Nuclear Cooperation and the Atomic Energy Act: Ten Worries, Five Remedies

Testimony of

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Submitted to

The House Committee on Foreign Affairs
"Nuclear Cooperation after Khan and Iran: Time for a New Paradigm"

September 22, 2010
Room 2172
Rayburn House Office Building
Washington, DC

I would like to thank the Chairman, the Ranking member and the Committee for inviting me to submit testimony today on the need to update and tighten the U.S. civilian nuclear cooperation provisions of the Atomic Energy Act. Your committee deserves praise for being the first to conduct oversight on this important matter since Congress last completed a major revision of the act in 1978. My basic message to you today is that Congress needs to enforce several neglected nonproliferation provisions in the existing Atomic Energy Act, add additional conditions that would force the Executive to demand more of states it offers nuclear cooperation to, and instruct the Executive to get other nuclear supplier states to adopt similar nuclear restrictions on the nuclear cooperation they offer.

Several recent developments suggest why such updating and tightening of the Atomic Energy Act is overdue. These negative developments are detailed below followed by what Congress can and ought to do to revise the Atomic Energy Act to address them.

The specific legal recommendations made in this testimony include:

1. ***Make it much more difficult for the Executive to avoid having Congress vote in both houses to approve future U.S. nuclear cooperative agreements.*** Require Congressional approval for any proposed nuclear cooperative agreement that a. does not contain the key nonproliferation provisions in the model U.S.-UAE nuclear cooperative agreement, b. is with a state that refuses the IAEA the authority to install near-real-time surveillance communication links for its inspection cameras and monitors, or c. that U.S. intelligence believes has supported proliferation activities in the previous two years or violated international sanctions against other proliferators. The current 90 day requirement for compliant agreements to come into force should be maintained but clarified as to how the days should be counted.

2. ***Bar any foreign nuclear firm that is undercutting U.S. nonproliferation efforts overseas from receiving U.S. government issued licenses, loan guarantees, contract payments or any other relevant official permission needed to expand their nuclear commerce in the U.S.*** Add language to the Atomic Energy Act that would bar the United States government from granting any such subsidies or permissions unless the President can certify a. that the firm in question is upholding the key provisions of the nonproliferation model in the U.S. established with UAE nuclear cooperation agreement and b. that the firm in question is not exploiting government-backed subsidies to achieve commercial advantage in the export of nuclear goods or services over the U.S.

3. ***Add new language to the existing act to get the Executive to implement critical provisions of the current law that they have chosen to ignore***. a. Authorize the Government Accountability Office to create Team-B evaluations of Executive Branch Nuclear Proliferation Assessment Statements (NPASs) upon the request of one chairman of either the foreign relations or intelligence committees in the House or Senate; b. Adapt Section 416 of the House Foreign Relations Authorization Act for Fiscal Years 2010 and 2011 (H.R. 2410) to clarify what the IAEA can and cannot safeguard to provide timely detection and timely warning against possible military diversions; and c. adapt the

provisions of H.R. 3774 and S. 1675 for inclusion in the Atomic Energy Act to ensure proper implementation of Title V of the Nuclear Nonproliferation Act of 1978's, which requires the U.S. to cooperate with developing nations in the assessment and deployment of nonnuclear forms of energy and in the conduct of country-specific energy surveys.

4. Clarify the key terms of the Hyde Act with language that should guide how we treat India. Clarify and amplify the key provisions of the Henry J. Hyde U.S. - India Peaceful Atomic Energy Cooperation Act of 2006 to assure that all U.S. civilian nuclear cooperation would cease, including intangible nuclear technology transfers and programmatic approvals for reprocessing if India chose to resume nuclear testing or violated IAEA safeguards. Reiterate and clarify the need to assure America's NPT compliance and that of other key nuclear supplier states by incorporating the "Implementation and Compliance Report" requirements of the Hyde Act in the Atomic Energy Act itself.

