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Lessons Not Learned from Fukushima

By Tami Thatcher

On the anniversary of the Fukushima nuclear accident of March 15, 2011, and in light of the LINE Commission report [1]to promote all things nuclear, I would encourage Idahoans to read the "Fukushima Nuclear Accident Independent Investigation Commission" report. [2] Despite Fukushima involving an earthquake and tsunami, the Japanese commission found that the nuclear accident was actually man-made due to the lack of governance by the government, regulators and plant owner (TEPCO). Japan's regulators and TEPCO were aware for years of the higher risk of a tsunami much larger than the plant had been designed for. Many identified seismic deficiencies had also not been corrected. The report found that numerous organizational and regulatory systems supported faulty rationales for decisions and actions. The increased risk was ignored as upgrades were delayed. Profit and industry interests were put ahead of public safety.

Idaho's INL DEQ [3]has no role in the oversight of ongoing INL operations not related to cleanup. The Department of Energy regulates itself with enormous discretion in how it interprets requirements that affect the level of public safety regarding INL hazards, hazards that are often obscured from public view.

In one stunning example, by removing Advanced Test Reactor canal fuel storage from the INL Spent Fuel Environmental Impact Statement [EIS] using a uniquely contrived definition of "reasonable foreseeable" "beyond design basis" events. The ATR canal fuel storage accident results, that far exceeded all other accidents in the document, were removed while giving the appearance of presenting all accident risks. On numerous occasions, serious design and analytical problems were discovered at the ATR storage canal where an accident poses serious off-site contamination and is characterized by an early lethality distance of 12 miles. The DOE does not say oops about its EIS missteps, and DOE's occurrence reporting is increasingly gamed to underreport and understate the implications of the problems found.

The LINE report makes its priorities clear: it's all about the money. At the start of nuclear power in this country, accident consequences were estimated for *both* public health and economic impact. Japan's taxpayers are on the hook for a currently estimated over $500 billion dollars worth of cleanup and compensation and cleanup will continue for decades. While DOE (and the NRC)[4] have focused on refining weather-related dilution coefficients to reduce short term calculated accident doses, the problem of the economic cost of an accident has been

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[1]Line Commission; http://line.idaho.gov/

[2] Japan commission report is at http://www.nirs.org/fukushima/naiic_report.pdf.

[3]Idaho National Laboratory (INL) Idaho Department of Environmental Quality (DEQ) http://deq.idaho.gov/

[4]Nuclear Regulatory Commission (NRC); http:NRC.gov/

addressed by this: ***simply not estimating the costs***. The costs will ultimately be paid by the taxpayers via Price-Anderson.[5]

The Advanced Test Reactor (ATR) was operated for years with piece-meal seismic analyses and numerous piping and electrical system seismic vulnerabilities that would not have withstood very minor seismic events. It operated for years with piping system inspection and maintenance that were far below industry standards, some of this corrected only when a piping expert incidentally become aware of ATR's piping programs. It operated for years with numerous fundamental analysis flaws regarding fuel cooling, both in the core and in the canal, because mistakes were not found due to very limited internal and external reviews of analyses. The role of the ATR as an international research facility does not merit continuation of cold war secrecy or falsely claiming national security risks to justify not fully disclosing problems at the facility. Despite numerous FOIA requests, the DOE has not provided documentation to indicate that a comprehensive seismic performance assessment has been completed. Serious seismic vulnerabilities related to building structures, experiment loop piping, and others are likely not being reported.

At INL, there are too many lessons not being learned about Fukushima as the weaknesses in DOE's implementation of its nuclear safety rule, 10 CFR 830, show. And I issue this challenge to the DOE and INL. If as you claim, the INL seismic risks are low, remove the contrived interpretation that no seismic deficiencies be reported until all analytical techniques have been exhausted (no matter how long these analyses take). Report the deficiencies and place a higher priority on protecting the public.

Tami Thatcher is a former risk assessment analyst for DOE nuclear facilities at INL.

