Nuclear Nines

Name:*	Anonymous
Position:*	Nuclear Industry
Nuclear Experience, years:*	29

What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)

1. Post Three Mile Island: Control Room Design Review (Human Factors Engineering), INPO, and improvements in operator training.
TMI was the beginning of cooperation between nuclear operators to improve safety and reliability as they realized that one event anywhere would have an effect everywhere and they were all in this together. Evaluations of the root and contributing causes of that event led to a re-design of the human interface with the unit, both the physical and the process. For the physical, the control room was rearranged to provide the operator better correlation and convenience between his indications and alarms and the controls he needed to address them, and to provide redundant and diverse indications so that conditions in the reactor and plant could be confirmed for proper decision making.
Processes were improved, procedures were written or revised with more detail to reduce the knowledge based decision making. At the same time, training was greatly enhanced to improve the knowledge and understanding of the operators.
The cooperation of nuclear operators through INPO, and specifically the sharing of lessons learned, the development of tools to reduce errors when humans touch the plant controls, the seminars for the development of nuclear leaders, and especially, defining what excellence in operations looks like and measuring each station against that benchmark have significantly improved nuclear safety and reliability.

2. Maintenance Rule: The Maintenance Rule provided standard requirements and structure for maintaining equipment reliability. Emphasis was placed on thoroughly evaluating and understanding failures, reducing out of service time, optimizing preventative maintenance, and executing it religiously and efficiently.

3. Appendix R: Ensured that an adequate equipment remains available for a devastating fire in any area of the plant with detailed procedures to aid the operators. Also ensured the plant areas considered were isolated from one another to prevent spread of the fire and creating additional challenges.

What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)

1. Nuclear Vendor reductions/spare parts: As the construction of new nuclear units declined in the US, the number of vendors remaining in business to supply parts and services with appropriate quality credentials also declined. Product lines were sold to other vendors (who didn't have the history) or discontinued, and some counterfeiting has occurred. The commercial dedication process can address gap areas where vendors with quality programs may not exist.

2. Ultimate Heat Sink: Challenges have included fouling/blockage from vegetation at intakes or from small organisms (zebra mussels), micro-biological induced corrosion (MIC), and from climate changes (warming, drought) which have increased the temperature of the body of water that is the UHS, reducing margin.
3. Configuration Management: Several utilities failed to maintain the design basis while making modifications and upgrades to the stations, or failed to maintain the installation consistent with that design through improperly controlled alterations (temporary or permanent) or inadequate drawing updates. This led to expensive and time consuming Design Basis Verification and Re-constitution Programs, Configuration Management reviews and walkdown programs in order to restore the link between the design basis, the design, and the plant configurations.
What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)
1. Cyber Security: As new units and new controls for existing units are deployed, preventing outsiders from invading those systems and creating issues for plant operators will be vitally important. Current practice is good, as the systems important to safety are isolated from plant networks.
2. The next nuclear generation: attracting, selecting, and re-educating the next generation of nuclear workers on the principles of safe operations will be more challenging, as the technology is "vintage" or "primitive" compared to what they've become accustomed to.
3. Spent fuel storage: selection, development, completion of the long term spent fuel storage facility, or development of another solution (recycling?) must be done in a non-political manner.

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Nuclear Nines

Name:	<Withheld upon request>
Position:	Senior Capitol Hill Staff
Nuclear Experience, years:	18
What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)	
Combination of b5b and post-Fukushima mitigation measures, because I think some of these do enhance emergency response capability	
Occasional Commission policy responses to particular problems –9/11, Fukushima – do tend to motivate, for a time, more vigilance and improvements industry-wide	
Occasional Commission enforcement responses to particular problems - Davis-Besse, Fort Calhoun, ANO – can help address attention to enforcement issues industry-wide	
What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)	
Fire safety – because there is minimal compliance	
50.59 – because these regs are apparently entirely useless, unenforced, and thus unlikely to provide any safety benefit whatsoever when equipment replacements occur.	
Spent fuel overcrowding	
What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)	
Natural hazard protections, be it earthquake, flood or hurricane	
Aging-related phenomena that are not generic, ranging from dissolving concrete to various systemic leaks and malfunctions. NRC will lack will to shut a single reactor down and will point to the non-generic nature of these issues as reason not to worry.	
Transparency continues to pose real obstacles. NRC would never have done what it did on SONGS if Markey/Boxer hadn't released news that the MHI 50.59 document existed. Other such examples too.	

