Congress of the United States

Washington, DC 20515

July 5, 2000

Mr. David M. Walker
Comptroller General
General Accounting Office
441 G Street, N.W., Room 7125
Washington, D.C. 20548

Dear Mr. Walker:

We are writing to request that GAO evaluate allegations of fraud raised by Dr. Nira Schwartz in her *qui tam* case (#CV96-3065) concerning critical test results related to the Department of Defense's (DOD) National Missile Defense (NMD) program.

In 1996, Dr. Nira Schwartz, a former employee of TRW, Inc., filed a lawsuit under the federal False Claims Act alleging that TRW had falsified information provided to DOD about the capabilities of computer algorithms designed to allow an anti-missile interceptor to discriminate between enemy warheads and decoys. Dr. Schwartz also alleged that detailed information about the characteristics of warheads and decoys used in flight tests were improperly provided to the interceptors prior to those tests, and that test flight data was wrongly manipulated in post-flight analysis.

Dr. Schwartz's allegations were reviewed by two panels, one at the Nichols Research Corporation of Huntsville, Alabama and the other (the Phase One Evaluation Team, or POET) comprised of individuals from the Massachusetts Institute of Technology's Lincoln Lab, the Lawrence Livermore National Laboratory and the Aerospace Corporation. The Department of Justice (DOJ) based its decision not to intervene in Dr. Schwartz's False Claims Act lawsuit at least in part on the findings of these panels. However, it has been alleged that the institutions represented on the panels, all of them apparently DOD contractors or subcontractors, may have had a conflict of interest with respect to the NMD program.

It has also been alleged that DOJ relied on other information which was not accurate. This included a statement attributed to Dr. Schwartz but denied by her as a misrepresentation, and an alleged conversation between DOD's Defense Criminal Investigation Service (DCIS) investigator Samuel W. Reed and Army investigators, but denied by Reed as having never happened.

DCIS conducted a three year investigation of Dr. Schwartz's allegations. Their final report, issued in August 1999, raised legitimate questions about NMD technologies and concluded that "numerous technical discrepancies ... warrant further review." It has been alleged that these discrepancies were not adequately examined.

As the principal House and Senate sponsors of the 1986 False Claims Act amendments, we have a longstanding and serious concern about fraud in federal government programs. To

date, the *qui tam* provisions of these amendments have resulted in cases that have returned over $3 billion to the federal Treasury. If the alleged fraud in Dr. Schwartz's case is proven, it could result in the largest qui tam case in history. In addition, such a fraud could have serious policy implications.

In our view, Dr. Schwartz and others have raised enough questions about the integrity of TRW's work on the NMD program to merit a GAO investigation. It is absolutely essential that the DOJ have unbiased information on which to make a judgement about intervention in Dr. Schwartz's False Claims Act lawsuit.

Specifically, we would like GAO to conduct an investigation that includes finding answers to the following questions:

1. Did TRW or any related party falsify or cover up test data, computer algorithm results, or any other relevant information?

2. Were the panels charged by DOD to evaluate Dr. Schwartz's allegations truly independent and unbiased?

3. Did the Department of Justice rely on accurate information when they decided not to intervene in this case?

Given the complex nature of this issue, we urge you to seek technical assistance from reputable national bodies such as the American Physical Society and the National Academy of Sciences. We also suggest that you draw on the resources of agencies like the Congressional Budget Office and the Congressional Research Service. Finally, given that this investigation involves serious allegations of fraud, we suggest that you consider involving GAO's Office of Special Investigations and the Office of the General Counsel.

We appreciate your attention to this matter, and we look forward to discussing it with you further.

Sincerely,

Howard L. Berman

HOWARD L. BERMAN
Member of Congress

Charles E. Grassley

CHARLES E. GRASSLEY
United States Senator

6TH DISTRICT, CALIFORNIA
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HOWARD L. BERMAN

June 21, 2001

Mr. David M. Walker
Comptroller General
General Accounting Office
441 G Street, N.W., Room 7125
Washington, D.C. 20548

Dear Mr. Walker:

I am writing in reference to the ongoing GAO audit regarding allegations of fraud in the National Missile Defense (NMD) program that ~~Senator Charles Grassley and I requested in a~~ letter dated July 5, 2000. I would like to take this opportunity to highlight several matters that I want to ensure are addressed in the final report, and clarify an issue that was raised in briefings provided to my staff.

First, I am extremely concerned about the implications of GAO's initial finding that both the contractors and Department of Defense (DOD) employees were fully aware of the poor sensor performance in Integrated Flight Test (IFT) 1-A. This raises very serious and troubling questions about the veracity of statements made by DOD to Congress and the public about the results of this test. For example, the Fiscal Year 1998 annual report to Congress from DOD's Director of Operational Test and Evaluation states "IFT-1A, executed in June 1997, and IFT-2, executed in January 1998 were deemed highly successful." Similarly, Ballistic Missile Defense Organization (BMDO) Fact Sheet 108-00-01 states that the Boeing sensor payload (IFT-1A) "flew successfully," and that "post flight processing of the sensor data showed excellent medium RV selection..." I want to ensure that the final report explicitly details the extent to which the government received accurate and complete information about IFT-1A, and in this context, critically evaluates the accuracy of these and any other DOD, BMDO, Army or contractor statements -- including the final 60-day report -- about IFT-1A made internally, to Congress, or to the American public. Furthermore, I would like to know whether the Army and BMDO officials that made the recommendation to the Department of Justice (DOJ) not to intervene in Dr. Nira Schwartz's False Claims Act lawsuit were aware of the poor sensor performance in IFT-1A and subsequent data processing.

Second, I hope the GAO can determine if DOJ had knowledge of and considered the following information in making its decision not to intervene in Dr. Schwartz's lawsuit: 1) the concerns raised by Defense Criminal Investigative Service (DCIS) Group Manager Robert Young in his March 25, 1998 letter to Mr. Keith Englander, including his conclusion that "TRW's discrimination technology cannot, or has ever, performed within the TRD requirements" and 2) DCIS special agent Samuel Reed's views, expressed in an April 10, 1998 letter to Mr. Keith Englander, that the Kalman Filter (KF) did not work and that "TRW was willing to

repeatedly falsify documents submitted to the United States on this [the KF] program." Also, was DOJ under the mistaken belief that Dr. Schwartz had requested the government not to intervene in her case?

Third, it is imperative that the final report fully addresses allegations that detailed information about potential targets was inappropriately (e.g. contrary to the Technical Requirements Documents) provided to the interceptor through the so-called Mission Data Load (MDL) prior to IFT-1A and if so, whether the provision of such information altered the outcome of the test. This issue is particularly important because it has implications for future tests of the NMD system. Dr. Schwartz recently filed a new False Claims Act lawsuit which alleges that this practice has occurred in tests subsequent to IFT-1A and is slated for use in upcoming Raytheon tests. While I do not want to expand the scope of your current effort, I would appreciate a briefing on any information you may have already gathered in the course of your current investigation regarding IFT-2, IFT-3 and later tests. In particular, I would like to know if there is any information to indicate that the Raytheon Exoatmoshperic Kill Vehicle (EKV) and sensor are superior to those fielded by Boeing/TRW. Was Raytheon selected to provide the EKV and sensor as a result of the Boeing sensor's poor performance in IFT-1A, or for some other reason?

