background and experience to accomplish the proposed objectives. Provide a few illustrative examples of your past work that directly impact the proposed work.

Conflicting Guidance

There will probably come a time when you encounter a solicitation with contradicting or seemingly contradicting guidance. In such a circumstance, don't assume anything. There is an old Navy saying that the word "assume" can be broken down into three phonetically different words and that these three words inevitably describe what happens when you assume too much. In many cases the technical reviewers will be prohibited from discussing the procurement, but do try to contact them on the basis of administrative problems. If you fail to reach them, contact the administrative office that issued the solicitation informing them of the problem. If that does not bring a result, send a FAX to the technical reviewer. If contradicting guidance does, in fact , exist, the technical reviewer will most certainly want it corrected in time to assure that responsive proposals are received. Be persistent!

Touchy Subjects

If your research involves experimentation with animals or human subjects, special considerations apply. Always contact the agency to whom you will be submitting your proposal to ascertain the latest guidance on this subject matter.

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