5. ***Add language to the Atomic Energy Act to instruct U.S. delegates to international or regional development banks to vote against extending subsidized loans for new, overseas nuclear construction.***

Ten Worries

1. ***We are now mistakenly drifting into assuming that there is little we can do to prevent other countries from acquiring nuclear weapons and that the proliferation fall out won't much matter.*** "It is likely that more countries will foolishly choose to acquire nuclear weapons. If they are really determined to do so, there is little really that the world can do to prevent them--the main effort has to be in dissuading them from this course of action. How many countries will have nuclear weapons by 2030 is hard to say, but there could well be a total of 15 by then." This grim assessment came from an analysis recently published by the highly respected World Nuclear Association. The premise of this analysis is that we must spread of nuclear power if we are to prosper economically and reduce carbon emissions. Indeed, the analysis pretty much concludes that no matter how awful the security consequences of nuclear proliferation might be – and these are downplayed in the piece – interfering with commercial nuclear exports in any big way is misguided. The association's analysis suggests that the most we can and should do is make marginal adjustments in our attempts to control the spread and inspection of civilian nuclear programs and hope that even with 15 nuclear weapons states, the world somehow remain in perfect, mutually deterred harmony. Unfortunately, this optimism (or cynicism), flies in the face of our experience with Iraq in the late l980s and with Iran today: These cases suggest that if you let countries that have nuclear weapons aspirations build large reactor programs, the only response you're ultimately left with is a military one. From 1980 to 2003, America, Israel, and Iran launched four military air strikes against Iraq's safeguarded, "peaceful" Osirak reactor. During the same period, Iraq launched seven strikes against Iran's safeguarded Bushehr reactor. Now, many fear Israel may bomb Iran's nuclear program. Add Israel's strike against Syria's reactor in 2007 and Saddam's attempted SCUD attack in 1991 against Dimona and the idea that one

can build large reactors in the Middle East without attracting military attention (and very real acts of war) seems dangerously naïve. In this context, being blasé about the links between civilian and military nuclear energy or presuming we can do nothing to limit these threats is irresponsible. Certainly, promoting major civilian nuclear exports without doing significantly more to prevent proliferation would be a mistake.

2. The current law operates in a way that denies Congress much say over the character of U.S. nuclear cooperation. Under current law, most nuclear cooperative agreements automatically come into force after 90 days unless there are super majorities in both houses willing to amend or block them. This can produce odd policy. Even though Russia, for example, has been less than totally cooperative in stemming arms and nuclear cooperation with Iran and refuses to discuss blending down more of its massive surpluses of nuclear weapons fuels, the U.S. has signed a nuclear cooperative agreement with it that Congress is unlikely to block or amend. Since it has been resubmitted, Congress has held no hearings on this proposed agreement at all. Although this committee planned to hold such a hearing today, I understand that the Administration refused to send any witnesses and it had to be cancelled. Several decades ago, the Atomic Energy Act operated in a similar fashion with regard to Iran: The U.S. Congress passively let a U.S. nuclear cooperative deal with Iran go into effect with what we now know were disastrous results. Other potentially controversial nuclear cooperative agreements with states in the Far and Middle East are currently being negotiated. Unless the law is changed, these too are likely to be approved without serious Congressional engagement or deliberation.

3. ***Despite recent efforts to establish tougher nonproliferation requirements in the U.S.-United Arab Emirates (UAE) civilian nuclear cooperation deal, many states are not buying this model.*** Worse, the State Department now seems to be backing off promoting this deal as a "gold standard" for nuclear cooperation more generally. Recently, State announced that it would proceed with a nuclear cooperative agreement with Vietnam that lacked any of the key nonproliferation provisions contained in the UAE agreement (i.e., a requirement that the recipient of aid ratify the IAEA's Additional Protocol on nuclear inspections and that the recipient forswear acquiring the means to make nuclear fuel or heavy water). Meanwhile, several Middle Eastern states, including Turkey, Egypt, Saudi Arabia, and Jordan, have refused U.S. requests to adopt similar conditions.

4. ***Nearly all of the world's key nuclear suppliers – i.e., Russia, France, Japan South Korea, Canada, and China – are undercutting U.S. efforts to establish the UAE deal as an international standard.*** All of these alternative suppliers have been offering concessionary government-backed financing or discount pricing on their civilian nuclear exports (something the U.S. reactor vendors cannot afford) to seal deals. More important, all have recently reached or are in the process of negotiating nuclear cooperative agreements that lack the nonproliferation conditions contained in the U.S.-UAE nuclear cooperative agreement. Now, it appears, some in our State Department want to back off insisting on the UAE deal's key nonproliferation provisions even in the Middle East. All of this threatens to unravel the U.S. UAE nonproliferation initiative, which both Presidents Bush and Obama have backed. The reason why is simple: Under

the terms of the U.S.-UAE nuclear cooperative deal, if the U.S. approves any nuclear cooperative agreement that has more favorable terms for any other Middle Eastern state, the UAE has legal grounds to demand renegotiation of their own nuclear agreement with the U.S. to secure similar liberal terms.