Fourth, in our original request letter, we asked GAO to evaluate whether "the panels charged by DOD to evaluate Dr. Schwartz's allegations were truly independent and unbiased." My understanding is that GAO's preliminary finding is that the Ballistic Missile Defense Organization recognized that the Phase One Evaluation Team (POET) panel had financial ties to DOD and DOD contractors, but attempted to mitigate these ties. I want to ensure that the final report includes an explicit and complete discussion of the potential conflicts of interest, as well as a determination by the GAO as to whether the POET's conclusions were scientifically supportable and appropriately documented. In this regard, our July 5, 2000 letter suggested that GAO make every effort to utilize internal technical resources and also seek outside help as appropriate from organizations such as the IEEE, the American Physical Society and the National Academy of Sciences. Did the GAO seek input from these or other organizations?

Fifth, I have been very dismayed to learn that DOD has not been forthcoming with critical documents about the NMD program, including a report on discrimination technology. My staff has been told that this is the worst case of "stonewalling" in memory, and that DOD has repeatedly offered unconvincing excuses for refusing to comply with reasonable requests (e.g., the documents can't be released because they were used to formulate the NMD program budget). I would like the final report to detail GAO's difficulties in gaining access to personnel and relevant documents, the impact this has had on the investigation, and what steps, if any, can be taken to prevent such stonewalling in the future.

Sixth, our July 5, 2000 letter suggested that you consider involving GAO's Office of Special Investigations and the Office of the General Counsel in the audit. I would appreciate being informed about the role of these offices in the audit, if any, and would welcome an additional briefing on their participation. This may be particularly important given the legal dimension of the audit (e.g., the relevance of the False Claims Act).

Seventh, I want to clarify the scope of the False Claims Act. In the April 23 briefing of my staff, there was some discussion as to whether Dr. Nira Schwartz's *qui tam* lawsuit would still be relevant if it were in fact true that employees of the Department of Defense were aware of

the alleged fraud in the NMD program that she describes.

Section 3730(e)(4) of the False Claims Act denies courts jurisdiction over *qui tam* suits that are "based upon the public disclosure of allegations or transactions in a criminal, civil, or administrative hearing, in a congressional, administrative, or government accounting office report, hearing, audit, or investigation, or from the news media ." An exception is provided if the person bringing the action is an "original source" of the information, which requires that the person have direct and independent knowledge of the information on which the lawsuit is based, and that he or she has voluntarily provided that information to the government prior to filing suit. 31 U.S.C Section 3730(e)(4)(A).

The intent of Congress in drafting this section – which I certainly can speak to as the co-author with Senator Grassley of the 1986 legislation which revived the old Civil War-era False Claims Act – was to prevent "parasitic" lawsuits, i.e. lawsuits based solely on media reports or lawsuits that feed off the government's investigative, administrative, or deliberative processes. In other words, a *qui tam* plaintiff is expected to bring something unique and helpful to the table, not simply to profit from purely second-hand, publicly disseminated information.

But the mere fact that evidence of a false claim may have been "known" to the government was never intended to bar *qui tam* suits. For a wide range of reasons, from a lack of government resources to pursue evidence of wrongdoing by government contractors, to a willful desire on the part of a government agency to do business in the future with a wrongdoer, there have been all too many instances of governmental officials who have declined to act upon evidence of false claims.

In the 15 year history of the 1986 law, it has frequently been lawsuits filed by whistleblowers that have prodded the U.S. government into taking action in the face of evidence which may have been technically "known" to the government. This is precisely what we hoped for when Senator Grassley and I authored the legislation.

In this context, I would also like to draw attention to your preliminary finding that the "Department of Justice almost never proceeds without agency support." That may be true, but it is also important to point out that DOD rarely if ever supports government intervention in *qui tam* suits. In spite of this historic reluctance, hundreds of millions of dollars have been returned to the American taxpayers from defense contractor fraud.

I appreciate your continuing attention to this important matter, and I look forward to discussing the report's progress with you in the near future.

Sincerely,

Howard L. Berman

HOWARD L. BERMAN
Member of Congress

26TH DISTRICT, CALIFORNIA
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HOWARD L. BERMAN

July 16, 2001

Mr. David M. Walker
Comptroller General
General Accounting Office
441 G Street, N.W., Room 7125
Washington, D.C. 20548

Dear Mr. Walker:

Thank you and your staff for providing my staff with an extensive briefing on the progress of my requested GAO study. As you mentioned on the phone, it seems that much of the controversy surrounding the veracity of claims made by the contractor and others boils down to a confusion about the appropriate definition of "success." From what I understand, the GAO will most likely conclude that the objectives of IFT-1A were indeed met given the limited parameters used by the contractor and required by the government to define "success." These parameters seem to include the ability of the system to discriminate a warhead from a decoy, but they do not preclude the use of perfect *a priori* data about the decoys, the altering of discrimination templates (i.e. - changing the Mission Data Load after the test), the selective use of certain data (i.e. only using 18 of the 60 seconds of recorded signature data), and the reliance on a sensor that performs poorly (i.e. - 2/3 of data needed to be thrown out). I think it is extremely important that the GAO's final report spell out the parameters used by the contractor and the government to define "success."

It appears as if the allegations by Dr. Nira Schwartz, DCIS investigators, Ted Postal and others are all based on a different definition of "success"-- one that may be more appropriate for a later stage in the missile defense program. It appears as if they believe that "success" means "robust" discrimination performance without perfect *a priori* data about the decoys, with templates that are not adjusted after the experiment, and with 100% of the data factored into the algorithms -- even if there are legitimate reasons for using selective data. It is my understanding that the GAO did not find any evidence to support claims of "success" based on this potentially inappropriate definition of the word. In fact, it is my understanding that the GAO found explicit acknowledgments to the contrary in the 60 day report ("robustness would require thousands of tests") and verification of this in NRC, POET and other reports that found discrimination to be "fragile" because the "classifier depends very much on the training data." It is also my understanding that the GAO found that the templates for discrimination were altered after the test and only selective data was used in the algorithms – although such alterations and use of selective data may have been necessary for the experiment. It is important that these facts are explicitly recognized and that the GAO carefully explains why these facts are not important to the more appropriate definition of "success."

I believe that an explicit recognition of these two fundamentally different definitions of success and the related factual findings (including those that I have outlined above, assuming they are accurate characterizations) would go a long way toward clearing up the

Claims Act – was to prevent "parasitic" lawsuits, i.e. lawsuits based solely on media reports or lawsuits that feed off the government's investigative, administrative, or deliberative processes. In other words, a *qui tam* plaintiff is expected to bring something unique and helpful to the table, not simply to profit from purely second-hand, publicly disseminated information.

But the mere fact that evidence of a false claim may have been "known" to the government was never intended to bar *qui tam* suits. For a wide range of reasons, from a lack of government resources to pursue evidence of wrongdoing by government contractors, to a willful desire on the part of a government agency to do business in the future with a wrongdoer, there have been all too many instances of governmental officials who have declined to act upon evidence of false claims.

In the 15 year history of the 1986 law, it has frequently been lawsuits filed by whistleblowers that have prodded the U.S. government into taking action in the face of evidence which may have been technically "known" to the government. This is precisely what we hoped for when Senator Grassley and I authored the legislation.

In this context, I would also like to draw attention to your preliminary finding that the "Department of Justice almost never proceeds without agency support." That may be true, but it is also important to point out that DOD rarely if ever supports government intervention in *qui tam* suits. In spite of this great reluctance, hundreds of millions of dollars have been returned to the American taxpayers from defense contractor fraud.

Finally, I have enclosed a series of pointed questions that have been brought to my attention. Please feel free to use them in any way that may be useful to the audit.

I appreciate your continuing attention to this important matter, and I look forward to discussing the report's progress with you in the near future.

Sincerely,

HOWARD L. BERMAN
Member of Congress

Encl.