DOE Office of Hearings and Appeals Rules in Favor of EDI FOIA Appeal

Belatedly, DOE Office of Hearings and Appeals issued another Decision and Order related to EDI's Freedom of Information Act (FOIA) 6/23/10 and subsequent Appeal (3/14/11) "regarding the 'Upgraded Final Safety Analysis Report for the Advanced Test Reactor, Revision 19, effective date 8/3/10….As the enclosed Decision and Order indicates, the DOE has determined that your submission be granted in part and denied in part. The document has been remanded to the DOE's Idaho Operations Office (Idaho) for release of a version from which all Unclassified Controlled Nuclear Information (UCNI) has been deleted or for a new determination if Idaho determines to withhold information in addition that which has been properly identified as UCNI.

"Although a finding of exemption from mandatory disclosure generally requires our subsequent consideration of the public interest in releasing the information, such consideration is not permitted where, as in the application of Exemption 3, the disclosure is prohibited by statute. Therefore, those portions of the Upgraded Final Safety Analysis Report that the Deputy Chief has now determined to be properly identified as UCNI must be withheld from disclosure. Nonetheless, the Deputy has reduced the extent of the information previously deleted to permit

[5]Price-Anderson Act; 10-CFR-Parts 820 (Procedural Rules for DOE Nuclear Activities), 970 (DOE Management and Operating Controls). This legislation indemnifies DOE contractors and significantly limits DOE's liability for nuclear accidents.

releasing the maximum amount of information consistent with national security considerations. [6]

As of this writing, DOE/ID has not responded to OHA's ruling to release any additional documents. DOE continues this charade of "national security" to block public access to the Advanced Test Reactor Safety Analysis because the disclosure of how hazardous continued operation of this 54+ year-old nuclear reactor that is decades over its original 20 year design life would expose DOE's deliberate public health and safety exposure.

DOE's response is to censor crucial parts of EDI's FOIA requests related to the Advanced Test Reactor (ATR) built in the mid-1960s. DOE's unsubstantiated justification for censoring these documents was that it could "compromise national security." ATR documents sought under FOIA are related to safety problems, environmental regulatory compliance, and are in no way related to "national security."

Moreover, as the information released by DOE pursuant to EDI's 2007 National Environmental Policy Act lawsuit was prescient for identifying the ATR as a major public hazard deserving a full Environmental Impact Statement so the general public could comment on its continued operation. Currently, the public only gets DOE's public relations statements touting the ATR as the "world's premier test reactor." [7]

For more information on the ATR, see EDI website for "Unacceptable Risk at the Idaho National Laboratory Advanced Test Reactor; the Case for Closure"; http://environmental-defense-institute.org

Idaho Citizens Need to be Fully Informed About the INL's Advanced Test Reactor

By Tami Thatcher

Department of Energy's (DOE) Idaho National Laboratory (INL) contractor has published a brochure to promote the Advanced Test Reactor (ATR), a materials test reactor used by the nuclear Navy and researchers for commercial nuclear power, and also used for isotope production. And while it is expected that such a brochure (available online [i]) would be written to promote the interests of the INL and cast the ATR facility in the best possible light, the brochure does more to misinform the reader than to inform. As a resident of Idaho Falls, I care about our community's economic and environmental health as well as our community's human health. I am a former INL nuclear risk analyst and offer this discussion of statements taken from the brochure in an effort to provide more complete information about the hazards associated with ATR.

INL claim: "As such, the reactor is very well protected from intentional or accidental damage (such as a plane crash)."

Fact: Actually, the ATR is vulnerable to intentional or accidental damage (such as a plane crash). The ATR would probably experience a severe core meltdown and/or spent fuel canal draining in the event of a plane crash into the ATR building. This has been documented in

[6] Marmolejos, Poli, Director Office of Hearings and Appeals; 12/20/12 letter to Chuck Broscious, Environmental Defense Institute; OHA Case No. TFC-0009; Idaho Case No. 10-032D-(OM-PA-11-002).

[7] http://www.id.doe.gov/insideNEID

the ATR probabilistic risk assessment (PRA). The ATR core and spent fuel canal are also vulnerable to building structural failure due to seismic events, building fires or overhead crane malfunction events, as well as many other accident scenarios.

INL claim: "An industrial enclosure, called a confinement structure, surrounds the reactor area and serves as an additional barrier in the highly unlikely event of a release of radioactivity."