5. ***The key nuclear suppliers undermining U.S. nonproliferation efforts overseas include the same firms most eager to expand their nuclear sales in the U.S***. France is asking for billions of dollars in U.S. government loan guarantees to build nuclear power plants, fuel making facilities, and reactor component factories here in the U.S. The French also have secured contracts worth billions of dollars from the U.S. Department of Energy to build a large, mixed oxide (MOX) fuel fabrication plant at Savannah River. They and other foreign firms also are seeking U.S. Nuclear Regulatory Commission licenses to allow for the construction of plants here. Russia wants to vastly increase its sales of low enriched uranium to U.S. power utilities and is now contemplating building a uranium enrichment plant in the U.S.

6. ***China's announced sale of power reactors to Pakistan and increasing pressure to expand the Indian – U.S. nuclear cooperation model, could undermine what international nuclear controls remain.*** Like the U.S. in its announced sale of nuclear goods to India, China announced its sale to Pakistan this spring without demanding that Pakistan offer up some new, significant form of nuclear restraint in exchange. As a result, both the authority of Nuclear Nonproliferation Treaty (NPT), which exchanges civilian nuclear cooperation for nuclear weapons restraint and that of the Nuclear Suppliers Group (NSG), which otherwise bans sales to states that don't open up all of their nuclear sites to international inspections, is at risk. Key nuclear restraints are called for in implementing the U.S.-Indian nuclear cooperation agreement in the Henry J**.** Hyde United States-India Peaceful Atomic Energy Cooperation Act of 2006. Some legal experts, however, argue that much of they Hyde Act has been superseded by diplomatic agreements reached between India and the U.S. after the Hyde Act was passed. In their view, the restraints in the Hyde Act are now effectively dead letter.

7. ***As the U.S. reconsiders the commercial use of plutonium-based nuclear fuels in the U.S., it is being pressed to renegotiate current cooperative agreements to allow other states to do the same despite IAEA's difficulties in safeguarding such activities.*** The U.S. Department of Energy recently convened a blue ribbon commission to advise it on how to deal with spent reactor fuel in the U.S. One of the key industry recommendations this commission is considering is whether or not to reverse over three decades of U.S. nonproliferation policy by giving a green light to the recycling of spent fuel and the commercial use of plutonium-based nuclear fuels in U.S. civilian reactors. Presidents Ford and Carter decided in 1976 and 1977 to defer such activity and to urge other countries to do so as well because it brings countries to the brink of acquiring bombs. Even before this commission reports later this year, pressure to change America's current policy of deferring the commercial use and production of plutonium-based fuels has come from states, such as South Korea, who want permission to recycle U.S. origin spent fuel. This pressure comes even as evidence mounts that the International Atomic Energy Agency (IAEA) is incapable of detecting possible military diversions of a bomb's worth

of nuclear fuel or more from such nuclear fuel making plants in anything approaching a timely fashion (see the latest IAEA report on the agency's difficulty in confirming what Iran is doing in its nuclear fuel production activities). Under U.S. law, no bilateral agreement can be reached to allow another nonweapons state to recycle U.S. origin fuel unless it is clear that the U.S. will have "timely warning" of any diversion of this material to military purposes. Unfortunately, to date, the executive has yet to define what timely warning of possible nuclear diversions quantitatively requires.

8. ***It is increasingly unclear what civilian nuclear activities and materials the IAEA can effectively safeguard against military diversion.*** With the Israeli bombing of a suspected Syrian military production reactor three years ago, the IAEA's recent difficulties in accounting for declared Iranian uranium hexaflouride and enriched uranium production, and its total lack of knowledge about the covert Iranian nuclear sites at Qom, the IAEA's ability to safeguard against illicit nuclear activities is increasingly in doubt. Adding to this concern are official, internal IAEA audits that determined that the agency lacks continuity of safeguards over fresh or spent nuclear fuel at nearly two-thirds of the sites it inspects since the agency lacks near-real time surveillance communication links to most of its nuclear inspection cameras and sensors. What this means is that during the 90 days between visits by actual inspectors, the IAEA has no idea if the cameras and monitors are on, if the lights have been turned off at the facility or if the cameras' view is being blocked by cranes or other reactor equipment. Assessing and clarifying what the IAEA can and cannot adequately safeguard was one of the things the Congressionally mandated bipartisan Commission on the Prevention of WMD Proliferation and Terrorism unanimously urged our government to do on a routine basis. Although such assessments have yet to be done, it is critical to the proper implementation of U.S. nuclear cooperative agreements since the U.S. relies heavily on the IAEA to make sure nothing the U.S. exports ends up helping the recipient make nuclear bombs.