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HOWARD L. BERMAN

April 24, 2002

02-0645

Mr. David M. Walker
Comptroller General
General Accounting Office
441 G Street, N.W., Room 7125
Washington, D.C. 20548

Dear Mr. Walker:

Two months have passed since the GAO report your office prepared for me regarding the allegations of fraud about the early National Missile Defense Flight Tests was officially released. I have focused my public discussions about this report on the factual revelations and on the good work done by GAO in uncovering the truth. However, I wanted you to know that I did have some serious concerns about this report -- both in form and substance -- and that I was particularly displeased because many of these issues had been raised by me and my staff prior to the report's issuance, but not addressed.

1. **Structure:**

In general, I was disappointed by the way the report was structured. It gives the impression that there was no wrongdoing on the part of the contractors by flatly stating in the beginning that the contractors disclosed everything, while the facts indicate a more complex story. In fact, many of the crucial facts that shed light on TRW's claims were disclosed after Dr. Nira Schwartz had made her allegations about them public. These and other significant findings are buried in the Appendix, which we all know gets much less attention from the reader. I found it troubling that the GAO did not even mention its principal finding, the cooling problem with the sensor, in the letter. Furthermore, while the GAO was quick to highlight the questionable finding that the contractors disclosed everything, it failed to highlight one of the most significant findings of the study -- that no one had actually verified the contractor's claims. While I respect GAO's independence and have no intention to dictate to GAO how to write the report, I expect GAO to be objective, factual, and consistent. It was disappointing that GAO steadfastly refused to draw any conclusions or even comment on obvious contradictions in contractors' claims, but was quick to assert that contractors disclosed all facts.

2. Overall Balance:

There is also a significant issue with the overall balance of the report. While the GAO provided considerable space to accommodate the opinions and views of government officials and contractors, there was virtually no mention of the analysis and comments made by Dr. Schwartz. Much to my dismay, I learned that the GAO counsel directed the investigators to cut off all contacts with Dr. Schwartz. I understand GAO's apprehension about getting drawn into the pending litigation and wanting to draw a clear line between its actions and the Courts. But it seems that it would have made more sense to simply act independently rather than letting ongoing judicial actions influence GAO's action. Worse, by cutting off any dialogue with Dr. Schwartz, while at the same time continuing extensive discussions with Boeing, GAO has clearly created an appearance that it favored the views of the contractor. Furthermore, without contact with Dr. Schwartz the GAO lost an opportunity to make use of the in-depth technical analysis she performed on behalf of the Department of Justice over a period of several years. I am told she offered her services to GAO many times without success.

3. Connecting Obvious Dots:

My staff has also told me that the GAO was extremely reluctant to draw basic conclusions even when scientific analysis by GAO showed clearly that there were arbitrary and contradictory claims from the contractor. For example, there were a number of e-mails exchanged and long telephone conferences that took place between my staff and the GAO on the subject of two technical issues. One had to do with the performance of the TRW software; specifically the spike in importance of the medium balloon, which led the software to confuse the target warhead with a balloon decoy. The other concerned how much of the data collected toward the end of the mission was excised from the analysis - - an issue of particular importance because Dr. Schwartz and others had made specific allegations about the improper excision of data by the contractors in order to cast the results in a more favorable light. Even though it seemed clear that the contractors had made contradictory and unsubstantiated claims, the GAO staff stubbornly refused to characterize those findings as such. GAO evaded the issue by stating that it could not verify definitively the contractor's claims. GAO employed similar tactics when forced to deal with contractor claims such as "excellent" and "highly successful" performance in the NMD flight test. Faced with overwhelming evidence to the contrary, GAO chose to obfuscate the issue by making a ridiculous claim that such words were devoid of meaning.

4. Hearsay versus Fact:

The GAO did not draw a bright line between the disclosures that were made verbally and those that were documented and communicated formally through written reports. I am especially disappointed in GAO's inclusion of the so-called December 11, 1997 briefing in Table 1 of its report on par with the other written reports. It gives the impression that it is a documented fact, when it may not be so. Since the GAO could not document who attended

meetings such as the one in late August 1997 and the one in December 1997, they have unnecessarily opened up their report to criticism by relying on them so extensively. I was pleased that after my staff had written a letter objecting to the use of unsubstantiated verbal anecdotes on par with written documents, the GAO decided to delete prominent references to a so-called August 1997 meeting. However, I was then dismayed that it then introduced another meeting, which took place in December 1997. Unfortunately, this meeting was also poorly documented and should not have been included in the report. It is of particular concern because this meeting provides the major support for GAO's conclusions about the contractor's disclosures.

5. Lack of Healthy Skepticism

One of the challenges faced by the DOJ is its dependence on the very agencies against which allegations under the False Claims act are made. The agency officials have little incentive to admit that there was wrongdoing by the contractors because they themselves would appear ineffective. GAO did not seem to recognize this potential inherent conflict of interest, and seemed to go out of its way to buttress statements of program officials, even when they were clearly unsubstantiated (see point 8). I felt as if too much of the GAO report merely repeated the contractor's explanations for anomalies rather than scrutinizing the veracity of these claims. The fact that the contractor's explanations sometimes changed after questioning (i.e. – its reasons for removing the last 15 seconds of data changed, first it had to do with issues of "field of view," then it had to do with issues of "smearing," and then it was simply deemed irrelevant), the contractor's lack of documentation, and the difference between what the top military officials claimed about the programmatic goals and successes versus the hedged statements made to GAO staff during your investigation should have been cause for alarm and skepticism.

6. False Reporting Versus Disclosure:

GAO declined to investigate the issue of false reporting, choosing instead to determine if the contractor disclosed all the information. GAO didn't even include an assessment as to whether these disclosures were made in a timely manner despite the request by my staff for this analysis. Specifically, my staff had asked for a timeline that included a comparison of when Dr. Schwartz made her allegations and when the problems of the test were revealed. Although the original "terms of the work" sent to me by the GAO early in 2001 included the issue of false reporting (i.e. tampered data, excluded data, skewed analysis), they were narrowed down, over my objections, to the issues surrounding disclosures. GAO then used this new scope of work and the seemingly flimsy claims that crucial information was disclosed verbally (without documentation) to effectively exonerate the contractor.

7. Conflicts of Interest:

I am displeased with the way the GAO responded to my original question about whether the expert panels employed to review Dr. Schwartz's allegations were independent or unbiased. The GAO failed to shed any light whatsoever on this question. Instead, and over my objections, the GAO chose to include only boilerplate language about how requirements in the Federal Acquisition Regulations (FAR) were sufficient to ensure independence. The GAO chose to limit their answer to my question to an extremely narrow look at the technical definition of a "conflict of interest" under the FAR.

Despite my staff's request that GAO include, at the very least, the amount of funds MIT Lincoln Lab, LLNL, and the Aerospace Corporation each received from the BMDO, GAO chose not to include such information. When asked by my staff during a January 17, 2002 telephone conference whether GAO looked at the FFRDC's involved in the POET team, they were told that GAO lawyers advised them not to do so. I found this to be very troublesome since I had specifically requested GAO to investigate any potential conflicts of interest. I know that in the past GAO has been critical of the relationship between FFRDCs and their sponsoring agencies. I would like to know why with regard to this particular case there seems to be a complete reversal on this point.

Also, the GAO did not evaluate the allegations of bias against the Nichols Research Corporation even though they were made by an investigator from the Pentagon's own Inspector General's office. On the contrary, GAO appears to have given tremendous credibility to statements made by one or more Nichols officials. My staff was told by Barbara Haynes during a January 17, 2002 conference call that Nichols was very critical in its assessment of the TRW technology that was reported to the program office. The GAO did not explain why such critical evaluations differed from Nichols' public statements and I'd like to know why such critical assessments found little space in the report. I would appreciate if you would make available to my staff the documents that contain these assessments. In addition, I would also like GAO to make available any other relevant documents regarding verbal disclosures made to GAO by Nichols.