Fact: The ATR confinement has almost no effectiveness as a barrier to limit the release of airborne fission products. The ATR confinement (an ordinary industrial building) does not contain or confine radioactivity that would be released in a severe accident. The ATR confinement, once thought to limit the airborne release from the building to 10% per day, was later determined to limit the release to 50% of the air inside confinement per day. And this is during accidents when the confinement remains intact and functioning fully as designed, with the wind not blowing. The confinement may help onsite workers who rapidly evacuate, but at best, the confinement only delays the airborne release by hours or days. And the spent fuel canal which may release more curies than the ATR core should the canal drain is located outside the confinement.

INL claim: "The ATR's confinement structure is similar to that used to cover most test reactors, but the ATR vessel and vessel enclosure structure is significantly stronger than typical test reactors."

Fact: Many test reactors are less than 10 MWt and have low fission product inventories, so the comparison of ATR to typical test reactors is simply not meaningful. The ATR's fission product inventory of nearly one billion curies is comparable to a full-sized commercial reactor.

INL claim: "Commercial reactors, however, operate at much higher temperatures and pressures than the ATR and, in the unlikely event of severe core damage, a commercial reactor could release a great deal of radioactivity."

Fact: While ATR operates at a low pressure and temperature in comparison to commercial nuclear reactors, the ATR fission product inventory of nearly 1 billion curies is comparable to a commercial nuclear reactor. The total core curie inventory of Chernobyl was slightly over 1 billion curies[ii], and estimates have been made that 25% of the core was released to the environment, about 270 million curies.[iii] The Department of Energy's safety analyses of ATR in past Environmental Impact Statement (EISs) has been that about 20% of ATR's almost 1 billion curies would be released: 175 million curies in a severe ATR accident despite ATR's lower 250 [mega-watt] MWt capacity.[iv] The canal spent nuclear fuel fission product I-131 composition could be less than the core, depending on how fresh the hottest core in the canal was, but canal draining events have a higher airborne release fraction than core damage events and there are multiple cores in the canal. To give one perspective, according to a 2010 INL hazards assessment[v], a severe core damage accident evaluated using 95% worst-case meteorology would require a protective action distance of 33 miles. A canal draining event would require a protective action distance of 65 miles. The "early lethality distance" for a severe core damage accident was 2.6 miles and for canal draining was 12 miles. The INL emphasis on ATR's low pressure and temperature is curious because it has absolutely nothing to do with the level of radiological hazard or operational safety of the facility.

Historically, commercial nuclear reactor containments were required by the Nuclear Regulatory Commission to restrict the distribution of radioactive materials; so that, in theory, only breach of the containment would allow release of radioactive materials to the environment. The containment also would serve to protect the reactor from external impacts, wind or hurricane generated missiles or airplanes if the plant was near an airport.

The design of containment for commercial nuclear reactors requires allowance for steam expansion and the accommodation of containment pressurization during an accident. Commercial nuclear containment designs (typically sealed reinforced concrete domes) are quite varied and have been found to be susceptible to various inadequacies. Containments were bypassed in the Three-Mile-Island and Fukushima accidents; the Chernobyl reactor did not have a containment.

When ATR was designed in the 1950's, the need to prevent the release of radioactivity was thought to be adequately addressed by the remote location of ATR. But, when the long term effects of releasing millions of curies even in the remote and low population INL location are examined, it is clear that the effects may last for generations, affecting agriculture and Idaho's economy and costing U.S. taxpayers billions of dollars in compensation and remediation efforts. And like Chernobyl or Fukushima, remediation of contaminated areas will be expensive and inadequate and decades of effort may be only marginally successful in controlling radioactive contamination at the reactor site.

INL claim: "The seismic hazard faced by the ATR is well understood and manageable. The ATR is located on the Snake River Plain, which is seismically quiet compared to the surrounding mountains."

Fact: In most of ATR's operating history, its seismic performance has been a disgrace of piecemeal and incomplete analyses. A finalized site-specific seismic response analysis was not available until 2005[vi], partly due to delays caused by the DOE's reluctance to accept the more severe seismic spectra that modern analyses predicted. The DOE has spent millions of dollars to upgrade seismically inadequate safety equipment since 2005.

The piece-meal identification of seismic deficiencies between 2003 and 2005 at ATR led to reactor shutdown for equipment upgrades. This caused the contractor to create a special interpretation of the 10 CFR 830 Un-reviewed Safety Question process for the handling of any identified seismic deficiencies. The interpretation was that no seismic deficiency would be reported as a safety issue (an Un-reviewed Safety Question) until all analytical approaches had been exhausted (documented in INL's PLN-588[vii]). This allows the contractor unlimited delays to avoid reporting seismic deficiencies which would require inconvenient cessation of reactor operations or operational restrictions.