9. ***Even as the economics of building new reactors have become increasingly negative, there has been a dramatic upswing in the number of countries interested in launching significant, civilian nuclear energy programs.*** Many of these states are in the natural gas rich, war-torn regions of North Africa and the Middle East as well as South East and South West Asia and the Far East. Part of the reason for this upswing in interest is nuclear hedging against hostile neighbors, such as Iran and China, who have nuclear programs of their own. Part of it, however, is a consequence of our own energetic promotion of the virtues of nuclear power for smaller states. Sadly, this pitch is less than honest about the relative economic merit of such investments. Recently, the CEO of America's largest nuclear utility, Excelon, noted that it would not make sense for his utility to construct another nucelar power plant for one to two more decades given the persistent projected low costs of domestic natural gas. Meanwhile, internationally major natural gas finds have been made in Europe, Asia and off the coasts of Israel and Egypt. Under the Atomic Energy Act as revised by the Nuclear Nonproliferation Act of 1978, the U.S. government is supposed to promote the development of nonnuclear forms of energy in cooperation with emerging states and generate routine, country-specific, energy development surveys. Yet, to date, no administration has yet chosen to comply with

these legal requirements. Such surveys are clear feasible to do: In fact, they have been done occasionally for other reasons in the course of U.S. AID operations.

10. ***Some nuclear suppliers states are now attempting to get international financial institutions that the U.S. is a significant contributor to, such as the World Bank, to finance questionable nuclear projects in trouble-prone regions.*** Again, France is one such petitioner. So far, the U.S. has been relatively passive against such pressures. Back in 2007, Bush and Putin recommended that international financial institutions and regional development banks make cheap loans to promote nuclear power plant construction in developing nations. Yet, as the bipartisan Commission on the Prevention of WMD Proliferation and Terrorism noted in its final report, the connection between large "peaceful" nuclear programs overseas and nuclear weapons proliferation recommends just the reverse. It unanimously recommended that the U.S. actively discourage the use of financial incentives in the global promotion of nuclear power as much as possible.

Five Remedies

1. ***Make it much more difficult for the Executive to avoid having Congress vote in both houses to approve future U.S. nuclear cooperative agreements.*** Historically, Congress has rarely amended or blocked civilian nuclear cooperative agreements that the Executive has presented to it. When Congress has, the results have been beneficial. In the early l980s, Congress conditioned and so delayed the proposed agreement with China. This agreement only proceeded after China became a member of the NPT and the Nuclear Suppliers Group (NSG) and stopped construction of a significant nuclear fuel-related plant in Iran. In 2008, Congress objected to the proposed nuclear cooperative agreement with Russia, got President Bush to withdraw it, and spared the U.S. possible diplomatic embarrassment after Russia invaded Georgia. Congress also called for and got the Bush and Obama administrations to renegotiate the nuclear cooperation deal with the UAE. As a result, the agreement that finally was struck was much clearer regarding the specific nonproliferation steps the UAE had to undertake.

These Congressional interventions, though, were unusual. Under the Atomic Energy Act of 1954, civilian nuclear cooperative agreements automatically become law after 90 days of continuous legislative session unless Congressional majorities in both houses are able to pass a law rejecting or conditioning the deal. The President, of course, can veto such legislation, which means that the legislative majorities objecting to or conditioning a nuclear cooperative agreement must be overwhelming for any Congressional condition or rejection to prevail.

This not only decreases Congress's incentive to object to proposed nuclear deals, it frequently discourages it from performing even minimal due diligence or oversight. Consider the recent nuclear cooperation agreement reached with Turkey. Turkey is a state that only recently was a major nuclear proliferation transshipment hub for controlled

goods going to Iran. It currently has an ambiguous policy toward Iran's nuclear program and it once harbored desires to acquire nuclear weapons for itself. It even conducted studies on how it might use light water power reactor spent fuel as a source of weapons material. Yet, despite these points, Congress failed to hold even a single hearing regarding the U.S. nuclear deal.

This lack of Congressional oversight also has encouraged the Executive to become increasingly sloppy in how it implements its obligations under the Atomic Energy Act. With each nuclear cooperative agreement it submits to the Hill, the Executive is supposed to conduct a thorough nuclear proliferation assessment statement or NPAS. Yet, in the case of the controversial U.S.-Russia nuclear cooperative agreement that the Bush Administration sent to Congress two years ago, the Government Accountability Office found that the NPAS was incomplete and rushed and that initially it was not even fully coordinated within the intelligence community.