8. Significance of IFT-1A:

I was concerned by the fact that the GAO highlighted an opinion by program officials who felt an early flight test like the IFT-1A was not significant when it is in direct contradiction to public pronouncements from BMDO officials. For example, General Kadish in his testimony before the House Armed Services Committee on June 22, 2000 said this about the early flight tests: *"We threw a giant eye chart up there in space before each of the EKV's in order to evaluate their vision. We wanted to test more than just whether each could see the big 'E' on that chart, so we included more objects within the field of view so we could determine how refined the vision of each EKV was... the NMD team evaluated EKV performance on the basis of their ability to collect target data to validate our discrimination capability."* The GAO shouldn't perpetuate such a casual attitude toward a test that cost $100 million of the taxpayer's money.

9. Claim versus Requirement:

Also, I have a problem with the GAO making a big distinction between claims made about meeting "government requirements" versus claims made about meeting "Boeing requirements." If the purpose of the test was to evaluate the system's performance and Boeing, as the lead systems integrator, was hired to make such an evaluation, then claims made about satisfying either of these requirements are indeed extremely important and relevant. My staff was especially perplexed about GAO's initial resistance to use the word "Requirements," when that was exactly the word used in the test reports. GAO changed the word after this simple fact was pointed out by my staff. It appears GAO went to substantial lengths to make this point in Appendix V. I would appreciate your supplying me with information about the differences between so-called contractor and government requirements and specifically, how these requirements were applied to this flight test. Please provide references to the DOD regulations that guide such tasks.

More importantly, however, the GAO seems to have missed the main point illustrated here, which is that the contractor appears to have been making false claims. For example, GAO's own table shows that the contractor claimed it exceeded the requirement for the "acquisition range." That such a claim had no basis is evident from the footnote (b), which says that the test was not a suitable means for assessing whether the sensor can attain the specified acquisition range. When did the contractor know they could not determine the acquisition range? Did they notify the government? Did GAO raise such questions? I do not have a technical background, but it seems rather apparent that Appendix V shows that most of the crucial parameters for the sensor were not demonstrated. GAO could have clearly utilized its own table to point out the obvious discrepancies in the contractor's claims and the characterization of the test as excellent. For reasons not obvious to me it chose not to do that.

10. Gratuitous Inclusion:

I did not like the fact that the GAO included a statement by the contractor, which is utterly unbelievable without appropriately discrediting it first. The statement reads, "*A team member told us its use of Boeing- and TRW-provided data was appropriate because the former TRW employee had not alleged that the contractors tampered with the raw test data or used inappropriate reference data.*" (Page 30)

This statement by the POET team is obviously a poor attempt at making an excuse for the POET's failure to verify the authenticity of the data provided by the contractors. Inclusion of such a statement in the report hurts GAO's credibility because it knows firsthand of her allegations about tampering with data and analysis – it is the subject of its very report.

I have great respect for you, the GAO staff, and the important work of your organization. I bring my criticisms about this particular report to your attention because I know you are committed to excellence and will use these comments constructively. I believe that the concerns I have raised in this letter are serious enough to warrant your conducting an independent investigation to insure that the GAO's high standards and integrity have not been compromised. I will be happy to make

available a copy of all correspondence and emails between my staff and yours that was sent during the course of GAO investigation, if you feel it would be helpful in this process. Please feel free to contact me, or my staff, if you have any questions about my comments and I look forward to your response.

Finally, I must convey to you my deep concerns about the lack of transparency and accountability with the operation of agencies such as the MDA. I am eagerly waiting to hear from you about your pending investigation of the arbitrary manner in which the contractor for the exoatmospheric kill vehicle may have been chosen.

Sincerely,

HOWARD L. BERMAN
Member of Congress

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March 10, 2003

Mr. David M. Walker
Comptroller General
General Accounting Office
441 G Street, N.W., Room 7125
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Dear Mr. Walker:

Thank you for coming to my office last week to update me on the progress you have made in responding to my April 24, 2002 letter concerning the Februrary 2002 GAO report about Missile Defense, and the related Inspector General investigation of potential problems with that report.

I appreciated your taking responsibility for the "expectations gap" that existed between the questions I thought were going to be addressed in the report and the questions that were ultimately addressed in the report. Although I was disappointed that the change in questions was never properly communicated to me or my staff, at least now I have a better understanding as to why the report was focused more on the issues of disclosure of information than on the original issues of whether the contractors tampered with, excluded or skewed relevant data. Also, I want to let you know that while I now understand the reasoning behind changing my questions, this reasoning mystifies me.

To me, allowing the existence of a lawsuit to limit the scope of Congress' investigative arm, the GAO, is like allowing "the tail to wag the dog." Surely Congressional oversight trumps automatic deferral, even if it means the inquiry should be sensitive to the litigation. I do not think that the potential impact on her lawsuit should have been determinative as to whether the GAO evaluated these questions. The questions have significant public policy implications that transcend the Whistleblower's lawsuit and finding the answers should not be hostage to the glacial speed with which these type of lawsuits generally get resolved.

Because of the length and detail of my April 24, 2002 letter and our time limitations during our recent meeting we did not get a chance to delve into the very specific concerns that I raised in my letter. Most of these concerns are not related to the change in study objectives mentioned above; they stand on their own even given the more narrow focus of the study adopted by the GAO. I was pleased by your offer to provide some bullet-point responses to these questions and very

pleased to learn from Chief Quality Officer Mike Gryszkowiec that internally you had already prepared a point-by-point response to my letter. I would very much like to see both of these documents as soon as possible. Hopefully these will address the concerns I raised in my April 24, 2002 letter.

During our meeting we spoke briefly about my specific concern that the GAO relied on a poorly documented verbal meeting to reach its conclusion that the contractors "disclosed the key results and limitations" of the IFT1A. You assured me that the meeting in question -- the meeting that reportedly took place on a date uncertain in August 1997 -- was indeed corroborated by several sources. Naturally, I was pleased to learn this because this meeting is very important in determining whether the contractor truly disclosed the limitations of the IFT1A. Specifically, it appears to be the only communication where the contractor made key admissions about discrimination prior to Dr. Schwartz raising those issues in her amended lawsuit and prior to the DCIS forcing the issues to the surface through its investigation. These admissions entailed unexplained changes in analysis results between the 45-day and the 60-day reports, which included the changing of the Mission Data Load, the moving of "data ellipses," and the removal of the last ten seconds of sensor data. As the GAO report confirms, these admissions weren't revealed in writing until April 1, 1998 (amended 60 day report).

My staff asked you why this verbal meeting was given much more weight and credibility than other written reports which seemed to indicate that the contractor had not actually disclosed the results and limitations mentioned above. I am attaching for your information two documents provided to Dr. Schwartz by the DOD IG's office. One dated March 25, 1998 is a letter to Mr. Keith Englander from Mr. Robert Young. On page 2, item 7, it appears that it was not until December, 1997 that TRW made any kind of disclosure about the discrepancies, not in late August as claimed in your report. I would also draw your attention to another letter dated September 24, 1998 from Mr. Samuel Reed, special agent for the Defense Criminal Investigative Service, to Mr. Englander. In this letter Mr. Reed refers to a NRC report dated March 5, 1998 which states that among other things in item #27 NRC makes it clear that they did not have the information needed to explain the discrepancies.

