

Appendix D

Memorandum for Lt. Colonel Munz from A.E. Fitzgerald, Department of the Air Force, re: DOD/IG Review of Independent Cost Estimating for Major Defense Acquisition Programs, December 12, 1991

A 1991 memo from Defense Department analyst Ernest Fitzgerald explaining how the procurement system rationalized paying excessive costs to contractors. Rather than breaking down the prices that contractors wanted the government to pay, in order to see what things really cost, the system merely extrapolated old prices paid by the government, including all the waste and cost overruns built in to them.

See especially page two, fourth paragraph onwards. The illustration on page three, originally created in 1966, shows the cycle of building-in new excessive prices based on old ones. The cycle depends on step 2, limiting government access to contractor cost information - precisely what Acquisition Reform is forcefully promoting more than thirty years later.



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC 20330-1000

OFFICE OF THE ASSISTANT SECRETARY

12 December 1991

MEMORANDUM FOR LT COLONEL MUNZ, SAF/FMC

SUBJECT: DOD/IG Review of Independent Cost Estimating for Major Defense Acquisition Programs, 7 November 1991

LColonel Bertino of SAF/IGI told me you were now collecting comments on the subject draft report. I hope my comments are not too late for inclusion in your response. If they are, just let me know and I will try to find another channel.

The DOD/IG may have succeeded in prolonging this controversial review by attempting to change the subject. In the INTRODUCTION paragraph of the draft report, the IG writes:

The review was conducted in response to a request from Congressman Andy Ireland.

Later in the same paragraph, the IG continued:

In response, we agreed to conduct a management review of independent cost estimating structures and processing. (My underlining).

I was interviewed in connection with this review last year, and I gained a clear understanding that Congressman Ireland was interested in both processes and specific estimates. The principal IG reviewer, Mr. Dave House, spent several days in my office shortly after my initial interview. From these contacts and others, including my discussions with OSD(PA&E) people who were also interviewed, it was clear that the IG was then focused not only on "structures and processes", but also on the quality and integrity of specific program estimates.

At the time of last year's interviews, it was common knowledge that PA&E, more particularly the OSD CAIG leadership, was trying to change the focus of the IG's review to focus exclusively on "processes" and not get into specific program estimates. In fact, I heard at the time that Mr. McNicol, Mr. Chu's Deputy for Resource Analysis, was refusing to cooperate with the IG unless the IG would agree to this proposition. In a September 5, 1990, memorandum for Mr. Chu (Tab 1) concerning the IG review, Mr. McNicol wrote:

In the case at hand, however, the IG wants to talk about the ICA process, not CAIG numbers. Hence, on reflection, it seems to me that we can accede to the IG request if they will agree to stay with the process and away from specifics on the estimates.

Both from the INTRODUCTION language quoted above and from the content of the entire draft report, it appears that PA&E did succeed in changing the subject.

However, this may turn out to be only a temporary victory for them. The IG's abandonment of basic objectives was so blatant that it's bound to attract even more attention to the subject. Unless Congressman Ireland gets a sudden attack of timidity, this will only rouse his competitive spirit.

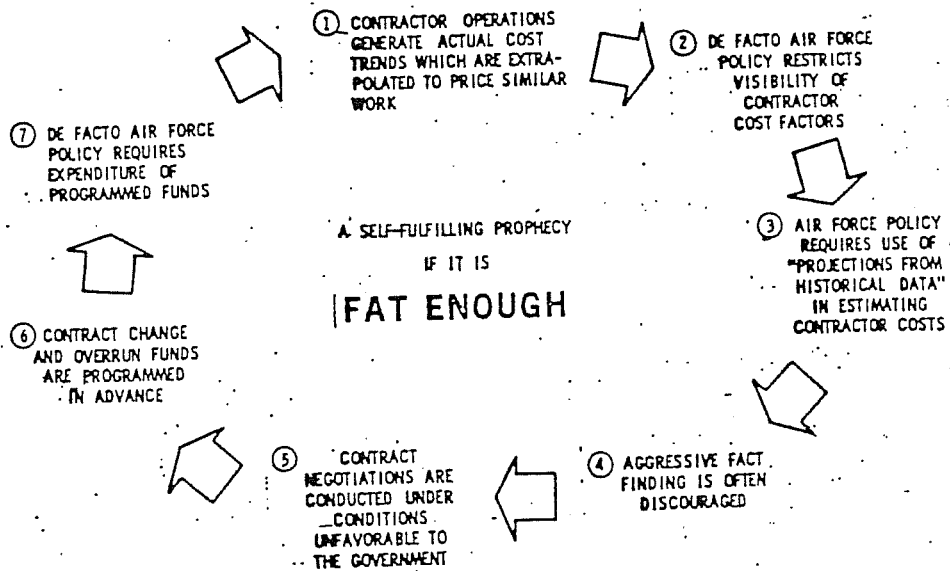
Furthermore, even after changing the subject to focus on "structures and processes", the IG dropped the ball. For as long as I can remember, the DOD Independent Cost Estimating (ICE) process has suffered from a fundamental flaw: Excessive reliance on did cost-will cost "parametric" estimates. Mesmerized by this process and blind to its disastrous consequences, our leading did cost-will cost estimators plunge ahead in their destructive search for the "credible estimate", the Holy Grail of their cult.