A sure-fire remedy to these lapses would be for Congress to take back some of the authority it delegated more than a half century ago to the Executive to present nuclear cooperative agreements to the Hill not as treaties or laws, but as a type of fast-tracked executive agreement. This was done when Congress passed the Atomic Energy Act of 1954. At the time, Congress's delegation of its power to regulate commerce seemed sensible. Eisenhower had just announced the Atoms for Peace Program and wanted to demonstrate America's willingness to share the "peaceful atom" with as many countries as quickly as possible to win a public relations war against the Soviet Union.

Those days, though, have long since passed. Instead of extremely small zero power research reactors of the sort Eisenhower offered in the 1950s, the United States is now striking nuclear cooperation agreements to transfer 1,000 megawatt reactors (or larger) capable of producing scores of bombs' worth of plutonium annually along with extensive nuclear training for hundreds of technicians. Also, after the nuclear inspections gaffes the IAEA has experienced in Iraq, Iran, Syria, Libya, Algeria, Taiwan, and South Korea, we now have a better idea of the inherent limits of international nuclear "safeguards" than we did in the 1950s.

How, then, should Congress proceed? The Atomic Energy Act makes a distinction between two types of proposed nuclear cooperative agreements. One set of agreements is with states that are noncompliant with a list of nonproliferation conditions specified in the act (e.g., that the state in question is a member of the NPT or has all of its nuclear facilities under international inspection, etc.); another set is not. If the proposed agreement is one with a state that complies with the conditions listed, the agreement is considered to be "compliant" and need only be presented to Congress and sit for roughly 90 days before it automatically comes into force. If the proposed agreement is one with a state that is noncompliant, though, such as was the case with India (a non NPT member that only has selected nuclear facilities under international inspections), the agreement can only come into force if a majority of both houses of Congress vote to approve it.

To increase pressures on the Executive to include more nonproliferation features in future nuclear cooperative agreements they negotiate, Congress needs to add to the list of required conditions for any proposed agreement with a nonweapons state to be considered to be compliant. In specific, Congress should demand that any proposed agreement with a nonweapons state contain the key provisions in the UAE agreement, which the Bush and Obama administrations both sold as being the model for all future agreements. The nonweapons state in question have ratified the Additional Protocol or agreed to do so in a legally binding fashion before it receives and controlled U.S. nuclear technology or goods. It also should have forsworn producing nuclear fuel or heavy water reactor related goods in a legally binding fashion with the U.S. a condition for receiving U.S. controlled goods or technology.

In addition to these conditions, the U.S. should require the nonweapons state in question to have authorized the IAEA to establish near-real time surveillance communication links with its nuclear inspection cameras and sensors. Iran has refused repeated IAEA requests that it allow the agency to establish such links. UAE officials, when asked, made it clear that they would be happy to do so but were never asked to do so by U.S. officials. If the U.S. and other nuclear suppliers are serious about the IAEA safeguarding and monitoring effectively, they should support such a requirement for all nuclear cooperation with nonweapons states.

Beyond this, any proposed recipient of U.S. nuclear cooperation should have a clean nonproliferation record for at least a period of two years. Neither it nor any of the entities it supports should have assisted any other nonweapons state to acquire illicit nuclear-related goods or technology (including not only controlled nuclear goods, but controlled nuclear-capable missile technology and goods as well). In addition, the country in question should have complied with all United Nations sanctions against other proliferators.

Finally, the current 90-day required period of presentment of nuclear cooperative agreements before Congress ought not to be reduced. Some have suggested this as political gesture to the Executive and the nuclear industry. But taking such a step would be a mistake.

Consider the UAE deal, which was first signed the first week of December of 2008. It had to be resubmitted with the new session of Congress in 2009. This was fortunate because Congressional members and staff raised major objections to the agreement's text on two separate occasions, which, in turn, forced the agreement to be renegotiated on two separate subsequent occasions in 2009. As result, the final agreement was only ready to be submitted to Congress the end of May, nearly a half-year later.

Had the agreement, which was legally deemed to be compliant, been under an expedited presentment procedure of say 60 rather than 90 days and was submitted in the beginning of 2008 rather than at the end in December, it's unclear if Congress would have had the leverage or time it needed to get the Executive to correct the agreement before it would have automatically come into force. Reducing the current 90 day requirement, as such,

risks reducing Congressional oversight and eliminated room the Executive branch might need to quietly make corrections.