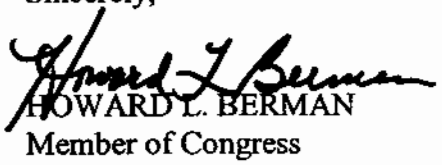
My staff further asked you why these NRC reports were not even mentioned in the GAO report. You indicated to him that this was a level of detail more appropriately addressed by the staff who actually worked on the report. I certainly understand your response, but I would like to make sure that his question is addressed in either your bullets or the point-by-point response. My staff was told of these NRC documents during a conference call on January 17, 2002 with your staff. At that time Barbara Haynes referred to these reports and told him that NRC was very critical of the contractors and "did not pull any punches when they wrote their internal reports."

It would go a long way toward clearing up this issue up if you provided my staff with copies of these NRC documents. Perhaps this way, we would understand why they weren't important enough to compete with, or at least temper, the contractor's claim that it had disclosed everything in a verbal briefing.

Finally, although we touched on the conflict of interest concerns raised in my April 2002 letter, we didn't get to properly discuss the full issue. During the meeting you told my staff that the issues surrounding the conflict of interest inherent in the FFRDC's weren't "ignored" but rather simply not addressed, even though I had specifically and on multiple occasions asked that it be so. Why would it have been problematic for the GAO report to include the total dollars spent on Lincoln Labs or to mention other potential conflicts of interest? Also, given that an MIT reviewer has recently recommended a full investigation of MIT's review of Dr. Schwartz's allegations and given that your recent GAO study about the real reasons for downselecting showed that these contractors have a record of being less than forthcoming, do you still think it made sense not to address potential conflicts of interest?

Again, thank you for your recent update and thank you for your continuing effort to resolve these important issues. I look forward to receiving your bullet-point response, the point-by-point analysis of my letter, and the NRC documents in the near future.

Sincerely,



HOWARD L. BERMAN
Member of Congress

DEPARTMENT OF DEFENSE INSPECTOR GENERAL
DEFENSE CRIMINAL INVESTIGATIVE SERVICE
WESTERN FIELD OFFICE
25722 PLAZA ST., SUITE 130
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March 25, 1998

Mr. Keith Englander,

This correspondence has been generated, per your conversations with Special Agent (SA) Sam Reed during March 1998, which highlight additional concerns about the misrepresentations/ noncompliance with the Technical Reqirement Document (TRD) by TRW regarding their discrimination technology. The following is provided for your information:

1. In September 1995, Dr. Schwartz was hired by TRW as a Senior Staff Engineer. Her duties were to review various technologies within the Strategic & Launch Systems Technology Department and reported directly to the department manager Robert Hughes. One of the areas she reviewed was the discrimination technology of the Exoatmospheric Kill Vehicle (EKV) program which was using the Kalman Filter(KF). Dr. Schwartz tested the KF and disclosed to her supervisors that it had severe defects and their discrimination technology could not meet the contract requirements. Dr. Schwartz was directed to and came up with a discrimination technology that met contract requirements but it was not used by TRW for whatever the reason.

2. In April 1996, TRW provided a classified document to the government called the (U) Kalman Filter Performance. In this report TRW states, on page 11, that (U) "KF features add to current set of GBI features, resulting in a more robust discrimination algorithm construct," and the (U) "Extended KI (EKF) is used to handle nonlinear model cases." It also states on page 13 of this report that a (U)"Tuned EKF is tested with 1000 EFT objects in the BEST simulation to compute a probability of correct target identification". (U)"Results demonstrate that the EKF can extract features of interest in a timely manner to allow for early target identification".

3. During the latter part of September 1996, the KF was removed from TRW's discrimination technology. TRW stated the KF was only an enhancement to their discrimination and they removed it because it took up to much processing space, and they could meet contract requirements without it. Prior to the announcement, on the removal the KF, TRW had provided no previous information on any problems with the KF/EKF to Rockwell or the government.

4. During the week of March 10, 1997, Dr. Schwartz, DOJ Attorney Dennis Egan, and myself made a trip to the GBI office in Huntsville, Alabama. The purpose of this trip was to get testing done on TRW's Discrimination technology, to include testing on the KF. Prior to the trip at least two conference calls were held with GBI representatives to discuss possible testing on both TRW's baseline discrimination technology and the KF. It was conveyed by GBI representatives that there was no reason to test the KF as it had been removed by TRW and was no longer a part of the discrimination process. It was during this March meeting that we were first informed by NRC that they had already tested the KF and their results paralleled those of Dr. Schwartz. It was apparent from this information that the GBI representatives were not aware of the NRC testing of the KF, or their test results. The NRC test report on the KF was published on November 14, 1996.

5. While in Huntsville in December 1997, during the NRC presentation, it was stated several times by NRC representatives that the P-Select could only be equal to or less than the Probability of Identification (PID). In the Sensor Flight Test Final (60 Day Report), page 127 first paragraph, the PID is much less than the P-Select test results and requirements provided on page 11 of the Nichols Research Corporation (NRC) test report dated December 2, 1997. This is a clear indication that the Technical Requirement Document (TRD) specifications for the Single Shot Probability to Kill (SSPK) can never be met as the PID starts with a percentage that is equal to but not greater than the SSPK. This means if we start with a PID percentage that is only equal to the SSPK requirement, and the Mission Data Load (MDL) in the Kill Vehicle (KV) deviates in any way from what the sensor observes, which is expected in any real life or test flight situation, then the TRW discrimination technology will completely collapse.

We were also informed during this meeting, by GBI representatives, that our intelligence community provides us with updated information on the capabilities of our adversaries every two to six months. This data is used in developing the pre-flight dynamics which is part of the MDL. The primary inputs to building the MDL are the files containing predicted signatures for the targets. Additionally, if there is no prior knowledge of the object dynamics and other parameters/variables, then the discrimination capabilities would be reduced drastically. The General Concept of TRWs discrimination technology is wrong.

6. Prior to the IFT-1A flight test in June 1997, TRW was provided with the specific pre-flight dynamics that identified the set of features for the selected decoys and Reentry Vehicle (RV) being used for the flight test scenario. This data was part of the MDL (PID) that TRW loaded in their discrimination software programs before the flight. During the flight test if there is any deviation from the MDL, even if the deviation is within the TRD requirements, the Probability of Selecting (P-Select) the RV is degraded drastically because the features extracted during the flight do not match the MDL. The method used by TRW to select the RV is not done in a statistical manner but depends primarily on what is loaded in the MDL. The TRD lists multiple scenarios for each of our adversaries with numerous possibilities per scenario. To incorporate the probability of selecting the correct MDL for an adversary with only ten (10) different scenarios would reduce the SSPK by at least a factor of ten times smaller than defined in the TRD.

7. After the IFT-1A flight test TRW produced a 45 and 60 day status report both of which contained charts/grafts that were wrong regarding the Probability of Assigned Target (PAT). TRW has admitted that these charts/grafts were wrong and gave a presentation, in December 1997, that allegedly corrected the PAT. TRW stated during this presentation they had used the wrong Mission Data Load (MDL), MDL#4, vise MDL#5, which gave them the wrong PAT results. TRW provided no hand-outs nor did they validate the contents of their presentation. It was also during this TRW presentation that a senior GBI representative requested that TRW produce an errata sheet to correct their mistakes. To our knowledge there has been no errata sheet, as requested by GBI, produced by TRW to correct the two status reports.

8. There are other areas of the TRW discrimination technology that should be of serious concern. These areas deal with the "Gap Filling Algorithm" (GFA) for the signatures, and the "Ranking" of the RV. It was stated by both NRC and GBI representatives, during our December 1997 trip to Huntsville, that they do not understand how TRW's GFA for the signatures works, and that TRW has never explained or validated this process.

