The F-35 still has a long way to go before it will be ready for combat. That was the parting message of Dr. Michael Gilmore, the now-retired Director of Operational Test and Evaluation, in his last annual report.\textsuperscript{1} The Joint Strike Fighter Program has already consumed more than $100 billion and nearly 25 years.\textsuperscript{2} Just to finish the basic development phase will require at least an extra $1 billion and two more years.\textsuperscript{3} Even with this massive investment of time and money, Dr. Gilmore told Congress, the Pentagon, and the public, “the operational suitability of all variants continues to be less than desired by the Services.”\textsuperscript{4}

In a public statement, the F-35 Joint Program Office attempted to dismiss the Gilmore report by asserting, “All of the issues are well-known to the JPO, the U.S. ser-

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\textsuperscript{3} DOT&E FY 2016 Annual Report, p. 105.
\textsuperscript{4} DOT&E FY 2016 Annual Report, p. 50.
tronics actually interfere with the pilot’s ability to survive and prevail.

- The Electro-Optical Targeting System (EOTS), which is supposed to help the F-35 detect and destroy enemy fighters from far enough away to make dogfighting a thing of the past, was singled out by pilots as inferior in resolution and range to the systems currently being used on legacy aircraft. Limitations of EOTS, including image degradation with humidity, force pilots to fly in closer to a target than they had to when using earlier systems just to get a clear enough picture to launch a missile or take a shot.

- The Distributed Aperture System, one of the primary sensors feeding the displays to the infamous $600,000 helmet system, is described by several test pilots as “operationally unusable and potentially unsafe” because of “symbol clutter” obscuring ground targets.

- Pilots are reporting that the different instruments, like the plane’s radar and the EOTS, are detecting the same target but the computer compiling the information is displaying the single target as two. Pilots have tried to work around this problem by shutting off some of the sensors to make the superfluous targets disappear.

REFERENCES

7 DOT&E FY 2016 Annual Report, p. 69.
Combat Shortcomings

One of the suspected shortcomings this latest report confirms is that the F-35 is not as maneuverable as legacy fighters. All three variants “display objectionable or unacceptable flying qualities at transonic speeds, where aerodynamic forces on the aircraft are rapidly changing.” One such problem is known as wing “dig-in,” where the jet’s wingtip suddenly dips during a tight turn, something that can cause the aircraft to spin and potentially crash.9

As an air-to-air fighter, the F-35’s combat capability is extremely limited because at the moment the software version only enables it to employ two missiles, and they have to be the radar-guided advanced medium-range air-to-air missiles (AMRAAMs); in the future it will carry no more than four if it wants to retain its stealth characteristic. The F-35’s capability as an air-to-air fighter is currently further limited because the AMRAAM is not optimized for close, visual-range combat. (Eventually, upgraded software versions will allow the plane to carry missiles other than AMRAAMs, but not any time soon.) This means that any fight the F-35 gets into had better be short, because it will very quickly run out of ammunition.

As a close air support aircraft, it also falls short. DOT&E concluded that the F-35 in its current configuration “does not yet demonstrate CAS capabilities equivalent to those of fourth generation aircraft.”10 This statement is particularly disturbing in light of the Air Force chief’s recent statements that the service intends to renew its efforts to cancel the CAS-combat-proven A-10 in 2021.11

Contributing to the problem is that none of the three F-35 models in the current fleet can use cannons in combat.12 Based on preliminary test experience, it appears that severe inaccuracy of the helmet-mounted gunsight on all three F-35 versions makes the cannon ineffective in air-to-air combat and in CAS. That accuracy problem may be technically inherent and incurable. Note that the cannon accuracy requirements for CAS are considerably more stringent than for air combat: when shooting in close proximity to friendly troops, even minor accuracy problems can have tragic consequences. The combat suitability of F-35 cannons for CAS will not be known until the end of Block 3F initial operational test and evaluation (IOT&E), which is unlikely before 2021. Failure to complete these CAS tests realistically—a distinct possibility given JPO mismanagement and delaying of test resources—will certainly jeopardize the lives of American troops.

Air Force officials have often argued that the lack of an effective gun won’t matter in future wars because the Air Force intends to conduct CAS differently—that is, at high altitudes using smaller precision munitions.13 But the F-35 will not be cleared to carry those weapons until at least 2021.

In the meantime, the F-35 can carry only two guided bombs right now, and those are 500 pounds or larger. None of those models are usable in proximity to friendly troops. According to the military’s risk-estimate table, at 250 meters (820 feet), a 500-pound bomb has a 10 percent chance of incapacitating friendly troops.14 This means that within that bubble, the enemy can maneuver free from close air support fires. A 250-pound Small Diameter Bomb II is now in low rate production and cleared for use on the F-15E; even that, though, is much too large to be used near friendly troops in “danger close” firefights, and the software and bomb racks necessary to employ it on the F-35 will not be available and cleared for combat until 2021 at the earliest.