When seismic event generated forces are predicted to be small, designing the equipment to withstand the applicable seismic design criteria should be readily accomplished. But, documents describing seismic performance review of the facility and revision of the seismic risk assessment have not been made available through Freedom of Information Act (FOIA) requests to the DOE. And, if the seismic hazard is well understood and manageable, when will the INL eliminate the special exemption from timely reporting and assurance of safe operation with regard to ATR seismic safety deficiencies?

INL claim: "[ATR]has [a] robust and mature operations and maintenance programs, [b] a conservative design and operating philosophy, and [c] well-trained and dedicated staff.

Fact a: The maintenance program at ATR has been fixing equipment after it breaks for a long time. The bigger problem has been the fact that functioning equipment has so often been found to not meet the performance assumed in the safety basis due to design and testing deficiencies.

Fact b: ATR has a conservative design relative to Chernobyl's RBMK design but is not conservative to industry PWR and BWR reactors. The ATR uses highly enriched fuel, operates with a very high neutron flux, and operates in highly varied configurations. In addition to less mature safety system designs, the facility is much more vulnerable to analytical mistakes. Folks who operate commercial nuclear plants often cannot even conceive of preparing reactor core startup packages every 4 to 6 weeks as is done for ATR, because they spend 2 years preparing and reviewing commercial reactor startup analyses.

Fact c: The understaffing of operations staff is creating a strain on personnel at ATR and the lack of experienced analysts is creating a new hazard at ATR. It was extremely challenging to solve problems at ATR when there would be a team of engineers with several people who each had 20 or 30 years of ATR experience. The retirement of long-time facility engineers and scientists has created such turnover that many of the now "senior" analytical or management have only a few years of experience at the ATR facility. No one who understands how complex and unique this aging facility is can really be comfortable with so many inexperienced personnel now playing leading roles for the facility.

INL claim: ". . . the [Oversight Assessment]OA follow-up review concluded that important progress has been made since the 2003 review and that the team "did not identify any specific conditions for the systems reviewed that would warrant shutdown of reactor operations.""

Fact: While progress has been made since 2003, and the OA team reviews are brief and limited in scope. Since 2003, the INL has found numerous conditions that have required reactor shutdown or restricted operation. There were 43 positive Unreviewed Safety Questions at ATR between 2003 and 2005, and there have been 23 positive Unreviewed Safety Questions at ATR that may have required reactor shutdown or resulted in operating restrictions between 2005 and 2009.[viii] The INL brochure's highly propagandized summary of the OA team comments is not representative of often understated audit findings of conditions adverse to safety.

INL claim: "Because of a solid safety ethic at INL, the ATR has never experienced a serious accident or incident."

Fact: It is true that ATR has never experienced a serious accident; however, should a severe accident occur at ATR, it could match Chernobyl or Fukushima in severity because of ATR's large fission product inventory of one billion curies. The likelihood of an accident at ATR is higher than for a commercial reactor because of the lack of safety system design scrutiny for the unique facility. Information about various less severe safety and contamination problems at ATR are minimized and largely kept out of public view.

Chernobyl required evacuation of areas up to 50 km or 31 miles away, and cost it and its neighbors over 380 billion dollars. The existing sarcophagus to limit the continuing spread of contamination from the Chernobyl reactor needs upgrades that are estimated at 800 million dollars. Over twenty-five years after the 1986 accident, Cesium-137 levels in some sampled food still exceed safety standards. Controversy exists over the number of premature deaths caused by Chernobyl and range from 6000 deaths to over 1 million deaths[ix] [x].

Fukushima released an estimated 10 to 40% of what Chernobyl released, but fortunately

about 80% went toward the ocean. The cost of compensation and decommissioning is estimated at between $500 and $650 billion[xi]. (Fukushima's operator (TEPCO's) insurance was only $1.6 billion.[xii]) Japan's taxpayers will end up paying the difference.

