Voting Machines as a Ponzi Scheme

By Nancy Tobi
Introduction by Bev Harris

A Ponzi Scheme, by definition, is an artifice that is insolvent from its inception, thereby defrauding its funders (in this case, the taxpayers). Ponzi schemes work on the "rob-Peter-to-pay-Paul" principle, as new investment (taxpayer) money is needed to fulfill promises made on earlier investments (tax monies) until the whole scheme collapses.

Our nation has already suffered an incalculable blow from the use of expensive computerized voting equipment, which, by all accounts, has been an abysmal failure by every reasonable criterion: product quality, reliability, accuracy, and security.

Taxpayers are now being required to invest in a certification and voting machine procurement program built on a cycle of lag, non-implementation and obsolescence:

- Products procured before guidelines are established for them;
- Guidelines and testing programs, while trying to catch up to features in already-purchased equipment, add new requirements;
- Each new wave of guidelines obsoletes existing equipment;
- Successive waves of new investments (by taxpayers) are required to catch up to previous assurances

When you peel back the veneer of the whole Election Assistance Commission (EAC) Certification program, with its National Institute of Standards and Technology (NIST) and its National Voluntary Laboratory Accreditation Program (NVLAP) testing process, what you learn is that the entire system is, in effect, insolvent. Meanwhile, your tax dollars continue to flow into the system (to the tune of nearly $3 million in the EAC's 2005 budget plus nearly $5 million in 2006 and a requested $6 million in its 2007 budget).

When the inevitable collapses occur, as we are now seeing with DRE (Direct Recording Electronic) voting machines, we are told that we need to keep investing in them because … well, because we now have so much invested in them. To that end, we are now hearing talk about turning existing DREs into "ballot marking devices" – that is, voting machines that don't count the vote, just mark the ballot for you -- basically, turning each DRE into a $5,000 pencil. And when that doesn't fly, we hear that DREs are needed for adding new features, like text and language converters.

The proposed Holt Bill (HR 811) attempts to require a text converter in every precinct – a demand which originates from groups that, it turns out, are the same ones that lobbied for the Help America Vote Act (HAVA) to require the multibillion-dollar DRE purchase in the first place.

What is a "text converter" and what does it mean? Details on the text converter and its utterly impossible timelines are provided later in this report, but for one thing, the new billion-dollar unfunded mandate for "text converters" helps organizations that lobbied for

HAVA's massive DRE purchases save face by preventing the entire DRE investment from crashing into the ground like the Hindenburg blimp.

Taxpayers and elections officials certainly did not realize in 2002 when HAVA was used to mandate the purchase of billions of dollars in new voting equipment that this was just the initial investment in what would become a continuing hemorrhage. The proposed Holt Bill furthers the investment in a certification and procurement system that is permanently in arrears. There is one difference between the Holt Bill and HAVA: If passed as written, Holt Bill costs will come out primarily from your local municipal and county coffers.

CERTIFICATION AND PROCUREMENT IN A NUTSHELL (as it was intended to work):

1. EAC approves guidelines (Voluntary Voting System Guidelines, "VVSG"). To help you track this process, let's follow an example. Suppose the guideline says "We've decided the buttons on voting machines must be RED."

2. EAC-certified test labs, in conjunction with the National Standards and Technology Institute (NIST), write "TEST SCRIPTS" to match the guidelines. For example, the test script says *"Check that the buttons are red."*

3. The states and federal government signal the industry that there will be adequate funds to pay for a new round of voting equipment (the industry will not begin product development for a specialized product without assurances there will be a market to buy their product). Upon legislation saying "every precinct must now feature a voting machine with a red button" industry starts making red-buttoned voting machines.

4. The industry uses the "TEST SCRIPTS" from Step 2 as specifications and requirements for building their product. In-house quality control will confirm "Did you make sure the buttons are red?"

5. The industry submits their new product to the test labs. "Here's my machine with the red button. Please check that it complies."

6. The test labs verify that the final product passes testing according to the original test scripts. "Yes, the button is red. This product complies."

7. The products are sold for use in the nation's election systems. ("Elections officials, here is an invoice for your new voting machines with red buttons.")

This is how it's SUPPOSED to work. Unfortunately, in real life the process doesn't sync up. It's implemented out of order, turning US elections into a vast and unreliable confidence game, where one bad investment chases another.