While the entire program is plagued with problems, the Navy’s variant has several unique problems. One of

Any fight the F-35 gets into had better be short, because it will very quickly run out of ammunition.

12 DOT&E FY 2016 Annual Report, p. 49.
14 Global Security.org, “Risk-Estimate Distances.”
15 DOT&E FY 2016 Annual Report, p. 64.
Aircraft taking off from the confined decks of carriers require a major boost to reach the necessary speed to achieve lift and takeoff, which is accomplished with a catapult set into the flight deck. Before the jets are launched, the pilots increase the engine thrust. To keep the jets from rolling off the front of the ship before launch, they are held down with hold-back bars. The force of the thrust compresses the gear’s strut as it is being held down. When the hold-back bar is released and the jet is launched, the F-35C’s strut is unloaded, causing the nose to bounce up and down, jarring the pilot according to a Navy report that was leaked to Inside Defense in January 2017.16

The problem is dangerous to the pilot. The Helmet-Mounted Display is unusually heavy, currently weighing in at 5.1 pounds, and when that’s combined with the forces generated during a catapult launch, the extra weight slams the pilot’s head back and forth. In 70 percent of F-35 catapult launches, pilots report moderate to severe pain in their heads and necks.17

The launch also impacts the alignment of the helmet. Pilots reported difficulty reading critical information inside the helmet, and they have to readjust it after getting into the air. The pilots say this is unsafe as it happens during one of the most critical phases of any flight. Pilots try to counter the oscillations by cinching down their body harnesses tighter, but this creates a new problem by making it hard to reach emergency switches and the ejection handles in the event of an emergency.18

**Price Tag Is the Only Thing Stealthy about the F-35**

Much has been said since the election about further F-35 purchases and affordability. The prices quoted in the press are usually based on the cost of an Air Force conventional take-off variant, the F-35A—the least expensive of the three variants. In addition, that cost figure is only an estimate of future costs, one that assumes everything will proceed perfectly for the F-35 from here on out—which is unlikely as the program enters its most technologically challenging test phase. As this latest DOT&E report shows, the program has a long way to go before the F-35 will be ready for combat.

The Joint Program Office recently claimed the price for an F-35A went below $100 million each in the FY 2016 contract. Yet in its FY 2016 legislation, Congress appropriated $119.6 million per F-35A.19 Even this amount doesn’t tell the whole story: it only covers the procurement cost, not what it will cost to bring F-35As up to the latest approved configuration, nor the additional Military Construction costs to house and operate F-35As.20 And of course, the $119.6 million price tag does not include any of the research and development costs to develop and test the F-35A. The 2016 production-only cost for the Marine Corps’ F-35B and the Navy’s F-35C is $166.4 million and $185.2 million per plane, respectively.

First, they don’t include how much it will cost to fix design flaws discovered in recent, current, and future testing—a not insubstantial amount of money. Nor do they include the costs of planned modernization efforts, such as for Block 4 of the aircraft, which will be incorporated into all F-35As in the future. The Government Accountability Office estimates the program will spend at least $3 billion on the modernization effort in the next six years.21 For example, modifications to fix just some of the problems identified up to now cost $426.7 million, according to the GAO. Each of these aircraft have already had other modifications and they will have more in the future. The Air Force has already acknowledged it must retrofit all 108 of the F-35As delivered to it and in the future. The Government Accountability Office estimates the program will spend at least $3 billion on the modernization effort in the next six years.21 For example, modifications to fix just some of the problems identified up to now cost $426.7 million, according to the GAO. Each of these aircraft have already had other modifications and they will have more in the future. The Air Force has already acknowledged it must retrofit all 108 of the F-35As delivered to it and in the operational fleet.22 These costs will continue to grow as known problems are fixed and new ones are discovered, and they are an integral part of the cost per airplane.

As the program moves out of the easy part of the testing—the development or laboratory testing—and into the critical combat (operational) testing period in the next few years, even more problems will be uncovered. A good example occurred in late 2016 when engineers discovered debris inside the fuel tank of an F-35.23 Upon closer inspection, they found that the insulation around coolant lines had disintegrated because a subcontractor failed to use the proper sealant. When the GAO had estimated it would cost $426.7 million to fix some of the known problems in the F-35As already in depot, the coolant line insulation problem had not been discovered. Fixes to this and other problems will all have to be devised, tested, and implemented throughout the fleet of aircraft already produced and purchased.

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Second, the incomplete unit cost estimates used by the JPO, Lockheed Martin, and the Pentagon—their so called “flyaway” unit costs—do not include the purchase of support equipment (tools, simulators for training, spare parts, and more) needed to enable the F-35A fleet to operate. Quite literally, the DoD’s “flyaway” cost does not buy a system capable of flight operations.