This is not to argue, however, that the current requirement does not need to be clarified. Currently, the Atomic Energy Act is quite vague about how to count the required 90 days (e.g., is 90 days of session, 90 days of continuous session, 90 legislative days etc.) and what the counting rules are to get to 90. This should be clarified in law so that it no longer need be the call of Congressional parliamentarians when the end of the 90 day period is.

2. ***Bar foreign nuclear firms that are undercutting U.S. nonproliferation efforts overseas from receiving U.S. government issued licenses, loan guarantees, contract payments or any other relevant official permission they require to expand nuclear commerce in the U.S.*** This could best be accomplished by adding language that would bar the United States government from granting any permissions, contracts, licenses or subsidies unless the President can certify a. that the firm in question is upholding the key provisions contained in the UAE nuclear cooperation agreement and b. that the firm in question is not using government-backed subsidies to achieve commercial advantage in the export of nuclear goods or services over U.S. vendors.

To be sure, proposing such an amendment will cause foreign firms and our own State Department to protest. But if our government is serious about preventing the further spread of nuclear weapons related technology and goods, it is difficult to argue that we should help foreign nuclear firms expand their business here if they are undermining U.S. nonproliferation policies and engaging in unfair trade practices that prevent U.S. firms from competing effectively overseas. Certainly, if our foreign competitors joined the U.S. in backing the UAE model and banning the use of subsidize government export supports at the Nuclear Suppliers Group, nonproliferation and fair trade would be served at the same time and this proposed amendment would be unnecessary.

The standard rejoinder to this is to argue that the United States cannot demand anything more in the way of nuclear restraint that what other leading supplier nations are already willing to do. History and commonsense, however, suggest otherwise. In fact, after Congress amended the Atomic Energy Act in 1978, the Nuclear Suppliers Group actually adopted controls over the very same dual use nuclear goods the United States controlled. The NSG also refused to export to nonnuclear weapons states that did not place all of their declared nuclear facilities under international safeguards. Finally, commercial reprocessing ended in Germany and plans for such activities were dropped in South Korea, Pakistan, Iran, Belgium and several other states. In short, America led, explained why it was taking the steps it did, and a good deal of nuclear restraint was achieved.

Today, the world is hardly all that different. Key nuclear supplier states *still* have reasons to care about what the United States thinks. Consider the case of France. France is quite keen on doing business in the United States. Although the French have lost several billions of dollars in the effort to build a reactor for Finland and lost billions of dollars

more when it lost its bid to build reactors for the UAE, it hopes to make up these loses by selling nuclear plants in the United States. The first of these prospective sales is a 2.7 billion dollar French mixed oxide fuel fabrication plant it has contracted to build for the U.S. Department of Energy. It is being paid for with U.S. taxpayers' money to help dispose of 43 tons of U.S. surplus military plutonium. Then there are the power reactors (at least six) that France wants to build in the United States. Each of these will roughly cost between four and seven billion dollars to construct. Most require subsidized U.S. federal loan guarantees, which will save the operator at least 13 billion dollars per reactor over 30 years. Finally, the French are seeking licenses for all of these plants and additional U.S. loan guarantees to complete a planned 2 billion dollar uranium enrichment facility in Idaho. The French claim that they have already secured nearly 4 billion dollars in prospective enrichment contracts for this plant.

All of this suggests why France has reason to listen to reasonable nuclear nonproliferation requests from Washington. Assuming France does the right thing and supports the conditions that the United States imposes on itself, count on the Germans and the United Kingdom following in kind to maintain European Union harmony. Russia, which is interested in securing German assistance to perfect its power reactors domestically and for export, in turn, could find its own reactor exports that incorporate German technology having to operate under German export controls. Presumably, South Korea and Japan, close U.S. allies, could be persuaded to follow these examples, leaving China in the unenviable position of being the odd man out.

Beyond the French example are the Japanese and Russian nuclear firms that hope to secure U.S. government nuclear energy loan guarantees, U.S. Nuclear Regulatory licenses, or other official permissions to build reactors in the U.S., build nuclear fuel making plants, or sell fresh low enriched uranium to fuel U.S. reactors.