In real life, you get machines with YELLOW buttons, which are sold to elections officials because the standards stating that the buttons must be RED don't come out until two years after the machines are purchased. Later, in the process of dealing with the yellow button issue -- "No no, it must be red!" -- the guidelines committees also tack on another requirement: "It shall have talking ballots for people who can't read!"

Then Congress makes a law that says every voting precinct shall have talking ballots. So industry thinks money will be appropriated to pay for the new law, and begins to sell machines with red buttons and talking ballots. However the TEST SCRIPTS for the talking ballot feature are not ready until two years after the talking-ballot machines have been purchased by elections officials. And while NIST prepares the talking ballot test scripts, Congress makes a new law: "Voting machines shall now be prohibited from using components made in China on the motherboard."

So while vendors upgrade the talking ballot feature to meet the new requirements, they replace Chinese components with variants made in San Diego, Tokyo, and Minsk. Except that no test scripts have been written for those variants…

DEVELOPMENT TIMELINE FOR VOTING EQUIPMENT PRODUCTS

Bear with me on this. I am trying to keep it simple, but the story is so convoluted that anyone with a logical brain is bound to have trouble assimilating the way the EAC is doing business. You might feel woozy reading this - it is a bumpy ride filled with curves and inexplicable obscurities.

We start our tale with the following premise…
The EAC develops and approves voting systems guidelines, and the voting equipment industry builds products whose specifications meet those guidelines, since the goal is for their equipment to be tested and certified by meeting those same guidelines.

And the following theory…
The EAC-certified labs take the EAC guidelines and uses them to write test scripts so, when testing the final products, the labs can verify those products meet the guidelines.* The requirements are embodied in the test lab test scripts; because it is against these that the product must prove its certifiability.

*This may seem backwards or counter-intuitive, because in the past voting equipment saturated the market even before anyone thought about testing it to any uniform standards for reliability, security, and accuracy. However, today's paradigm appropriately has the process reversed, where requirements are established ahead of product development.

How this works in the real world…
Figuring out how this works in the real world is a challenge, especially when we try to decipher timelines for actually implementing the whole program. It's difficult to figure

out because the only thing we know for certain is that it seems to take at least two years for the EAC and its various committees to develop, finalize, and approve the guidelines.

Timelines for the rest of the steps are unknown because we simply have no historical evidence of them ever actually being implemented.

HERE'S WHAT WE DO KNOW ABOUT HOW IT WORKS:

- The EAC publishes the Voluntary Voting System Guidelines (VVSG). (Voluntary because it is up to the states whether or not they want to comply with the federal guidelines, but nearly half of the states have laws on the books requiring compliance of one form or another.)

- The Guidelines are always at least *two years behind product to market*. So right now the conforming standards are the 2002 Voting System Standards (VSS), which predate the Voluntary Voting Systems Guidelines, and had been developed by the industry itself under the administration of the National Association of Election Directors (NASED). Under the old system, the industry itself also recruited and paid the test labs, creating an unhealthy conflict of interest and calling into question the validity of the testing and certification program overall.

- With the handover of the testing and certification process from NASED to the EAC, the EAC began working with NIST to develop test scripts for the 2002 standards. The EAC's 2002 standards had built more rigorous testing protocols on top of NASED's program. The documented target date for implementation of the EAC's 2002 standards was for the elections held in November 2006.

- However, the EAC delayed implementation of the new test requirements for the 2002 standards until AFTER the elections. They did this because they knew that NO EQUIPMENT IN USE AT THE TIME WOULD MEET THE TOUGHER TESTING STANDARDS IMPOSED BY NIST.

- So, although the 2002 standards are in place, in fact the EAC cleverly delayed holding the industry accountable to them until Dec. 2006, *one month after the November elections*. In other words, all existing equipment used in the Nov. 2006 general election had been certified according to previous NASED guidelines (either 1990 or 2002) and not the EAC's own 2002 testing and certification standards. Some equipment had not been certified at all. (On top of this, most of the equipment had been tested by Ciber, a lab that the EAC secretly decertified three months before the election for failing to perform its duties. Despite the fact that the EAC knew the lab had not properly tested the voting machines – even to the old guidelines – the EAC did not inform election officials or voters that they were about to vote on improperly tested equipment.)