The Pentagon has already committed to purchasing 346 F-35s since the program entered into what DoD euphemistically calls “Low Rate Initial Production.” The 798 jets the services would have at the end of a proposed block buy of about 450 from 2018 to 2021 would be nearly 33 percent of the total procurement...all before the program completes initial operational testing and has discovered what works as intended and what doesn’t. It is important to note that the real problem-discovery process will only begin when operational testing starts in 2019, as scheduled, or more likely in 2020 or 2021 when operational-representative aircraft are actually ready to be tested. The 108 aircraft the Air Force has begun to modify are only the tip of the iceberg, and that number does not include the hundreds of Marine Corps and Navy aircraft to be similarly modified.

An essential part of the question about F-35 costs is whether it makes sense to buy a large block of aircraft and worry about the costs to fix their yet-to-be-discovered problems later. It is certainly a good way to add to the cost but hide it in the interim.

And there still remains the cost of actually operating the F-35 fleet. DoD has estimated that all training and operations over the 50-year life of the program (assuming a 30-year life for each aircraft) will be $1 trillion, making the cost to buy and operate the F-35 at least $1.4 trillion.

The cost just to operate the F-35 is so high because the aircraft is so complex compared to other aircraft. Based on the Air Force’s own numbers, in FY 2015 each F-35 flew an average of 163 hours at $44,026 per flying hour. For comparison purposes, in the same year, each F-16 in the fleet flew an average of 258 hours at $20,398 per flying hour. A-10s flew 358 hours on average at $17,227 per hour. While these hours have never been independently audited, and it is it is impossible to know if they are complete, the available data indicates that the F-35 is more than twice as expensive to fly as the aircraft it is to replace.

Quite literally, the DoD’s “flyaway” cost does not buy a system capable of flight operations.

Officials Hiding Truth about F-35’s Problems and Delays from Taxpayers

When Lockheed Martin first won the contract 17 years ago, the F-35 was expected to begin operational testing in 2008. Once they failed to meet that, 2017 was supposed to be the big year for the start of the combat testing process. We now know that this process will almost certainly be delayed until 2019...and possibly 2020 or 2021.

The first page of the DOT&E report lists 13 major unresolved problems with the F-35 that will prevent the program from proceeding to combat testing in August 2017. But you wouldn’t know any of that from the public comments made by officials in charge of the program. During testimony before a House Armed Services subcommittee in February, officials neglected to raise any of these issues with Congress even though the DOT&E report had been released less than a month earlier.

The scale of the challenge yet remaining with the F-35 is easily quantified in DOT&E’s analysis. According to the report, the F-35 still has 276 “Critical to Correct” deficiencies—these must be fixed before the development process ends because they could “lead to operational mission failures during IOT&E or combat.” Of the 276, 72 were listed as “priority 1,” which are service-critical flaws that would prevent the services from fielding the jets until they are fixed.

Despite the slipping schedule, the F-35 program office has expressed a desire to skip many needed test points and to instead rely on testing data from previous flights—where the test aircraft used earlier software versions—as proof the upgraded system software works. But DOT&E warns that the newer software versions likely perform differently, rendering the earlier results moot. Program managers essentially want to declare the developmental testing process over and move on to operational testing,

29 DOT&E FY 2016 Annual Report, p. 54.
even though they haven’t finished all the necessary steps.

This is a highly risky move. DOT&E warns that following this plan

would likely result in failures in IOT&E causing the need for additional follow-on operational testing, and, most importantly, deliver Block 3F to the field with severe shortfalls in capability – capability that the Department must have if the F-35 is ever needed in combat against current threats.30

The DOT&E’s latest report is yet more proof that the F-35 program will continue to be a massive drain on time and resources for years to come, and will provide our armed forces with a second-rate combat aircraft less able to perform its missions than the “legacy” aircraft it is meant to replace. The men and women who take to the skies to defend the nation deserve something better.

The good news is, despite the conventional wisdom in Washington, the services do not have to be stuck with the F-35. Other options do exist.

#1

To fill the near-term hole in our air-to-air forces, start a program to refurbish and upgrade all available F-16As and F-18s with life-extended airframes and the much higher thrust F-110-GE-132 (F-16) and F-404-GE-402 (F-18) engines. Upgrade their electronic systems with more capable off-the-shelf electronic systems. This will give us fighters that are significantly more effective in air-to-air combat than either the later F-16 and F-18 models or the F-35. Add airframes from the boneyard if needed to augment the force. Most importantly, bring pilot training hours up to the minimum acceptable level of 30 hours per month, in part with money saved by not purchasing underdeveloped F-35s now.

#2

To fill the far more serious near-term hole in close air support forces, complete the rewinging of the 100 A-10s the Air Force has refused to rewing and then expand the inadequate existing force of only 272 A-10s by refurbishing/rewinging every available A-10 in the boneyard to A-10C standards.