This raises the question of just what constitutes high quality and integrity of estimates. In practice, it turns out that a "credible" estimate is one that comes true. Therefore, the fatter the estimate, the easier it is to make it come true.

Our leading did cost-will cost estimators are what I call "Cost Calvinists" who seem to believe that cost outcomes are beyond the control of mortal man, that they are disconnected from ongoing management, and that if we can just divine the intentions of the Cost Gods by examining the entrails of historical costs (cost analysis research), we can some day achieve "credible estimates" across-the-board.

Unfortunately, the dominant features of acquisition management are based on and geared to this mindless religion, and the outcomes of the process are predictably calamitous. To illustrate how this works, I have reproduced below a copy of a 25-year old vugraph which depicts the process.

THE "CREDIBLE" ESTIMATE



The process has not changed for the better since this vugraph was made in 1966. The cycle pictured above repeats itself as programs go on. Ever-increasing funds are pumped into programs generating ever-increasing "actual costs" which are projected -- waste, fraud, abuse, and all -- and supplemented by slush fund additions ("risk" money, "ECP" funding, inflation factors, and the like). All of this money is reinjected into the program and spent under great pressure to "execute the program." The cycle repeats itself, creating a planned upward spiral which has driven unit costs to heights unimaginable just a few years ago.

A hopeful aspect of our current situation is that it can be changed dramatically for the better, a fact which has been demonstrated repeatedly. The cycle of ever-increasing fat in acquisition programs can be and has been broken on occasion. It is demonstrably susceptible to human intervention. The best documented recent large scale example of this was on the C-5B should-cost exercise concluded in 1987. Mr. House spent several days in my office going through my files on this exercise, so, on reading the IG's draft report, I was surprised that this aspect of the cost estimating process was not touched on at all.

This omission was even more surprising in light of the DOD IG's parallel studies of contractor performance measurement, factory work measurement, and past reviews documenting the successes of genuine should-cost estimating where it has been allowed. In particular, I thought that the IG's review of the Navy A-12 program illustrated vividly the importance of timely, systematic measurement of on-going performance in assessing cost outcomes. This, I thought, should have drawn more than passing notice in the IG's review of cost estimating. Clearly, there comes a time when the theology of early-program parametric cost guesses should yield to what's actually going on in the program. This process should include pinpointing and acting on opportunities for improvement, as well as refining our guesses on future financial requirements.

To this end, I gave the IG a lot of material to show how we can and have done better in this regard. (In retrospect, I may have given them too much all at once.) As an aid to understanding hardware cost estimating, including the capture of emerging unit cost of manufacture as designs are evolving, I furnished the IG documents which included the two charts included as Tab 2A and 2B. These two charts show the process used at Raytheon to build detailed cost estimates for AMRAAM before they even got the first contract. Contrary to acquisition and ICE community misinformation, detailed cost data such as that depicted in the two charts can be generated concurrently with product definition, and often is. Obviously, if we capture such existing data, we can insist that contractors build it into their planning, budgeting, scheduling, and accomplishment measurement (earned value) processes, and this, in turn, can make the performance reports we receive largely self-analyzing.

I discussed this process, including how it could be used to sharpen, refine, and update estimates, with the IG. Among other things, I gave them a copy of our 15 July 1982 report on C/SCSC which outlined some of the things we have done and have attempted to do to improve the process.

I also gave the IG examples of how good use can be made of the data depicted in Tab 2 for sharpening design-to-cost estimates -- a critical and much neglected facet of cost estimating, as well as an excellent measure of design performance. The pages at Tab 3 were taken from a 1981 design-to-cost report on the IIR Maverick missile. Again, this was in the early development stage of the program and used information which our acquisition community usually pictures as non-existent until far down stream in production. In this connection, I described to the IG how we used similar information to detect