Essentially, all the work and taxpayer money that the EAC expended in developing the testing standards for the 2002 standards were a colossal waste because these standards were never applied to anything in the real world. Our elections were not made any more secure, reliable, or accurate from any of this.

As we traverse from the 2002 standards to the 2005 guidelines (Version I) to the 2005 guidelines (Version II) –- these are anticipated in 2007 or 2008 -- the timelines still never pan out to any effective implementation.

No equipment in use today is certified to higher standards than 1990 or the 2002 NASED guidelines and none has been through rigorous testing…
The 2002 standards were established by NASED working in conjunction with the industry itself. The subsequent NIST testing program built on top of NASED's 2002 standards demonstrated that those standards were virtually untestable.

The Voluntary Voting System Guidelines, from 2005 and forward, were developed for the EAC under the guidance of NIST, and represent a more substantial and robust system.

THE BOTTOM LINE IS THIS:

In the 2008 elections, there will be few, if any, systems that would be tested and certified to meet any standards established by the EAC/NIST.

NEVERTHELESS, MORE INVESTMENT SEEMS TO BE INDICATED:

Regardless, states wishing now to comply with federal guidelines should –theoretically – invest in upgrades to their equipment at least to the **NASED-EAC 2002 standards and testing** certification plan. As of **December, 2007**, the **2005 guidelines** kick in, testing to the 2002 standards will cease, and states wishing to be in compliance would, depending on how their state laws are written, likely need to invest in retesting their equipment to those newer 2005 standards.

To this point, none have done so; there has, in fact, been no equipment submitted to EAC test labs for 2005 guidelines testing and certification.

NIST-RECOMMENDED TEST LABS NOT READY

It turns out that even if equipment were submitted for testing and certification to the new, more rigorous standards instituted by NIST, it seems the labs are not yet ready to begin the testing anyway. John Gale, of the EAC Technical Guidelines Development Committee, reported in a meeting on November 17, 2006, that he did not believe the NIST labs would be ready to test to the 2005 guidelines even by late 2008:

> "Everything that has been purchased so far is only to 2002 requirements. At the December 2007 date, we'll no longer certify anything to the 2002 standards; they will have to meet 05 requirements. In the past, manufacturers have been

> reactionary instead of futuristic. We have to allow time for the design, build, test, and NVLAP [National Voluntary Laboratory Accreditation Program] certification. NIST test scripts have to be written to the new ones. **It's very important that we talk about the time factor - We are not going to have this done in two years."**

And while substandard equipment remains in use in the nation's elections, and taxpayer dollars continue to spin on the indeterminate timeline for 2005 guidelines implementation, the EAC and its relevant committees are working on the **Voluntary Voting Systems Guidelines Version II**, which will replace the **2005 version I**, rendering 2005-certified equipment (*should there ever be any*) obsolete in 2010, when those Guidelines are expected to become the testing and certification standard.

Finding our way through the EAC guidelines, testing and certification maze

Lost? That's understandable. This business model doesn't make sense.

The EAC *claims* to have guidelines and testing standards in place for their kick ass certification program to provide reliability, accuracy, and security for America's voting systems.

The reality is: None of it is ever put into action.

No systems are submitted for testing and certification under current guidelines. Current guidelines are not applied. And even if they were applied, current guidelines are two years behind product to market. When testing standards and guidelines are improved, they are not implemented until AFTER elections take place. Talk about locking the barn door after the horse has disappeared into the woods!

No wonder things aren't working as planned.

This is an unacceptably inefficient, ineffective, and expensive way to do business, both for the industry itself and for election jurisdictions attempting to use public funding to keep up with an ever changing high tech product line.

EAC assurances (that the voting equipment has passed rigorous testing and certification) can provide NO confidence to America's election officials, voters, and taxpayers that investing into this equipment is a sound or rational move.

THE NEXT ROUND OF INVESTMENTS:

The Holt Bill, HR 811, mandates untested, uncertified, and unfunded technology for every polling place in the nation

The new Holt Bill, HR 811, mandates a brand new techno-toy for every polling place in America by the 2008 elections. The new technology mandated by this legislation is a

"text conversion" device to help disabled, illiterate, and minority language voters by converting the ballot text to what Holt refers to as "accessible media".

We embrace the right of every American to vote privately and independently. However, we question the method identified in HR 811 —a text-to-digital data conversion device— for achieving this worthy goal.