#3

Immediately undertake three new competitive prototype flyoff programs to design and build a more lethal and more survivable close air support plane to replace the A-10, and to design and build two different air-to-air fighters that are smaller and more combat-effective than F-16s, F-22s, and F-18s. Test them all against competent enemies equipped with radar missile and stealth countermeasures.

These programs should follow the model of the Lightweight Fighter31 and A-X Programs32 in the 1970s, particularly in regard to live-fire, realistic-scenario competitive flyoff tests. These programs resulted in the F-16 and the A-10, two indisputably highly effective aircraft that were each less expensive than the preferred Pentagon alternatives at the time. And they became operational after testing in less than 10 years, not more than 25.

#4

At an absolute minimum, the F-35 test program already in place that both the JPO and Dr. Gilmore agreed to must be executed to understand, before further production, exactly what this aircraft can and cannot do competently. That means suspending further F-35 production until those tests are complete and honestly reported to the Secretary of Defense, the President, and Congress.

Conclusion

The F-35 program office has reached a crucial decision point. Bold action is required now to salvage something from the national disaster that is the Joint Strike Fighter. When gathering information to determine what that action should be, officials should not just talk to the generals and executives, as they have no incentive to tell the hard truth because they have a vested financial interest in making sure the program survives (regardless of capability). As this report shows, they are not telling the whole story. There are many more people lower down the food chain with other points of view. They are the ones possessing the real story. And, as the above suggestions show, there are still options. It is not too late to make significant changes to the program, despite its defenders’ claims.

30 DOT&E FY 2016 Annual Report, p. 68.
31 GlobalSecurity.org, “Lightweight Fighter Program.”
In 1994 Congress passed legislation requiring every federal agency to be auditable. Since then every agency has complied—except for the Department of Defense.

After *The Washington Post* published about a little-noticed report that found the Pentagon had missed opportunities to save $125 billion,¹ the leadership of the House and Senate Armed Services Committees agreed that the Pentagon’s inability to pass an audit is unacceptable. “We have known for many years that the Department’s business practices are archaic and wasteful, and its inability to pass a clean audit is a longstanding travesty,” Chairs John McCain (R-AZ) and Mac Thornberry (R-TX) said recently in a joint statement. “The reason these problems persist is simple: a failure of leadership and a lack of accountability.”²

President Trump’s proposed budget will increase Pentagon spending an extra $54 billion. Yet increasing Pentagon spending under these circumstances is the opposite of fiscal responsibility. In fact, history tells us we will actually get a force even less prepared and less capable as a direct result of a bigger budget. The reason is quite simple: the United States does not spend its military money well.

This proposal is only a blueprint, it specifically mentions increasing the number of F-35s even though the F-35 has not come anywhere close to proving itself as an effective system and is vastly more expensive than the aircraft it is meant to replace. It cost approximately $10 million to purchase an F-16 in 1976.³ Adjusted for inflation, that would be about $43 million today. The real cost of an F-35A, the least expensive version, is $157 million.⁴ We continue to get less bang for more bucks.

The same can be said of the littoral combat ships and the Ford-class aircraft carrier and any number of other highly complex and expensive weapons. They are produced by a bloated R&D and procurement bureaucracy that is more concerned with its own processes than with actually producing weapons that are useful in combat.

Defense spending was at record levels throughout the Obama years, remaining higher than at any time during previous administrations, including at the peak of the Reagan buildup in the 1980s.⁵

What did we get for those massive budgets? We didn’t get more fighter planes. We didn’t get more ships.

Pumping more money into this system is not the answer. That will only reward continued bad behavior. If President Trump wants to truly rebuild the military, he should actually slash budgets. It would force the Pentagon and Congress to make the difficult choices necessary to produce a more effective fighting force.

Both the Republican and Democratic party platforms included the need to audit the Pentagon. Congress should heed their own platforms and resist calls to give more money to an agency they know to be irresponsible with taxpayer dollars.⁶

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It turns out that my spending four years on an amusement-park midway trying to separate marks from their money was basic training for the nearly 40 years I spent reporting on the US military. Both involve suckers and suckees. One just costs a lot more money, and could risk the future of the United States instead of a teddy bear.

After 15 years of covering US defense for daily newspapers in Washington, and 23 more for *Time* magazine until last December, it’s time to share what I’ve learned. I’m gratified that the good folks at the nonpartisan Project On Government Oversight, through their Straus Military Reform Project, are providing me a weekly soapbox to comment on what I’ve come to see as the military-industrial circus.

As ringmaster, I can only say: Boy, are we being taken to the cleaners. And it’s not so much about money as it is about value. Too much of today’s US fighting forces look like they came from Tiffany’s, with Walmart accounting for much of the rest. There’s too little Costco or Amazon Prime.

There was a chance, however slight, that President Trump would blaze a new trail on US national security. Instead, he has simply doubled down.