9. TRW's GFA attempts to fill-in missing data points in the EKV sensor signal output. They accomplish this by using values from the OPTISIG library. However, the intended program inadvertently had zero values for the data points. This resulted in the "anomalistic" behavior of the signal outputs analyzed by NRC during their testing of TRW's discrimination technology, wherein every signature had an unexplained dip. Additionally, TRW artificially chopped the amplitude of the sensor signal output which results in arbitrarily forcing the signal mean to a predetermined value. This resulted from the sensor output noise level being to high for the baseline discrimination algorithm to process. It has been shown by TRW that the GFA works by manipulating data which gives you an artificial result. TRW showed this in their correction to the 60 Day Status Report by changing the location of the center of the ellipses, changing the shape of the ellipses, and by changing two of the features. This allowed an artificia improvement in the Probability of Assigned Target (PAT). The PAT should be solely dependent on the actual measurement of data from the signature(s), versus creating a signature(s) with gaps of missing dat and filling in this data artificially to increase the value of the calculated PAT. This GFA process is done outside the scope of statistical scientific methods.

10. TRW performs Ranking by using a Bayesian Classifier in order to determine the degree tha a detected object belongs to a specific group (the RV in particular). The Mahalanobis distance , is calculated for each detected object as a relative measure of the likelihood of belonging to the RV group. These calculations lack the need for scaling/normalization of values, and violate the symmetry laws of Physics and the laws of Probability.

In conclusion, it is our belief, based on the information provided herein, that TRW's discrimination technology cannot, or has ever, performed within the TRD requirements. This only leads us to believe that the PAT percentage figure reported in both the 45 and 60 day reports, for the IFT1-A flight test, were invalid and well below the contract requirements.

We are requesting that the Ballistic Missile Defense Organization undertake additional testing regarding TRW's discrimination technology. If approved, we suggest that a government controlled facility be employed to do the testing. We feel the additional testing will provide unbiased results and can only strengthen the EKV program.

I want to thank you for your interest and consideration in this matter. I look forward to hearing from you in the near future. If you have any questions please contact SA Reed, or myself, at the number listed below.

(714) 643-4191

Thank You,

Robert A. Young
Group Manager

DEPARTMENT OF DEFENSE INSPECTOR GENERAL
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September 24, 1998

Mr. Keith Englander,

In our last correspondence dated September 1, 1998, we provided what we feel is absolute irrefutable scientific proof that TRW's discrimination technology does not, can not, and will not work, and falls far-short of meeting the TRD/contract requirements. We only used the data reported by TRW, which primarily focuses on the IFT-1A 45-day, 60-day, Addendum 1, and July 21/22, 1998, reports. We also provided you with enlarged copies of the TRW ellipses, which is the final product of TRW's Baseline Algorithm (BLA) for discrimination. The means to validate our calculations was provided both in hardcopy an on diskette and we invited the POET Team to do their own calculations to verify our report. Our report showed the use of one set of two features and provided two Monte Carlo Sampling Results tables which disclosed significantly lower results than reported by TRW.

I would like to draw your attention to our August 6, 1998 report, specifically attachment (2) of that report, which is a document generated by the Nichols Research Corporation (NRC), dated March 5, 1998. That NRC document highlights numerous areas of concern by NRC regarding the BNA Sensor Flight Test Final (60-Day) Report. On page four of the NRC document under "Summary" #25 it states-"the conclusion they are trying to make is not supported by the data shown. **This point cannot in fact be demonstrated by a single mission, one realization out of potentially thousands of realizations. Putting it a different way, this might simply be a lucky draw out of the realm of statistical possibilities.** Examination of many, many missions and a wide variety of stressing conditions using either real or simulated flight test data can only support the statement made here" (see page 1 fourth bullet of this report). Also, please review #27 of the NRC report, which states "There were significant differences between the 45 and 60 day reports results. What happened in between? Some discussion of this would have been appropriate. Did they use different models? Different smoothing? Different filtering? Different data? Different sensor characterizations"? NRC appears to be somewhat puzzled or confused on how TRW came up with the results they reported in their 60-day report.

Enclosure (1) to this correspondence is a fifteen-page report with four attachments. The report shows the use of two sets of two features (four features) with the same significantly lower results than reported by TRW. Again, everything is provided in hardcopy and on diskette so the POET Team can validate every step of the process. We invite the POET Team to calculate the probability of correct discrimination using the IFT-1A flight data and TRW's mathematical equations for computing Likelihood, and compare the results to the PAT figures published by TRW in their July 21/22, 1998, report (see page 184 of that report).

compiler and linker, are on the diskette marked attachment (5). This is an operational tool the POET Team can use for evaluating the probability performance of TRW's discrimination technology.

A tremendous amount of effort was required to produce and validate enclosure (1). This report was done in the most simplistic, clear, and concise way to hopefully eliminate any confusion that can so easily occur in the discrimination area. We conclude, based on the data contained in this report, which was derived entirely from the information provided in TRW's reports, that there is absolute irrefutable proof that TRW's discrimination technology does not work. We know that this is the strongest statement that can be made regarding our position relative to TRW's discrimination technology. We invite the POET Team to thoroughly review this report, make their own calculations, and ask them to either validate our findings or refute them scientifically.

In conclusion, we are aware that the POET Team is finalizing their report regarding TRW's discrimination technology. Our report clearly demonstrates and scientifically proves the inadequacies and misrepresentations by TRW concerning their discrimination technology. We are anxious to meet with the POET Team to discuss these findings and answer any questions they may have. Our TRW source, along with Dr. Schwartz and other engineering personnel will be pleased to discuss the findings at anytime via conference call, prior to our next meeting with the POET Team. This report will be disseminated to the POET Team in order to save time and expedite matters. We ask that this correspondence not be disseminated, or its information disclosed, outside your office or members of the POET Team. I look forward to hearing from you in the near future. If you have any questions please contact me at (949) 643-4191.

Sincerely,

Samuel W. Reed, Jr.
Special Agent, DCIS

GAO
Accountability * Integrity * Reliability

Comptroller General
of the United States

United States General Accounting Office
Washington, DC 20548

April 29, 2003

The Honorable Howard L. Berman
House of Representatives

Dear Mr. Berman:

Thank you for taking the time to meet with me to discuss our work on the National Missile Defense Program. As requested, I have enclosed a detailed response to your April 24, 2002, and March 10, 2003, letters concerning the report. As you know, I also initiated two independent examinations of the methods used to carry out the engagement. The examinations confirmed that the work was done in accordance with generally accepted government auditing standards. Consequently, I am convinced that no changes to the report are warranted.

You also asked for certain Nichols Research Corporation (NRC) documents. We have two kinds of NRC documents. The first set, which we have enclosed, includes documents marked "competitive sensitive." Although these documents are several years old, they may still include information protected from disclosure under 18 U.S.C. 1905 and 41 U.S.C. 423. The second is a set of seven classified reports. The classified documents are available for review by members of your staff who hold the required security clearance. To obtain access to these documents, please call Robert Ackley in our General Counsel's office at 202-512-9960.

It is evident that there was a communications gap concerning the revision of our audit objectives for this report. While I regret the problem, I do believe there are circumstances where it is inappropriate for GAO to report on an issue that is directly related to a matter pending in the Courts. As a rule, we will not accept such engagements. In some instances, like the review we conducted at your request, we have made exceptions. Generally, we have done this where we believe we can structure the review to avoid influencing or interfering with the litigation. Accordingly, we revised the audit objectives in your request to enable us to respond to the extent practicable under our longstanding policy.

In each of our engagements, we provide congressional requesters with timely, unbiased reporting consistent with our core values of accountability, integrity and reliability. I believe that our report meets GAO's high standards. In view of our

previous discussions and the two independent reviews noted above, I trust that we can deem this matter to be closed.