We question the HR 811 voting equipment mandate because most informed sources do not believe the mandated text conversion device even exists, and further—if it does exist, or is currently under development—most informed sources contend it is impossible that such a device could ever be properly tested or certified in time for the 2008 deadline imposed by Holt.

Despite all efforts to provide some clarity on this complex subject, if the explanations provided in this article nonetheless prove confusing, here is the important piece of information everyone needs to understand:

THE UNFUNDED MANDATE IN THE HOLT BILL:

HR 811, if passed as written, contains a significant unfunded mandate, which may incur to every polling jurisdiction in the nation (185,000 of them) an initial cost outlay of roughly $7,000 for new voting equipment (further programming, testing and maintenance could reach a total of up to $20,000 per device). Furthermore, this equipment, if found to exist (which is itself a controversial matter), will be neither tested nor certified to any standards for accuracy, security, or reliability.

Given this reality, the wisdom of the Holt Bill's mandate of yet a whole new round of **untested**, **uncertified**, and **unfunded** computerized voting equipment into every polling place in the nation for our 2008 elections, must be called into question.

WHAT IS THE TEXT CONVERSION MANDATE? WHAT DOES IT MEAN?

Let's look at the new HR 811-mandated techno-toy, and why it could not possibly be available, in *tested* and *certified* form, in time for the 2008 elections.

To understand what the Holt Bill means by converting "printed content to accessible media" we can look at two historical sources. The first is the Election Assistance Commission's (EAC) Voluntary Voting System Guidelines (VVSG-I) drafted in early 2005 by the EAC Technical Guidelines Development Committee (TGDC), revised by the EAC in the summer of 2005, and subsequently finalized and approved in December 2005. The final 2005 VVSG-I, (Section 4.1.1 Accuracy Requirements) includes the following guideline:

> a. For all paper-based voting systems:
> i. Scanning ballot positions on paper ballots to detect selections for individual candidates and contests
> **ii. Conversion of selections detected on paper ballots into digital data**

In other words, all paper-based systems must have their content converted to digital data. Paper-based systems, in and of themselves, are not enough for the EAC.

The second source for understanding HR 811's techno-toy mandate is HR 939, an election reform bill submitted by Representative Tubbs Jones, and mightily supported by People for the American Way prior to the release of Holt's competing bill. Tubbs Jones' bill spells out exactly the meaning of text conversion to "accessible media". HR 939 states that the "individual paper record":

> **shall be available for visual, audio, and pictorial inspection and verification by the voter, with language translation available for all forms of inspection and verification**

Putting two and two together, we understand that Holt's "conversion of printed content to accessible media" means that every polling place in the country must have some sort of device capable of scanning the ballot, converting it to digital data, which can then be converted to different media, such as audio and visual (even pictorial).

Why won't there be a tested and certified product to meet the 2008 mandate? Because the timelines are impossible, unless the process is once again performed out of order, which would render the testing and certification moot, and which is what turned this into a Ponzi operation in the first place.

HERE'S WHY IT'S IMPOSSIBLE BY 2008:

The HR 811 mandate for a text conversion device ostensibly comes from the **2005 Guidelines** - purportedly applicable in **2008.** SOMEONE stuck the *text conversion requirement* into the Holt Bill. The Standards Board, a representational body of top state and local election officials from every state, which is responsible for making real world recommendations about the guidelines, had pointedly recommended *against* including the text conversion guideline into the guidelines. Despite the clear Standards Board resolution to strike all language relating to text conversion, somehow the guideline was *not only reinserted into the 2005 guidelines*, but was actually peppered throughout that document wholesale. And the guideline was then used as the convenient rationale for inserting the device into the Holt Bill.

So what's the timeline for creating the test scripts so the new HR 811 -mandated techno-toy products can be developed, tested and certified to the 2005 VVSG, Version I and/or VVSG Version II?

Not an easy question to answer. We need to go through a few more twists and turns to even try to understand how this might play out.

It is our understanding, supported by Mr. Gale's testimony shown above, that the EAC-certified test labs do not yet have any test scripts for 2005 guidelines, which would

include the HR 811 -mandated text conversion device. They haven't, in other words, figured out how the device should actually work. They don't know yet if it needs a red or a blue button.