For too long, the two political parties have had Pavlovian responses when it comes to funding the US military (and make no mistake about it: military funding has trumped military strategy for decades). Democrats have long favored shrinking military spending as a share of the federal budget, while Republicans yearn for the days when it accounted for a huge chunk of US government spending. Neither is the right approach. Instead of seeing the Pentagon as the way to defend against all threats, there needs to be a fresh, long-overdue accounting of what the real threats are, and which of those are best addressed by military means.

The Defense Department’s Quadrennial Defense Review, which is supposed to do just that every four years, is now a self-licking ice cream cone dedicated in large measure to the Pentagon’s own growth and preservation. Congress is a willing accomplice, refusing to shutter unneeded military bases due to the job losses they’d mean back home. The nuclear triad remains a persistent Cold War relic, with backers of subs, bombers, and ICBMs embracing one another against their real threat: a hard-nosed calculus on the continuing wisdom of maintaining thousands of nuclear weapons on hair-trigger alert.

Unfortunately, it’s getting worse as partisan enmity grows. It’s quaint to recall the early Congressional hear-
ings I covered (where have you gone, Barry Goldwater?), when lawmakers would solemnly declare that “politics stops at the water’s edge.” The political opposition’s reactions to Jimmy Carter’s failed raid to rescue US hostages held in Iran in 1980 that killed eight US troops and to the loss of 241 US troops on Ronald Reagan’s peacekeeping mission in Beirut in 1983 was tempered.

Such grim events have been replaced by Hillary Clinton’s Benghazi and Donald Trump’s January 29 special-ops raid in Yemen. The rancid rancor by both sides cheapens the sacrifice of the five Americans who died. The resulting outrage triggers a confusing welter of new rules designed to ensure they aren’t repeated. Mistakes are a part of every military operation, and an unwillingness to acknowledge that fact, and act accordingly, leads to pol-mil paralysis. It’s amazing that the deaths of Glen Doherty, William “Ryan” Owens, Sean Smith, Chris Stevens, and Tyrone Woods seem to have generated more acrimony and second-guessing than have the 6,908 US troops who have died in the Afghanistan and Iraq wars as of this column.1

There is today a fundamental disconnect between the nation and its wars. We saw it in President Obama’s persistent leeriness when it came to the use of military force, and President Trump’s preoccupation with spending and symbolism instead of strategy. In his speech to Congress on February 28, Trump mentioned the heroism of Navy SEAL Owens, but didn’t say where he died (Yemen). Nor did he mention Afghanistan, Iraq, or Syria, where nearly 15,000 US troops are currently fighting.

He also announced he is seeking a $54 billion defense budget boost, which would represent a 10 percent hike and push Pentagon spending, already well beyond the Cold-War average used to keep the now-defunct Soviet Union at bay, even higher.

What’s surprising is Trump’s apparent ignorance that the US military has had, pound-for-pound, the world’s finest weapons since World War II. What’s stunning is his apparent belief that better weapons lead inevitably to victory. There is a long list of foes that know better.

It’s long past time for a tough look at what US taxpayers are getting for the $2 billion they already spend on their military and veterans every day. But the United States has been unwilling to do that ever since the Cold War ended more than 25 years ago. Instead, it simply shrunk its existing military, then turned on a cash gusher following 9/11.

I know many veterans who are angered that their sacrifice, and that of buddies no longer around, have been squandered in Afghanistan and Iraq.

I recall flying secretly into Baghdad in December 2003 with then-Defense Secretary Donald Rumsfeld. The bantam SecDef declared on that trip that the US military had taken the “right approach” in training Iraqi troops, and that they were fighting “well and professionally.” It turns out it wasn’t enough. Last month, Defense Secretary Jim Mattis declared in Baghdad that the US training of the Iraqi military is “developing very well.”

If we’re going to spend—few would call it an investment—$5 trillion fighting in Iraq and Afghanistan (and Syria, and Yemen), don’t we deserve a better return?

The problem is that the disconnect between the nation and its wars also includes us:

- Our representatives in Congress prefer not to get their hands bloodied in combat, so they avoid declaring war. They subcontract it out to the White House, and we let them get away with it.

- Through the Pentagon, we have subcontracted combat out to an all-volunteer force. Only about 1 percent of the nation has fought in its wars since 9/11. We praise their courage even as we thank God we have no real skin in the game.

- The military services have hired private contractors to handle half of the critical support missions that used to be done by the military. The ruse conveniently lets the White House keep an artificially low ceiling on the number of troops in harm’s way. We like those lower numbers.

- We have contracted out paying for much of the wars’ costs to our children and grandchildren. They’ll be thanking us in 2050, I’m sure.

Until and unless Americans take responsibility for the wars being waged in their name, and for the weapons being bought to wage them, this slow hemorrhaging of US blood and treasure will continue. “We have met the enemy,” another Pogo once said, “and he is us.”