3. ***Add new language to the existing act to get the Executive to implement critical provisions of the current law that they have chosen to ignore*** – i.e., doing proper nonproliferation assessments, conducting country-specific nonnuclear energy surveys and cooperating in the assessing nonnuclear forms of energy with developing states, and determining what "timely warning" of possible nuclear diversions entails**.**

> **A. Nuclear Proliferation Assessment Statements (NPASs).** Last year, the Government Accountability Office's published a critique of the NPAS the Executive did for the U.S. – Russian civilian nuclear cooperative agreement submitted in 2008. Their essential critique was that the Executive needed to conduct these assessments more broadly than they have been doing. Instead of merely asking if there is clear evidence that the country being examined has actually violated specific nuclear laws or controls, the Executive should give a complete picture of what sorts of illicit or shady nuclear, dual use, and nuclear capable missile technology transactions the candidate state has made or is suspected of. With the most controversial nuclear cooperation agreements, Congress should be able to ask for a Team-B assessment of the Executive

Branch's NPAS to highlight possible additional concerns. Towards this end, it would be useful for Congress to add specific language in the Atomic Energy Act authorizing the creation of such teams. The Government Accountability Office, which conducted an assessment of the Russian cooperative agreement NPAS, would be an appropriate agent either to do the work itself or to manage or create such teams.

B. Quantifying what "timely warning" entails. Under the Nuclear Nonproliferation Act of 1978, the executive branch must demonstrate that it can ensure "timely warning" will be afforded of possible nuclear military diversions before it can allow other states to recycle U.S. origin spent fuel, a process that can enable a state to produced nuclear weapons usable plutonium. This requirement is generally required of all U.S exports. In response to an earlier written inquiry from your committee on whether or not all nuclear nonweapons state NPT members had an unqualified right to make nuclear fuel and to receive U.S. controlled nucelar goods, State Department officials noted in November of 2007 that "A key consideration of the U.S. Government, in this regard, is the need to ensure timely warning of diversion to non-peaceful purposes sufficient to permit an effective response."

To accomplish this the U.S. government needs to be sure that none of its civilian nuclear assistance can be diverted to make bombs without there being warning early and reliably enough to allow sufficient time to intervene to prevent the diversion from ending up as a bomb. The question is what does achieving this require.

One answer is that that IAEA safeguards already assure this; that if agency safeguards are applied to any nuclear activity or material, the IAEA is sure to detect a diversion at least some time before it actually occurs and so afford what is known as "timely detection." Unfortunately, it is far from clear if 1. the IAEA can actually meet its own timeliness detection goals for specific nuclear materials and activities in various locales or 2. the IAEA's timeliness detection goals are tough enough to provide either timely detection or (as distinct from timely detection) timely warning -- i.e., enough time to allow an outside authority to intervene to prevent a diversion in progress from actually producing a nuclear weapon.

After several years of analysis of these matters by my own center and by the Congressionally mandated Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, there is considerable evidence that the answer to both these questions is no. Unfortunately, to date, no administration Democratic or Republican has bothered to do the detailed technical analysis required to clarify the answers to this set of questions.

Your committee fully appreciates this. That's why last year it voted to require the Executive at least to assess the IAEA's ability to meet its own timely detection

goals and to routinely report their findings to Congress. You included this requirement in Section 416 of the House Foreign Relations Authorization Act for Fiscal Years 2010 and 2011 (H.R. 2410), which passed the House but has not yet been taken up in the Senate. It would be helpful if this language could be reintroduced as an amendment to the Atomic Energy Act. In addition, Congress should demand that the executive assess the extent to which various existing IAEA timeliness detection goals are good enough to meet the criteria that achieving timely detection as the IAEA defines it or the timely warning that U.S. law demands.

C. Conduct nonnuclear energy surveys and cooperation as required under the NNPA. Finally, the Nuclear Nonproliferation Act (NNPA) of 1978 has a provision, Title V that requires the U.S. government to conduct nonnuclear energy cooperation and energy assessment assistance with developing states. To date, no Administration has yet chosen to implement this provision. This is a mistake. In fact, the current debate over what peaceful nuclear activities are protected by the NPT turns in no small part on how economically competitive the nuclear project in question might be against nonnuclear alternatives. Certainly, such economic analysis has been critical to how the NPT's other pledges to share the peaceful benefits of nuclear energy are now read.

Thus, the NPT's promise to share the "potential benefits of peaceful nuclear explosives" by affording turn key civil nuclear explosive services to developing states was never realized (or requested) for the most prosaic of reasons. After calculations were made as to how much it could cost to clean up the radiological mess left after using nuclear explosives to dig mines, canals, and the like, the "benefits" turned out to be negative. That the use of such explosives was virtually indistinguishable from nuclear testing also didn't help. If a nuclear activity is uneconomic against nonnuclear alternatives and cannot be effectively and reliably safeguarded against being diverted to military purposes because it is too close already to being a nuclear weapon to provide timely warning of a military diversion, a pretty strong case can be made that it ought not to be protected by the NPT.