Sincerely yours,

David M. Walker
Comptroller General
of the United States

Enclosures

Detailed Response to Statements in April 24, 2002, Letter

Page 1, Issues concerning structure (1) – The facts indicate a more complex story; significant findings were buried in appendix; the principal finding on sensor's cooling problem was not mentioned in letter; GAO did not highlight that no one had verified the contractor's claims

- We focused our assessment on whether the contractors had disclosed information on the results and limitations of the flight test--not whether they disclosed them in response to Dr. Schwartz' allegations.
- Although the April 24 letter indicates that some wrongdoing occurred, we did not find evidence to support such a belief.
- In our view, no significant findings were buried in the appendix. By their nature, cover letters cannot be comprehensive. We put the main findings in the cover letter and inserted highly technical information in the appendices. This is a common practice in writing GAO reports.
- We disagree that the sensor cooling problem was our principal finding. Our principal finding was that the contractors disclosed the key results and limitations of IFT-1A in written reports provided to the government between August 1997 and April 1998. Furthermore, as noted on page 16 of the report, the experts from Utah State University's Space Dynamics Laboratory, whom we hired to evaluate the sensor's performance, found that the power supply, rather than the temperature, was the primary cause of excess noise early in the sensor's flight.
- We were not quick to assert that the contractors disclosed major results of the flight test. We came to this conclusion only after extensive data collection and analysis. Specifically, our technical team reviewed the Boeing and TRW reports, met with the scientists from those contractors, discussed technical issues with Nichols Research and project office officials, and received briefings from Dr. Postol and Dr. Schwartz on their allegations. We also hired Utah State University's Space Dynamics Laboratory for an in-depth review of the performance of the Boeing sensor. The requester's staff did not have the complete picture because they did not have access to most of these documents and officials.
- Regarding our statement that no one had neither proven nor disproven the claims of successful discrimination is technically true but only because POET and NRC chose to make use of the TRW/Boeing processed data. At the time of the POET and NRC reviews, no one had made allegations that anyone had tampered with the raw data. In fact, the DCIS investigator had told us in an interview that nobody has ever questioned the sensor data being tested. Since there was no allegation that the raw data was tampered with, we did not believe it was unreasonable or inappropriate for POET or NRC to use the processed data.
- In terms of the April 24 letter's contention that we failed to highlight the limitations of the POET and NRC analyses, we placed this information in the cover letter and in the appendix.

Page 2, Issues concerning overall balance (2) – No mention was made of Dr. Schwartz' analysis and GAO created appearance of favoring the views of the contractors; GAO counsel directed staff to cut off contacts with Dr. Schwartz; GAO lost the opportunity to make use of her analyses

- In terms of the technical aspects of our review, we were not reporting on Dr. Schwartz' analyses; we reported on analyses by the contractors, the POET, and Nichols. We interviewed Dr. Schwartz, Dr. Postol, Boeing and TRW contractors, and POET, Nichols, DOD, and Justice officials, as we considered necessary to address the researchable questions. We interviewed Dr. Schwartz at length on two occasions to understand her allegations fully. The first interview took place at a day-and-a-half meeting at MIT in Cambridge, MA, in which our technical staff received briefings from Dr. Postol and Dr. Schwartz and had the opportunity to ask questions. The second interview, which took almost four hours, took place at Dr. Schwartz' home in California.
- We decided to revise the first researchable question to be more fact-based and less judgmental. The revised question focused factually on what the contractors did or did not disclose. The original question asked us to make a judgment about whether TRW or any related party falsified or covered up test data or results. The courts would be making such judgments in adjudicating Dr. Schwartz' suit. During a meeting in the summer of 2001 with the requester's staff, our attorney specifically explained that we would not be answering the question whether or not false claims had been made as that was the very question posed by Dr. Schwartz's *qui tam* case. We met with the requesters' staffers and provided them with the reformulated questions.
- Regarding contact with Dr. Schwartz, we had all the access to her expertise we considered necessary to do our work. It was only after we received notification from her by email that she was asking the court to make GAO a party to her lawsuit that the issue of restricting contact with her arose. After this notification, our counsel's litigation group advised that contact should be limited since the nature of her discussions with us dealt with the very issues presented by her litigation. The team was further advised that if we did identify a need to follow up with her on anything, we could do so by providing written questions. Our reason for making no further contact after this point was that we did not need to do so.

Page 2, Issues concerning connecting obvious dots (3) – GAO was reluctant to draw basic conclusions about technical issues such as the spike in importance of the medium balloon; GAO staff refused to characterize the contractors' contradictory and unsubstantiated claims as such; GAO obfuscated issue about contractors' use of terms such as "excellent" and highly successful;" GAO made claim that such words were devoid of meaning

- We spent considerable effort trying to determine why the medium balloon spiked and the last seconds of data were excluded. Our findings are detailed on page 21 of the report. Ultimately, as the report states, some uncertainties

could not be explained. Also, we could not confirm some contractor statements.

- As for the contractors' statements that the sensor performance was "excellent" and the test was a "success," we treated this as a central point both in the cover letter and appendix I. We did not say the terms were devoid of meaning. The terms had meaning to those using the terms. Starting on page 13, we cited the contractors' explanation for use of the terms. Those explanations have merit. Our point was that such terms by their nature are qualitative and subjective and their use increased the likelihood that test results would be interpreted in different ways.

Page 2, Issues concerning hearsay versus fact (4) – GAO did not draw bright line between verbal and written disclosures; GAO could not document who attended meetings; disclosures at December 1997 meeting should not have been included in report

- We disagree with the April 24 letter's contention that our report did not distinguish clearly between written and verbal disclosures. From page 13 to the top of page 22, we identified the written disclosures. We devoted two paragraphs on page 22 to the verbal. These sections are clearly marked.
- We also state on page 22 that project office officials and contractors could not provide us with documentation of the verbal disclosures that they said were provided in August 1997.
- We were able to document which organizations attended the December 1997 meeting. We have a trip report from Teledyne Brown Engineering, a SETA contractor for the project office, identifying the content of the meeting and the organizations attending the meeting.
- The December 1997 briefing slides were a written disclosure by the contractor that we would have been remiss in not recognizing.

Page 3, Issues concerning lack of healthy skepticism (5) – GAO did not recognize potential inherent conflict of interest and went out of its way to buttress statements of program officials; contractor's explanations not scrutinized even though they were changed after questioning

- While DOJ depends on affected agencies in investigating possible contractor false claims, the law does not preclude the Justice Department from pursuing cases regardless of whether the affected agency is supportive. In any case, we did not assume that government agencies have no interest in assuring that they receive what they are paying for and that they are not being lied to.
- It is unfair to assert that GAO went out of its way to buttress program officials' statements, including unsubstantiated ones. We quoted agency officials appropriately and pointed out when documentation could not be provided. As for changes in the contractors' explanations, we believe the report and our work papers show how very thoroughly we pursued the basis for these explanations. We did not take the statements at face value.