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1 iCasualties.org. (Downloaded March 6, 2017)
Scathing Contractor Evaluation Should End the MOX Project

POGO and other groups send letter to policymakers recommending cancellation

BY LYDIA DENNETT

What does it take to get a wasteful government project canceled? That’s the question the Project On Government Oversight has been asking about the Mixed Oxide Fuel Fabrication Facility, known as the MOX project, for years.¹

With luck, a scathing evaluation by the National Nuclear Security Administration (NNSA) about the contractor in charge of MOX—released by Savannah River Site Watch—will be the final straw.²

MOX was designed to convert weapons-grade plutonium into fuel for US commercial nuclear reactors as part of a diplomatic deal with Russia. But last year, Russian President Vladimir Putin announced he would be withdrawing from the non-proliferation agreement that was the basis for building the MOX facility.³

Adding to the project’s woes is the fact that it’s astronomically over budget, decades behind schedule, and lacks even a single potential customer for the nuclear fuel. Now, the NNSA’s annual performance evaluation of the contractor (CB&I AREVA MOX Services) has provided a searing indictment of the contractor’s project management—or lack thereof.

NNSA identified several instances where the contractor gave misleading or inaccurate information to the government, Congress, and the public, and detailed several incidents of poor management that have led to significant cost growth and delays in completing the project.

For instance, NNSA declared the contractor’s claim that the project is at least 70 percent complete to be “patently false.” NNSA further found that the contractor compounded the problem by spending “considerable effort and resources” challenging NNSA’s estimates rather than making up for the lack of progress on the program.

Any “improvement over the past year’s performance simply mitigates (and is not sufficiently impactful to reverse) the cost and schedule increases caused by the

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contractor’s previous inefficient performance," NNSA’s evaluation stated.

The evaluation also noted that CB&I AREVA MOX Services had been given the opportunity to show their commitment to improving project management by submitting a firm fixed-price proposal, but had declined to do so.

Part of NNSA’s evaluation process requires the contractor to complete a self-assessment of their work over the past year. CB&I AREVA MOX Services rated themselves “Excellent” overall, with a score of 92 percent for the project management section of the self-assessment, the section that makes up almost the entirety of the evaluation. But NNSA found their cost, schedule, and technical performance was unsatisfactory and awarded them 0 percent. As a result, CB&I AREVA MOX Services received an extraordinarily low 8.9 percent of their total available award fee.

The NNSA cited several reasons for significantly reducing the contractor’s award fee, including:

1. A breakdown in management systems that resulted in “the inability to demonstrate that planned work or procurements were necessary or required.”
2. A continued “lack of transparency and openness in external communications with key project stakeholders...including continued release of misleading and inaccurate project information.”
3. “The completion date (and other schedule dates) have continued to fluctuate significantly and inexplicably throughout the year.”

The agency ultimately concluded that “NNSA paid for and was provided an incomplete and inaccurate document that will require additional work in order to ascertain and document the full set of facts. This situation is representative of the contractor’s performance reporting throughout the year.”

This absolutely withering evaluation and the significant downgrade in the award fee determination followed the 2015 poor evaluation and downgraded award fee determination. CB&I AREVA MOX Services was awarded 49 percent of the potential award fee in 2015. NNSA noted in the evaluation at the time that “overall performance is below the level needed for successful project completion.”

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Sleepwalking Into a Nuclear Arms Race with Russia

BY FRANKLIN C. “CHUCK” SPINNEY & PIERRE SPRY

Lost in the debate about increases to the Pentagon’s budget and increased spending on nuclear weapons is how the Russians will react. Below is an abridged and edited analysis of the question that was first published in “The Blaster” at http://chuckspinney.blogspot.com/2017/02/sleepwalking-into-nuclear-arms-race.html.

B arack Obama first outlined his vision for nuclear disarmament in a speech in Prague on April 5, 2009, which became the basis for what eventually became the New START nuclear arms limitation treaty.1 But to accomplish that he had to manipulate the domestic politics of the Military-Industrial-Congressional Complex (MICC). By December 15, 2009, 41 Senators sent a letter to President Obama saying that “further reductions in the U.S. nuclear arsenal would be acceptable only if accompanied by ‘a significant program to modernize our nuclear deterrent.’”2

Viewed in retrospect, it is clear that President Obama—either naively or cynically—acquiesced to that senatorial spending demand in order to keep the powerful nuclear labs and their defense industry allies in the defense industry and Congress from lobbying against his new arms limitation treaty.

So rather than putting us on the road to disarmament in April 2009, Obama’s speech marked the first steps that launched a huge spending plan to modernize US nuclear forces across the board.3

A particularly dangerous component of the Obama nuclear spending plan was the acquisition of low-yield precision-guided nuclear warheads. These weapons only make sense in a radical strategy for actually fighting a nuclear war, as opposed to the almost universally accepted idea that our nuclear arsenal exists only to deter any thought of using these weapons (since actual use is unthinkable by most nations, with profoundly unknowable consequences). Last December, the Defense Science Board—an organization replete with members closely connected to the nuclear labs and their defense industry allies—resurrected the old and discredited ideas of limited nuclear options (LNOs).4 LNOs are based on the unproven and unprovable hypothesis that a president could actually detonate a few nukes to control a gradually escalating nuclear bombing campaign.