Again, the Congressional Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism unanimously recommended that Title V of the Nuclear Nonproliferation Act of 1978 be implemented. Doing so would finally bring the U.S. government back into compliance with existing law. It also would be a natural way to support the efforts of the United Nations to stand up a new International Renewable Energy Agency (IRENA). Language to accomplish this has been proposed by Congressman Jeff Fortenberry, H.R. 3774, and Senator Daniel Akaka, S. 1675). This language should be adapted in any mark up the existing Atomic Energy Act. Finally, since U.S. AID has already produced some sound country specific energy surveys, has no clear conflict of interest as might be the case with the nuclear energy heavy U.S. Department of Energy, it would make sense to give them the lead on such cooperation and survey work.

4. Clarify the key terms of the Hyde Act with language that should guide how we treat India. Questions have arisen concerning the Obama Administration's most recent agreement to let India reprocess U.S. origin spent fuel even if or after India might choose to resume nuclear testing. As such, it would be useful to amend the Atomic Energy Act to clarify and amplify key provisions of the Henry J**.** Hyde United States-India Peaceful Atomic Energy Cooperation Act of 2006 that addresses such issues. In specific, it would be useful to make it clear that all U.S. civilian nuclear cooperation would cease, including intangible nuclear technology transfers and programmatic approvals for reprocessing if India chose to resume nuclear testing or violated IAEA safeguards. It also would be useful to stipulate that if India did test or violated its IAEA safeguard obligations, the United States would only resume nuclear cooperation with India if India either agreed to nuclear weapons reductions or dismantlement or gave up making nuclear fuel.

Finally, Under the Hyde Act there is an annual "Implementation and Compliance" requirement that the Executive report to Congress to determine if India is producing more nuclear weapons fuel as a result of its civilian nuclear importation of uranium. If so, French, Russian, Chinese or US suppliers of such fuel (i.e., the NPT nuclear weapons states) would be implicated in violating Article I of the NPT and would be duty bound to suspend any further civilian fuel exports to India unilaterally and to alert the NSG. To assure this outcome, it would be helpful to reiterate and clarify this reporting provision in the Atomic Energy Act since some legal experts have argued that the Hyde Act has been superseded by understandings reached between our diplomats and the Indian government. Establishing this as U.S. policy regarding India would be important in creating a possible standard for any future civilian cooperation other supplier states might afford other nuclear weapons armed non NPT member states, like Pakistan.

5. ***Add language to the Act that would instruct U.S. delegates to international or regional development banks to vote against extending subsidized loans for new nuclear construction.*** This recommendation again comes from the bipartisan Congressional Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, which unanimously agreed that the United States should discourage the use of government backed financial incentives to promote civilian nuclear power. The commission reached this conclusion because of the inherent security risks of spreading nuclear energy programs overseas and did so despite the pleas of Presidents Bush and Putin in 2007 that international financial institutions (e.g., the World Bank and regional developmental banks) afford subsidized financing to promote large nuclear energy projects overseas. Legislation should make it clear that the U.S. delegates to any such banks should be instructed to vote no to such proposals.

More, of course, could be added to the existing Atomic Energy Act to shape U.S. nonproliferation policy. Given the recent vote in the Indian parliament against exempting U.S. and other foreign reactor vendors from possible liability for off-reactor-site damages in the case of a nuclear accident, Congress should encourage U.S. vendors to pool their resources to allow them to self-insure against such possible law suits as soon as possible.

Price Anderson liability protections are projected to sunset in the U.S. in 15 years. This period should be used now to develop a clear alternative to such Federal insurance caps and supports.

One might also clarify what U.S. policy ought to be regarding the implementation of nuclear cooperation with Russia and how the proposed nuclear cooperative agreement might be tied to Russian willingness to support President Obama's objective of blending down more of the world's surplus of weapons grade uranium and isolating proliferators, like Iran. In specific, Russia has refused to go beyond its current commitment to blend down 500 tons, which expires in a few years and its cooperation in sanctioning Iran has been mixed at best.

Finally, U.S. policy since l976 has been to defer the production or recycling of plutonium based civilian fuels for the simple reason that these activities and materials bring states to acquiring nuclear weapons. Yet, there are many in the nuclear industry here and overseas that want to reverse this policy and get U.S. ratepayers to pay for these activities in the U.S. through the U.S. nuclear waste fund. The bipartisan commission I served on looked into this matter and unanimously recommended that the U.S. maintain its domestic moratorium on commercial reprocessing. Given the international security implications of reversing existing U.S. policy to defer such recycling, this committee would do well to demand in law that any change require passage of a resolution of approval in both Houses of Congress.