In a severe accident at ATR, the extent of the airborne release will be largely unmonitored, and the response to the accident would likely be as ineffective as the response at Chernobyl or Fukushima. And the consequences to Idaho would be extremely detrimental economically and environmentally, even with limited radiation doses to the public and by crop interdiction to limit ingestion of contaminated food. The Price-Anderson Act limits the DOE and its contractors from nuclear accident liability. The recovery of damages will be an uncertain process, determined by claims submitted to federal courts and by Congress, and the costs will be paid by US taxpayers.

Fact: The ATR lacks any meaningful regulatory oversight. The ATR operates essentially unregulated as DOE funds the ATR and rubberstamps safety documents provided by its operating contractor of the INL. The Idaho Department of Environmental Quality has no role in the oversight of the ATR. In short, the stakes are too high to allow the virtually unregulated DOE reactor to operate without public scrutiny.

The Fukushima nuclear accident that was initiated by the earthquake and tsunami of March 11, 2011 were natural disasters of a magnitude that shocked the world. However, the conclusion of the Fukushima Nuclear Accident Investigation Commission in 2012 was that "although triggered by these cataclysmic events, the subsequent accident at the Fukushima Daiichi Nuclear Power Plant cannot be regarded as a natural disaster. It was a profoundly manmade disaster – that could and should have been foreseen and prevented. And its effects could have been mitigated by a more effective human response. For all the extensive detail it provides, what this report cannot fully convey – especially to a global audience – is the mindset that supported the negligence behind this disaster.[xiii]"

The ATR was operated for years with piece-meal seismic analyses and numerous piping and electrical system seismic vulnerabilities that would not have withstood very minor seismic events. It operated for years with piping system inspection and maintenance that were far below industry standards, some of this corrected only when a piping expert incidentally become aware of ATR's piping programs. It operated for years with numerous fundamental analysis flaws regarding fuel cooling, both in the core and in the canal, because mistakes were not found due to very limited internal and external reviews of analyses. The OA team in 2003 surprised the DOE by the large number of safety issues they raised.

In light of the Fukushima lessons learned, much more needs to be done to assure that rigorous nuclear industry standards for safety are applied at the ATR. DOE needs to be more open in releasing documents that document the level of safety, the contractor needs to conduct more external and independent review of ATR analyses and programs to justify their claim that ATR is safe, and citizens need to engage in assessing the level of safety that DOE is achieving, especially in this cost-cutting environment.

Despite What INL Officials Say, Serious Questions Remain About What Impact an Earthquake Would Have on the Advanced Test Reactor

by Tami Thatcher.

A recent article in Idaho Falls *Post Register* paper cited Idaho National Laboratory seismic experts and gave the impression that seismic events at the INL would be quite benign. That's odd because INL has spent millions of dollars in the past five years evaluating and addressing seismic deficiencies at the Advanced Test Reactor, according to the deputy director for nuclear operations in a recent letter to the editor.

Safety equipment at ATR has sometimes been found not capable of surviving even 1-in-100 year seismic events, but many needed upgrades have been completed.

The INL deputy stated that seismic deficiencies were immediately corrected. But I know that faced with the difficulty of justifying operation with various seismic issues, with the Department of Energy's blessing the contractor reinterpreted reporting requirements so that no equipment would be presumed deficient before all qualification approaches had been exhausted. This conveniently buys time. In 2008, various seismic deficiencies were corrected, yet no deficiencies had been reported. This leaves me questioning what other unreported seismic deficiencies there might be.

The INL deputy mentioned that in my previous guest column I had cited audit findings that were several years old. The audit findings I cited were less than one year old.

In the 1990s, the facility was touting the completion of upgrading its safety basis. Yet, in 2004, the facility admitted having inadequately analyzed reactor safety and needing to now properly identify and mitigate postulated accident conditions. I was there when a limited scope seismic evaluation was finally funded, and not only were many items found deficient, equipment vital to safe reactor shutdown that had recently been installed to modern seismic criteria was found glaringly deficient.

I saw the discoveries of equipment found to have serious unsuspected failure degradations. I was asked to not report serious reactor safety issues "because the safety basis was falling apart." I did report those issues and many others despite an increasingly hostile work environment.

A low pressure and low temperature reactor with stated doses below 1 rem to the "maximally exposed individual" sounds safe. But that individual has to be more than 34 miles from the facility in favorable wind conditions. According to recent contractor calculations for one accident, an individual at the site boundary in 95 percent worst meteorology could receive a whopping 286 rem [total effective dose equivalent] TEDE and 3410 rem thyroid dose. Don't be in the wrong place at the wrong time and do pray for favorable winds.