Early cost estimates—really guesses—for Obama’s entire nuclear modernization program are $1 trillion over the next 30 years.5 Adding to Obama’s expansion of our nuclear posture is President Trump’s intention to fulfill his campaign promises to strengthen all nuclear offensive and defensive forces, with particular emphasis on spending a lot more for the ballistic missile defense (BMD) program. This implies expanding the current deployments of BMD weapons in Eastern Europe within a few hundred miles of the Russian border.

The components of the currently authorized program—a new bomber, a new ballistic missile carrying submarine, a new ICBM, a new air-launched cruise missile, a complete remanufacturing upgrade of the existing B-61 dial-a-yield tactical nuclear bomb that also adds a precision guidance kit, a new family of missile warheads, new nuclear warhead production facilities, and a massive array of new large-scale intelligence, surveillance, and command and control systems to manage these forces—are all in the early stages of development.

Assuming business as usual continues in the Pentagon, the $1 trillion estimate is really a typical front-loaded or “buy-in” estimate intended to stick the camel’s nose in the acquisition tent by deliberately understating future costs while over-promising future benefits.

The money for all of these programs is just beginning to flow into hundreds of Congressional districts, but it guarantees the entire nuclear spend-up will acquire a political life of its own, and that the taxpayer will be burdened with yet another unstoppable behemoth.

There’s been almost no thought given to how China and Russia might react. This was clearly seen in the cognitive dissonance of the Obama Defense Department: It was torn between insisting the Russians are not the tar-
get of the nuclear program while at the same time justifying the nuclear build up as a means to counter Russian conventional aggression. Equally revealing, an editorial in *Defense News* described President Trump’s upcoming Nuclear Posture Review without once mentioning the Russians or Chinese, or how they might react to the looming American nuclear spending spree. On the other hand, the editorial took great pains to explain in detail how the forces of domestic political consensus will ensure steady funding for Obama’s nuclear spending plans throughout the Trump Administration years.

Do Actions Trigger Reactions?
The Russians, particularly those internal political and industrial factions that benefit from Russian defense spending, are likely to characterize the American spending program as an aggressive sharpening of the US nuclear sword and a strengthening of its nuclear shield, synchronized with a threatening buildup of America’s conventional force. That will be used to argue that Russia is spending far too little on defense because it faces an existential threat due to increased American spending.

Don’t laugh. This is a mirror image of the argument successfully used by President Ronald Reagan in a televised address to the nation on November 22, 1982. “The combination of the Soviets spending more and the United States spending proportionately less changed the military balance and weakened our deterrent,” he said. “Today, in virtually every measure of military power, the Soviet Union enjoys a decided advantage.”

Mirroring Reagan’s argument, Russian defense advocates emphasizing the dangers of the US spend-up are likely to point out that the United States and its allies are already spending far more on their military forces than Russia. Moreover, America certainly intends to rapidly increase the size of this spending advantage, because the large new American nuclear modernization program is only part of a larger spending buildup.

After all, have not President Trump and Senator John McCain (R-AZ) proposed huge increases to President Obama’s defense budget to rebuild what they claim is a “depleted” military?

Russian politicians, echoing Mr. Reagan in 1982, might construct a graphic using the West’s own numbers from military analysis publication *Jane’s* to prove their points:

**WORLD MILITARY SPENDING: TOP 20**
Billions of Constant 2016 $

- Algeria
- Spain
- Turkey
- Taiwan
- Israel
- Canada
- UAE
- Brazil
- Italy
- Australia
- S. Korea
- Germany
- Japan
- France
- Russia
- Saudi Arabia
- India
- UK
- China
- US

*A Russian defense advocate using the *Jane’s* metric could argue that (1) Russia is now spending slightly less than Saudi Arabia, less than India, and less than the UK; (2) the size of Russia’s budget is only a quar-

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ter of China’s; and (3) the size of Russia’s defense budget is an astonishing one-twelfth that of the United States!

Of course, from a Russian leader’s point of view, the strategic threat goes well beyond the madness implied by the asymmetries in defense budgets.

They might see the Trumpian expansion of both nuclear offense and missile defense as evidence the

Russian leaders might see the expansion of both nuclear offense and missile defense as evidence the United States is planning to dominate Russia by preparing to fight and win a nuclear war.

United States is planning to dominate Russia by preparing to fight and win a nuclear war—a radical shift from America’s 50-plus years of building nuclear forces only for deterrence (often referred to as Mutually Assured Destruction or MAD).

Faced with such a threat, militarist factions inside Russia are likely to insist on a rational application of the precautionary principle by the Russian nation.