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Nuclear Nines

Name:*	Withheld
Position:*	Nuclear Industry Manager
Nuclear Experience, years:*	34
What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)	
Development and use of PRA – promotes a expanded view of plant safety beyond that available by defined, deterministic scenarios.	
Formation of INPO – provided a means to promote and monitor safe plant operation in a manner that NRC could not	
Industry-wide standards – Development and use of standards by ANS, ASME, NEI, EPRI enables the capture of knowledge from a broader base and avoids the use of parochial methods	
What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)	
Hampering by NRC of digital upgrades at plants – Expanded use of digital controls would improve operational reliability and safety	
Unbridled expansion of physical security requirements – Siphons resources and attention from plant operations	
Failure by NRC to use risk as determinant of regulatory compliance – e.g. safety importance of GSI-191 addressed early on, yet full compliance to current interpretation of deterministic requirements is not yet attained.	
What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)	
Having a means to identify the top three safety priorities – If everything is a priority, then nothing is a priority	
Successful knowledge transfer from Baby Boomers to Gen X,Y,Z.	
Recognition in the energy market of nuclear as a reliable baseload source of power – Baseload operation preferable to load follow	

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Nuclear Nines

Name:*	Withheld
Position:*	Nuclear Oversight Manager, Nuclear Utility
Nuclear Experience, years:*	31

What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)

1. Improved Reactor Operator Training. The improvements in reactor and senior reactor operator training have greatly enhanced nuclear safety. This training, combined with improved emergency operating procedures, has greatly enhanced operator knowledge and response to transient events and off-normal conditions.
2. INPO. INPO has had a significant positive impact on safety in that it drives Excellence, a standard well beyond regulatory compliance standards. INPO periodic evaluations drive continued improvement in plant operations, maintenance, engineering, organizational effectiveness, and safety culture. Also, INPO oversight/accreditation of technical and operator training programs drives excellence in these programs.
3. PRA insights. The evolution and maturity of PRAs have driven significant safety improvements in work management and planning, maintenance planning, operator training and emergency response, operating risk management (e.g. protected equipment), and outage risk management.

What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)

1. De-Regulation of the Electricity Marketplace. De-regulation and low natural gas prices are challenging nuclear utilities in that plant upgrades and infrastructure investments are sometimes deferred to reduce costs and enable nuclear plants to be competitive in the deregulated electric market.
2. Equipment/Component Obsolescence. Equipment/Component obsolescence is a growing challenge within the nuclear industry. It is becoming increasingly difficult to get replacement (analogue) parts for plant equipment that was often designed/purchased 20-30 years ago. In addition, the NRC has not been appropriately supportive or timely in its acceptance and reviews of digital upgrades – upgrades that could enhance plant safety. Thus, plants must find ways to refurbish old equipment. This challenges plant reliability and safety.
3. INPO/NRC Cumulative Impacts. Over the last 20-25 years, the NRC and INPO have imposed multiple layers of unnecessary burden that has diverted resources and management/staff attention away from plant operations and issues of higher safety importance. While INPO and the NRC are taking initial steps to address cumulative impacts (e.g. INPO – CAP, NRC – SCCI and risk prioritization/scheduling process), these efforts only scratch the surface on addressing unnecessary burdens that challenge plant staff on a day-to-day basis.

What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)
1. The U.S. must maintain sufficient number of operating nuclear power plants to make nuclear power a viable, attractive option for the next generation of workers (e.g. engineers, maintenance, welders) and equipment suppliers, vendors, and contractors (support infrastructure). The continued premature retirement of nuclear plants would threaten the viability of nuclear engineering programs, make nuclear power an unattractive career option (loss of pipeline), and undermine the viability of the infrastructure supporting operating plants in the U.S.
2. The U.S. must address market conditions in deregulated (and sometimes regulated) electric markets that deter investment in nuclear plant safety upgrades. U.S. energy policy and deregulated market requirements must allow for investments in nuclear plant safety and reliability upgrades without putting nuclear plants at a competitive disadvantage in deregulated markets. Utilities must be able to recoup investments in plant safety and reliability without adversely impacting their economic viability, particularly in deregulated markets.
3. Aging management. Aging management, particularly related to passive plant components, must be a safety priority for the U.S. nuclear industry now and into the future. Primary system piping, electrical systems and wiring, containment structures, and reactor vessels/penetrations are just a few examples where rigorous aging management provisions must be in place to prevent and detect erosion of safety margins.

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Nuclear Nines

Name:*	Rich Andrews
Position:*	Retired, Former Senior Reactor Operator, Nuclear Plant Manager
Nuclear Experience, years:*	30+ years

What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)

Much better trained reactor operators & the use of full-scope training simulators.

Rationale: Commercial airline pilots and reactor operators deserve & must have the best training on the planet including the use of simulators.

The establishment of INPO.

Rationale: INPO sets high standards for excellence in nuclear plant operations and conducts evaluations at nuclear plants to assess their full implementation. INPO also gathers and disseminates nuclear plant operating experience.

The establishment of large nuclear operating companies.

Rationale: Technical expertise and resources can be applied much better and in a timelier fashion by a large nuclear operating company. The more nuclear power plants that become part of such an operating company the better for reactor and public safety.

What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)

Repetitive problems plaque the nuclear industry here and abroad.

Rationale: Nuclear operating experience is not being shared or utilized effectively. Repetitive incidents continue to occur.