Dr. Britt Williams, Professor Emeritus, Kennesaw University, in his Senate testimony, the January 2007 Feinstein hearings on electronic voting, remarked:

> "[The EAC 2005 Voluntary Voting System Guidelines] are not required until December 2007. In the meantime, voting systems can continue to be certified under the 2002 Standards and, at present, no voting system has been submitted for Certification under the 2005 Guidelines….The Technical Guidelines Development Committee and NIST are developing what is being called the 2007 Guidelines. [These guidelines] are scheduled to be used in draft form in July 2007. *Assuming they will require the same timeline as the 2005 Guidelines for public comment, revision, and final approval, it is likely that these 2007 Guidelines will not be required until December 2008, a month after the 2008 elections."*

Dr. William's final conclusion almost perfectly mirrors the EAC strategy for improving the 2002 VSS, which were promised for the 2006 election. So, too, were the 2005 guidelines originally promised to be delivered in time for the 2008 national elections.

But see how history repeats itself with the EAC. Mark Skall, Chief, Software Testing Division, NIST, in a presentation dated March 22, 2005, made the following claims about the EAC efforts to improve the 2002 VSS:

- The goal is to provide guidance to states in time for the 2006 election cycle, by providing the following improvements to the program:
- "Augment" and improve the 2002 VSS to:
- Fill in gaps (accessibility and usability, VVPAT, wireless, and others)
- Correct errors in the 2002 VSS
- Help to ensure that installed voting system software is the software that has been tested
- Produce initial work products in April, plans for completion in November 2005

As we now know, these goals were never met because the EAC delayed implementation until *one month after those elections*.

No equipment has ever been submitted for certification under the 2005 guidelines…

This statement, made in Dr. Williams' testimony, while disconcerting, makes sense, because the 2007 VVSG (VVSG–II) is pending, and the EAC effectively grandfathered all existing equipment to the 2002 standards, when they implemented testing to that standard only AFTER the 2006 elections had taken place.

Testing, after all, is expensive; especially when you know the products won't pass the tests, and you will then be expected to cure conditions of failure.

Why go through that drill when the EAC essentially is telling you not to bother?

Nonetheless, in December, 2007, the 2005 VVSG-I is supposed to become effective, meaning states with laws requiring compliance to federal voting equipment standards *theoretically* can not get fixes to existing systems unless they are tested and certified to those standards. Additionally, states purchasing new equipment should only buy equipment that is tested and certified to the 2005 VVSG-I.

Theoretically, because according to Dr. Williams' testimony noted above, these guidelines will more than likely only kick in ONE MONTH AFTER THE NOVEMBER ELECTIONS in 2008. Just like the 2002 NIST testing standards, which were delayed to a month following the November 2006 elections, when they would do nobody any good, anyway.

If this is the case, the EAC will again carry over existing equipment to the 2002 standards, since thus far nothing meaningful has been done in the industry or in the EAC Certification Program to move beyond those standards.

In his testimony, Dr. Williams continues:

> "Historically, the timeline between the implementation of a Guideline and the time the vendors can produce a voting system under those Guidelines is about 2 years. Unless something out of the ordinary happens, we will go through the 2010, and probably the 2012, elections with the currently available voting systems."

This tells us that the EAC continues to waste taxpayer dollars developing standards for certification, but the industry is never required to apply them to equipment used in our elections.

It also tells us that the text conversion mandate in HR 811 is unattainable in any reliable, accurate, or secure manner for the bill's 2008 mandated timeline for implementation.

REALITY CHECK:

It is now FEB 2007 and every voting system on the market has been certified a) against NASED's 1990 or b) against 2002 VSS, or c) not at all - and certainly not the 2005 Guidelines.

So, with all due respect to Mr. Williams's two-year timetable, we are looking rather at NO LESS THAN SIX YEARS from any given VVSG and its complementary certification testing standards before any product, including HR 811's text conversion technotoy, is introduced to the market in any manner to comply with EAC 2005 testing and certification protocols.

But this is all speculation, because we have not seen any real world product development cycles to meet the 2005 guidelines and are not likely to see anything at all, since soon enough the 2007 standards will make those moot anyway.