I applaud recent efforts to catch up with nuclear industry practices, but will it be enough?

Tami Thatcher is a former risk assessment analyst for DOE nuclear facilities at INL.

Advocates Laud President Obama's Signing of Federal Whistleblower Reforms

After a Campaign Waged Over More Than a Decade, the Whistleblower Protection Enhancement Act Becomes Law

President Obama signed the Whistleblower Protection Enhancement Act (WPEA, S. 743) into law today, marking the finale of a more than decade-long campaign by the Make It Safe Coalition to restore and modernize federal whistleblower protections. The President's unwavering support of the WPEA, paired with Congress' sweeping endorsement by unanimous consent, demonstrates the strong mandate for a new day of accountability in the federal government. These reforms expand protections for federal employees who disclose wrongdoing and protect the public trust.

Whistleblower advocates from organizations with diverse interests and ideologies who together waged a historic campaign for this landmark government accountability reform are enthusiastic about this victory for whistleblowers and taxpayers:

Beth Moten, Legislative Director for American Federation of Government Employees, commented: "AFGE applauds the bipartisan, collaborative work of members of Congress, a diverse coalition of worker advocates and good government groups, and the Obama Administration resulting in the bill signed into law today. The Whistleblower Protection Enhancement Act provides many of the changes in law necessary to protect federal workers when they come forward to report fraud, waste, and wrongdoing in the workplace and to hold managers accountable when they retaliate. AFGE is especially pleased that the law applies to Transportation Security Officers, the federal workers dedicated to the safety of the flying public, and provides them with the same whistleblower protections as other federal workers."

Tom Devine, Legal Director of Government Accountability Project, commented: "This reform took 13 years to pass, because it can make so much difference against fraud, waste and abuse. Over the years, earlier versions of this law had been called the Taxpayer Protection Act. Nothing could set a better context for fiscal cliff negotiations than a unanimous, bipartisan consensus to protect those who risk their careers to protect the taxpayers. The mandate for this law is that the truth is the public's business. The victory reflects strong bipartisan teamwork, as well as advocacy within the party, as Republicans often had to work harder at convincing wary colleagues. And it reflects relentless pressure from conservative stakeholders to whistleblowers and their champions throughout the last 13 years. Unique support came from President Obama, who was committed from day one of his term to signing this bill into law. Most Presidents have offered lip service for whistleblower rights, but President Obama fought to give them more teeth."

Michael D. Ostrolenk, National Director of Liberty Coalition, commented: "With a lack of cooperation as a starting point in our present day political system, it's good to see a positive bi-partisan effort come to fruition. One cheer for President Obama, the Republican held House, and Democrat controlled Senate, and two cheers for the American people."

Pete Sepp, Executive Vice President of National Taxpayers Union, commented: "Today an important chapter in the struggle to recognize whistleblowers for the tremendous service they provide taxpayers has been concluded. This bipartisan effort is proof positive that fiscal

responsibility can be restored to Washington, one step at a time. We look forward to helping write the next chapter in the vital national conversation over how best to make government more efficient and accountable."

Colleen M. Kelley, National President of National Treasury Employees Union, commented: "This bi-partisan effort represents a big step forward in restoring and modernizing whistleblower rights for federal workers. For example, it creates specific legal protection for scientific freedom, providing whistleblower protection rights to employees who challenge censorship, and makes it an abuse of authority to punish disclosures about scientific censorship. By protecting those who speak out, this law increases accountability and transparency in government."

Angela Canterbury, Director of Public Policy for the Project On Government Oversight (POGO), commented: "Today marks a tremendous victory for a historic campaign for more government accountability. The reforms signed into law today will go a long way to change the fact that for far too long the truth about government wrongdoing could easily be suppressed through intimidation and retaliation against the truthtellers. Federal workers will now have a fighting chance at justice when they face retaliation for blowing the whistle on waste, fraud, abuse, and other illegalities. Americans should be encouraged by this law's passage—it demonstrates extraordinary support for a better government that transcends the partisanship that so often characterizes Washington today. Today, the public's trust, health, and safety were put before politics."

Keith Wrightson, Worker Safety and Health Advocate for Public Citizen's Congress Watch, commented: "President Obama and the 112th Congress have made a significant contribution to how civil employees will be treated when they identify workplace hazards. Civil employees can now live without fear of retaliation from their supervisors when disclosures are made."