That principle will dictate a response, presumably a massive Russian nuclear arms race with the United States. The obvious fact that the politically engineered US nuclear program cannot be reined in or terminated by politicians in the United States is almost certainly understood by the Russians. But that appreciation would serve merely to magnify the sense of menace perceived by patriotic Russian leaders.

Bear in mind, the Russians are unlikely to view the emerging nuclear menace in isolation. For one thing, there is the toxic question of NATO’s expansion and the mistrust it created.

The expansion of NATO eastwards, President George W. Bush’s unilateral withdrawal from the Anti-Ballistic Missile Treaty, and the deployment of ABM systems to Eastern Europe certainly increased the Russians’ sense of mistrust and menace regarding US intentions. To this day, Putin’s speeches repeatedly refer to the broken American promises.

In parallel with the NATO expansion, the European Union (EU) expanded eastward beginning in 1995 and continuing to 2013. The EU’s exclusion of Russia from the “greater European home” further fueled an atmosphere of mistrust and menace.

From a Russian perspective, the NATO and EU expansions worked to deliberately isolate and impoverish Russia—and the potential (though to date frustrated) expansion by the West into Ukraine and Georgia intensified the sense that Russia had been hoodwinked by the West.

Moreover, the rapid, opportunistic expansion of NATO and the EU created a kaleidoscope of internal frictions. Now both institutions are in trouble, riven by contradictions and disharmonies. Great Britain is leaving the EU but will remain in NATO. Northern Europe and the EU bankers are imposing draconian austerity measures on Southern Europe, particularly Greece. The destruction of Libya, Iraq, and Syria, under U.S. leadership with European participation, has created the largest refugee crisis of our time, deeply threatening the EU’s organizing principle of open borders. The increasing tide of European instability and chaos, accompanied by the looming specter of growing Fascist movements from Spain to Ukraine, inevitably add to the traditional Russian sense of being endangered and encircled.

What would you do?

For patriotic Americans interested in increasing their real national security (rather than their national security budget), the nuclear issue boils down to a question of understanding the powerful impact of America’s spending decisions and actions on patriotic Russians. In other words, it is a question of reasoned empathy and pragmatic self-interest.

Yet the mainstream media and the politicians of both parties in thrall to our MICC are working day and night to pump up anti-Russian hysteria and hype fear to ensure Americans remain completely oblivious to the powerful, dangerous impact of our senseless Obama-Trump nuclear spend-up on the Russians—or on anyone else for that matter.


Franklin C. Spinney retired from the Defense Department in 2003 after a military-civilian career spanning 33 years. The latter 26 of those years were as a staff analyst in the Office of the Secretary of Defense. His sharply critical analysis of the Reagan defense program landed him on the cover of the March 7, 1983, issue of Time Magazine.

Pierre Sprey was one of Secretary of Defense Robert McNamara’s “Whiz Kids” in the Pentagon in the 1960s. During the late 1970s, Sprey, Col. John Boyd, and a small, dedicated group of Pentagon and congressional insiders started the military reform movement.

MOX PROJECT / CONTINUED FROM PAGE 11

This most recent evaluation comes after years of failures. Completing construction of the facility alone has gone from $1.6 billion to a staggering $17 billion—over 10 times the original estimate. That cost doesn’t include operating the plant over the next 20 years. Independent estimates have found that, over the facility’s lifetime, MOX will cost taxpayers $110 billion when operating and construction costs are included.5

While the facility was supposed to be fully constructed in 2007, the Army Corps of Engineers recently released a report stating that MOX won’t be finished and ready for operations until 2048—putting it 41 years behind schedule.6

And in 2008 the project lost its only potential customer for the mixed oxide fuel and hasn’t been able to find a single replacement customer.

So why is the MOX project still receiving hundreds of millions of dollars every year?

It is likely in part due to a successful lobbying effort.7 The two companies that make up CB&I AREVA MOX Services, Chicago Bridge & Iron Works (CB&I) and AREVA, spent a total of $2.4 million lobbying the government in 2015 alone on various issues including the MOX project. In the first two quarters of 2016, the groups spent $1.4 million. That amount doubles when including other organizations that listed MOX as a lobbying objective, like the International Brotherhood of Electrical Workers.

MOX should be an easy place to cut wasteful spending. POGO and Savannah River Site Watch sent a letter to policymakers asking them to cancel the wasteful project. It’s unaffordable and has been delayed so long that the political landscape has changed. Continuing to spend billions of taxpayer dollars to uphold a deal that no longer exists is madness. Not to mention continuing to support a contractor that has lied to the government, Congress, and the American taxpayer. It is clear that MOX has failed the viability test and it’s time to lay it to rest once and for all.
THE DEFENSE MONITOR

The Project On Government Oversight is a nonpartisan independent watchdog that champions good government reforms. POGO’s investigations into corruption, misconduct, and conflicts of interest achieve a more effective, accountable, open, and ethical federal government.

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