What does this mean for our HR 811 -mandated text conversion techno-toy?
For the HR 811-mandated text conversion device intended for use in our 2008 elections, what this means is this:

- This is a device for which standards are identified in the 2005 Guidelines.
- Test labs are only just now being identified by the EAC.
- These test labs are only just now beginning to write test scripts for the 2005 Guidelines.
- There are as yet no test scripts for the text conversion product; informed sources believe there would be none until December 2008.
- If the test scripts are available in December 2008, and if things actually played out the way they are supposed to, the industry would then begin to design their products according to those test scripts.
- Give them a year or so to plan and design the product – that brings us to December 2009.
- Give them another year or so to build it – that brings us to December 2010.
- Give them another year or so to test it, and we are looking at certifiable text conversion products no sooner than December 2011.

This timeline, however, is highly optimistic. Let's consider just a few of the rigorous standards the 2005 EAC Voting System Guidelines indicate for the text conversion device, against which the device would need to be tested in order to obtain federal certification:

> 4.1.1 Accuracy Requirements
> For each processing function indicated above [which includes "conversion of selections detected on paper ballots into digital data"], the voting system shall achieve a target error rate of no more than one in 10,000,000 ballot positions, with a maximum acceptable error rate in the test process of one in 500,000 ballot positions.

Yes, to be certified, this new text conversion device must achieve an **error rate of no more than one in ten million ballot positions.** This is quite a remarkable goal for a new technological device; it would certainly take quite a lot of expensive product development and testing to reach such a lofty target.

Furthermore, the 2005 EAC Voting System Guidelines state the following stringent requirements for the text conversion device:

4.1.5.2 Ballot Reading Accuracy
This paper-based system requirement governs the conversion of the physical ballot into electronic data. Reading accuracy for ballot conversion refers to the ability to:

a. Recognize vote punches or marks, or the absence thereof, for each possible selection on the ballot
b. Discriminate between valid punches or marks and extraneous perforations, smudges, and folds
c. Convert the vote punches or marks, or the absence thereof, for each possible selection on the ballot into digital signals
To ensure accuracy, paper-based systems shall:
d. Detect punches or marks that conform to vendor specifications with an error rate not exceeding the requirement indicated in Subsection 4.1.1
e. Ignore, and not record, extraneous perforations, smudges, and folds
f. Reject ballots that meet all vendor specifications at a rate not to exceed 2 percent

This new high tech product has some pretty difficult government-specified requirements. It would be remarkable if the industry, upon receiving the final test scripts no sooner than December 2008, could develop such a refined and precise text conversion device even by the 2010 elections!

With this in mind, one would imagine that any proposed federal legislation calling for the use of new voting equipment would, at the very least, contemplate and integrate the federal government's own requirements into any such mandates, allowing the requisite time required for the industry to design and develop products that could meet these rigorous federally developed and sanctioned specifications and requirements.

Our timeline allowing for the possibility of a certified text conversion product by 2011 begins to look more and more impossible, given the EAC's own certification requirements. We optimistically projected three years time from test script development to product release, but we know in reality that here we are five years from the VVSG 2002 and there are still no products developed that go beyond those guidelines, and few, if any, that can demonstrate compliance with these relatively weak standards under the more rigorous testing regime developed by NIST.

Follow the bouncing ball - you'll never be able to catch it.

* * * * *

If anyone can refute this logic I will happily retire from this analysis of the EAC Certification Program as a Ponzi Scheme.

-- Nancy Tobi, Chair, Democracy for New Hampshire

For additional background, or further investigation, you can access this PowerPoint presentation that explains the Election Assistance Commission (EAC) voting equipment certification program, and why it is a Ponzi Scheme:
http://www.democracyfornewhampshire.com/node/view/2848

For more information on the 2005 VVSG:
http://eac.gov/vvsg_intro.htm

For more information on HR 939:
http://www.govtrack.us/congress/billtext.xpd?bill=h109-939

For more information on the TGDC discussion of timetables for testing:
http://vote.nist.gov/HFP/HFPteleconnotes111706.htm

For more information on the Standards Board resolutions eliminating text conversion language from the 2005 VVSG:
http://www.eac.gov/docs/Standards%20Board%20Final%20Resolution%20(As%20Amended).pdf

For more information on Dr. Britt Williams' testimony at the Feinstein hearings:
http://rules.senate.gov/hearings/2007/0207Williams.pdf

For more information on the EAC's budget for the Voluntary Voting System Guidelines and Certification program:
http://www.eac.gov/docs/Senate%20Appropriations%20Testimony%20FY07%20-%20FINAL.pdf