David Williams, President of Taxpayers Protection Alliance, commented: "This is a historic day for whistleblowers and taxpayers as the President signs the Whistleblower Protection Enhancement Act. Bi-partisan common sense prevailed and the country is one step closer to being a government of the people, by the people, for the people."

Celia Wexler, Senior Washington Representative, Center for Science and Democracy, Union of Concerned Scientists, commented: "At a time when science seems to be routinely under attack in Congress, this legislative success is a breath of fresh air and a reminder that bipartisan cooperation is still possible. Passage of this bill will help American families, who depend on federal agencies to protect them from unsafe drugs, defective consumer products, hazardous workplaces, and polluted air and water. But it also strongly supports the role of independent science as the foundation for federal policymaking. It sends a strong signal that federal scientists deserve respect."

The WPEA includes critically important upgrades to the broken system for federal whistleblowing to better serve taxpayers. Though it does not include every reform that we have sought and will continue to seek, the bill will restore and modernize government whistleblower rights by ensuring that legitimate disclosures of wrongdoing will be protected, increasing government accountability to taxpayers, and saving billions of taxpayer dollars by helping expose fraud, waste and abuse. Overall, the WPEA's provisions will restore free speech rights closed through arbitrary loopholes and create new protections for federal scientists and Transportation Security Administration officers. The bill also will strengthen due process rights, such as a two-year experiment in normal access to appeals courts (effectively breaking the Federal Circuit's monopoly on appellate review); provide compensatory damages; create

whistleblower ombudsmen at Inspectors General offices; and strengthen authority by the U.S. Office of Special Counsel to help whistleblowers through disciplinary actions against those who retaliate and to file briefs in court supportive of whistleblower rights.

Press release; Nov. 27, 2012

This hard fought victory could not have been achieved without the steadfast support of whistleblowers, advocates and nongovernmental organizations alike, who demonstrated a marathon commitment to the restoration of federal whistleblower protections throughout this more than a decade-long campaign. Congressional champions and their staff deserve praise and appreciation, especially retiring Sen. Daniel Akaka (D-Hawaii) and Rep. Todd Platts (R-Pa.), as well as Sens. Susan Collins (R-Maine), Charles Grassley (R-Iowa), Joseph Lieberman (I-Ct.), Claire McCaskill (D-Mo.), Patrick Leahy (D-Vt.) and Carl Levin (D-Mi.), and Reps. Darrell Issa (R-Ca.), Todd Platts (R-Pa.), Chris Van Hollen (D-Md.) and Elijah Cummings (D-Md.). A full list of Congressional sponsors can be viewed here: http://bit.ly/TqyJCe. We cannot thank the whistleblower community and these Congressional offices enough for their resolute commitment to the WPEA.

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[ii] The Legacy of Chernobyl, Zhores Medvedev, W. W. Norton & Co, New York, 1990.

[iii] Final Programmatic Environmental Impact Statement for Accomplishing Expanded Civilian Nuclear Energy and Development and Isotope Production Missions in the US, Vol. 2 Appendixes, page I-6, I-7, DOE/EIS-0310, 2000.

[iv] Ibid. Foot note iii.

[v] Emergency Management Hazards Assessment for TRA-670, Advanced Test Reactor Building, Rev 0, EHA-50, 01/13/10 (Environmental Defense Institute FOIA document).

[vi] INEEL/EXT-03-00942 Revision 1, Development of Soil Design Basis Earthquake (DBE) Parameters for Moderate and High Hazard Facilities at RTC, S. J. Payne, September 2005.

[vii] RTC NPH Assessment Plan, PLN-588, Rev 2, 09/14/2005 (EDI FOIA document).

[viii] The number of ATR Unreviewed Safety Questions between 2000 and 2009 (EDI FOIA document).

[ix] 20 years after Chernobyl – The ongoing health effects". IPPNW. http://www.ippnw-students.org/chernobyl/research.html and Health effects of Chernobyl – 25 years after the reactor catastrophe, German Affiliate of International Physicians for the Prevention of Nuclear War (IPPNW), April 2011 http://www.chernobylcongress.org/fileadmin/user_upload/pdfs/chernob_report_2011_en_web.pdf

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