Page 3, Issues concerning false reporting versus disclosure (6) – GAO declined to investigate the issue of false reporting; GAO did not assess whether disclosures were timely; comparison of when Dr. Schwartz made her allegations and when contractors revealed problems with the test; GAO changed terms of work over objections; GAO effectively exonerated the contractor by reporting that crucial information was disclosed verbally (without documentation)

- As noted above, we decided to revise the first researchable question to be more fact-based and less judgmental. We recognize that Rep. Berman and his staff believe that the contractors' use of the terms "success" and "excellent" constitutes false reporting. We disagree. They are qualitative and subjective terms and subject to different interpretations but they are not obviously false to us.
- To answer the researchable questions, we did not see the need to draw a timeline between Dr. Schwartz' allegations and the contractors' disclosures. Regarding a timeline between what Dr. Schwartz alleged and what the contractors disclosed, Dr. Schwartz first filed suit in 1996 and amended her complaint in April 1997, some two months before the June 1997 flight test. She amended her suit a second time in April 1999. Boeing's 45- and 60-day reports were contract deliverables that Boeing prepared after the June 1997 flight test. We have no evidence that Boeing made disclosures in the 45- and 60-day reports in response to Dr. Schwartz' allegations. We also have no evidence that the disclosures in the December 11, 1997, briefing were made in response to Dr. Schwartz' allegations. We believe that any objective reading of the December 11 briefing would indicate that the contractors prepared the briefing to help themselves get ready for the upcoming third flight test. Neither the briefing nor our interviews with contractor officials supports the view that the meeting was held to counter allegations made by Dr. Schwartz. On page 19 of our report, we state that the April 1, 1998, addendum was prepared, in part, in response to the DCIS' questions. Dr. Schwartz was providing input to the DCIS investigation at that time.
- We believe we did a very thorough review and had no interest in trying to exonerate the contractor. We believe the report shows clearly how much effort we put into verifying information presented by the contractors. We came to our conclusion about the contractors' disclosures only after extensive data collection and analysis. Specifically, our technical team reviewed the Boeing and TRW reports, met with the scientists from those contractors, discussed technical issues with Nichols Research and project office officials, and received briefings from Dr. Postol and Dr. Schwartz on their allegations. We also hired Utah State University's Space Dynamics Laboratory for an in-depth review of the performance of the Boeing sensor.
- Our reasons for revising the researchable question are stated under "Overall Balance" (2).

Page 4, Issues concerning conflicts of interest (7) – Displeasure with GAO's response to original question was expressed; GAO chose to limit answer to an extremely narrow definition of conflict of interest; amount of funds Federally Funded Research and Development Centers (FFRDCs) received

from BMDO was not included; GAO did not evaluate allegations of bias against Nichols Research; GAO appears to give tremendous credibility to statements made by Nichols officials

- Amendment 3 to the Yellow Book (Government Auditing Standards) describes three general classes of impairments to independence—personal, external, and organizational. The FFRDCs have been established by the Congress precisely to prevent such impairments from occurring.
- Because the FFRDCs are federally funded organizations by definition, the actual amount of funds BMDO paid the FFRDCs did not strike us as particularly germane. However, if we had decided to present data on the amount of funding that BMDO provided the FFRDCs, we would have had to determine the total amount of funding provided to the FFRDCs by all user government agencies in order to provide context and a full understanding of the relative importance of any one entity's funding to the FFRDC. Regardless of the amounts received by the FFRDCs represented on the POET, this fact alone would still not present a lack of independence and objectivity. We presented this reasoning to the requester's staffer.
- Until the very end of the review, there was no indication or allegation that any of the scientists appointed to the POET review team had a relationship or financial interest that would present an impairment to independence. As we were finalizing the report, the requester's staffer passed on an allegation by Dr. Schwartz that one of the scientists had worked for TRW in the past. We made an inquiry and determined that she was mistaken. We informed the staffer of this information.
- Regarding the allegation of bias against Nichols, we stated on page 3 of our report that the POET was formed to review Dr. Schwartz' allegations because the DCIS investigator expressed concern to the project office about the ability of Nichols, as a support contractor, to provide a truly objective assessment. The DCIS investigator told us that while he had no specific information indicating bias at Nichols, he believes any support contractor can not be considered fully independent because of its contractural relationship with the government.
- Based on our review of Nichols documents such as trip reports and our interviews with Nichols officials, we believe Nichols carried out its responsibility to provide technical advice to the government. It was not within the scope of our review to identify and assess public statements made by Nichols officials. In any case, our report included a discussion of the limitations of Nichols' evaluation of TRW's discrimination software.

Page 4, Issues concerning significance of IFT-1A (8) – GAO highlighted an opinion by program officials that flight test was not significant

- The first flight test was designed as a sensor calibration and data collection effort. On pages 1 and 2 of our report, we explain the purpose of the test and attempt to put this first of 21 planned flight tests in perspective. It must be understood that this was an early test in a long-term research and

development effort. While the first flight test was certainly important, we are not aware of any major defense acquisition program that has been cancelled based on the results of the first major test out of more than 20 planned tests. General Kadish's quoted characterization of the test objectives is, in our view, a reasonable one.

Page 5, Issues concerning claim versus requirements (9) – GAO made a big distinction between government and Boeing requirements; GAO initially resisted use of word "requirements"; DOD regulations that differentiate between contractor and government requirements requested; GAO missed contractor's false claims and obvious discrepancies

- We originally used the term "evaluation criteria" rather than "requirements" in appendix V because it struck us as more reflective of the real meaning of the terms in the context of an early test in a long-term research and development effort. However, based on our referencing of the report and the requester staffer's continued questioning based on his possession of unclassified portions of the source document, we changed appendix V to refer to requirements and carefully explained their meaning in the body of the report and in the first footnote on page 40.
- A significant distinction exists between the government's single shot probability of kill (SSPK) requirement (the actual value is classified) and the "requirements" that Boeing established for itself to evaluate its own progress towards ultimately meeting the government's SSPK requirement. Boeing had considerable flexibility in how it would ultimately achieve the government's SSPK requirement. In addition, perspective is needed here. No one in DOD demanded that the contractor's system must meet a "requirement" in its first R&D flight test. Testing against requirements would normally occur during operational testing of a system ready to be fielded. We made repeated efforts to explain this to the requester's staff. We also believe that the report (pages 12-13 and 40) very clearly explains this point.
- We would refer the requester to the DOD 5000 series regulations on major defense acquisition programs. According to these regulations, Operational Test and Evaluation (OT&E) is responsible for determining whether thresholds and objectives in the government's approved operational requirements documents have been satisfied. Operational testing occurs late in an acquisition cycle, not during the first of more than 20 integrated flight tests.
- Again the April letter raises the issue of characterization of the sensor as excellent when the sensor had so many problems. We address this issue in our report's cover letter and appendix I. On the bottom of page 13, we state that we asked Boeing why it characterized its sensor's performance as excellent when it had a number of problems. We printed the contractor's answer. Ultimately, we noted that such terms as success and excellent are qualitative and subjective and their use could lead the test results to be interpreted in different ways.
- As for the content of footnote b on page 40, we spent many hours trying to reach an understanding of the system's performance compared to the desired acquisition range. The fact is that the sensor did detect the target at the

desired distance. However, because the observation time was so limited and false alarms occurred, Boeing's Chief Scientist cautioned against placing too much weight on that fact. That explanation seemed reasonable to us.

Page 5, Issues concerning gratuitous inclusion (10) – GAO inclusion of unbelievable statement by contractor hurts GAO's credibility

- Based on our understanding of Dr. Schwartz' allegations, we could not challenge the statement attributed to the POET member. We are not aware of any allegation she made prior to the POET review in 1998 and January 1999, when the POET report was finalized, that the contractor had tampered with the raw data or used inappropriate reference data. As discussed on page 24 of our report, the focus of the POET's evaluation was Dr. Schwartz' allegations about the discrimination software.

Detailed Response to Statements in March 10, 2003, Letter

Page 2, Issues concerning GAO's reliance on a poorly documented verbal meeting in August 1997

- In the final report, we devoted one paragraph to the verbal disclosures at this August 1997 meeting (see paragraph on page 22). We disagree with the contention that we gave the meeting much more weight and credibility than written reports.
- In reporting on the Boeing and TRW disclosures, we did not believe it necessary to mention specifically the cited Nichols Research Corporation report of March 5, 1998. We did state, however, that the written disclosures in the April 1, 1998, revised addendum were prepared in response to comments and questions from a variety of sources, including Nichols and the Defense Criminal Investigative Service.