Relaxed regulatory oversight of nuclear power.

Rationale:
1. Shifting safety focus from disaster prevention to disaster mitigation. The NRC is allowing the nuclear industry to only consider mitigation (not prevention) strategies since the accident at Fukushima. This despite the fact that US nuclear plants have the same safety vulnerabilities as those damaged reactors in Japan.
2. Instead of fully enforcing existing rules or issuing new rules the NRC is allowing the nuclear industry to come up with their own initiatives to address safety issues. As these initiates are not requirements they cannot be enforced.
3. The NRC has been "captured" by the industry they regulate. Lobbying efforts by industry front groups have influenced Congressional representatives to put enormous pressure on the NRC to go easy on nuclear power plant owners. Also how can we expect unbiased, firm regulatory enforcement from an agency:

- With a rotating staff-one day a person works for the agency and the next for a nuclear utility and vice versa.
- Whose very existence depends on the survival and viability of the industry it is supposed to "regulate".

4. There is a dangerous mind-set at work in the nuclear industry and even in the NRC that nuclear power is overregulated and even inherently safe.

Allowing nuclear plants to continue to operate when millions of people live nearby.

Rationale: The 10-mile radius evacuation zones around nuclear power plants are woefully inadequate based on the disasters at Chernobyl and Fukushima. 18-mile radius exclusion zones still are in effect at those disaster sites years later. Populations around nuclear power plants continue to grow. One in three Americans now live within a 50-mile radius of a nuclear power plant. Yet the NRC continues to not only let these plants operate but even extends the license for a number of these aging nuclear units.

What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)

The NRC must strictly enforce all regulations and not relax any.

Rationale: Prompt, objective, and fair enforcement of all regulations must become the standard. All the tools in the NRC enforcement "tool box" must be brought to bear as appropriate. Since the turn of the century the NRC has issued far fewer civil penalties than in the past and that is not because civil penalties would not have been appropriate. No, the NRC has chosen not to use them for the most part.

Placing spent nuclear fuel in a safe underground repository.

Rationale: Dangerous high level nuclear waste is continuing to pile up at 93 sites all across the US, many in the backyard of highly populated areas. This is due of course to not having a centralized permanent place to safely store such waste. All this waste makes nuclear sites an even more tempting target for terrorists.

Eliminating the possibility of nuclear power plant common-mode failures.

Rationale: A common-mode failure caused the disaster at Fukushima. A fire or a flood can result in a total loss of all redundant safety equipment at a nuclear plant. A common-mode failure occurred recently at the Indian Point Unit 2 reactor near New York City. Water-intrusion events have occurred regularly over the years at not only US plants but at plants overseas as well.

Nuclear Nines

Name:*	Mike Callahan
Position:*	Consultant
Nuclear Experience, years:*	34

What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)
Arrival of Oliver Kingsley as CNO/CEO at TVA and ComEd/Exelon. Introduces changes that combine efficiencies in operation with emphasis on safety culture. Fosters mutual respect toward and from NRC. Produced rapid safety gains at large fleets that were struggling. Indoctrinated a significant number of mangers and executives that helped address issues at other plants and companies. Management counts. Honorable mention to Bill Derrickson for his turnaround work at St. Lucie and Seabrook.
Introduction of the ROP and SDP. Transitioned from a highly subjective and opaque evaluation process into a useful, understandable, rational, more transparent measurement tool to evaluate performance and make resource decisions. Allows greater focus on items most affecting safety.
Initiatives that addressed safety personnel performance that took root in the second half of the 80's: Fitness for duty; reactor operator qualification; background checks; emphasis on the importance of the operator(s); etc.
What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)
The inability of the NRC and staff to promptly sort, prioritize, and bring to closure all the ideas for safety enhancements it collected in the aftermath of TMI and, later, Fukushima. Many of the former were found to be duplicative or unnecessary and were finally closed years later. Yet to come close to that process for Fukushima. Distracts effort and attention at NRC and industry from focus on important items – both current and future. Current example: we're collectively getting carried away on attention to beyond design basis items.
Instability within the Commission (issues that are not limited to the collapse of collegiality several years ago) and industry (changing electricity markets and the lack of clarity and reasonably expected return in clean energy supply regimes). These concurrent instabilities are not desirable and are not easily fixed.
Failure of the government to make headway in spent fuel management program. Kicking this issue serially down the road is not a way to effectively manage a nuclear operation. Congresses, Administrations, and independent regulator all share in lapse. If the industry continually failed to meet basic commitments in its reactor programs, NRC would have taken strong action. The spent fuel program looks nothing at all like that envisioned in 1975, or 1987. Not so much a safety issue, but a challenge in how best to manage this phase of nuclear programs.
What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)
If there is to be deployment of future and safer nuclear generation capacity, the regulator and stakeholders must allow the designers and operators to take advantage of those safety

enhancements via much leaner requirements, quicker licensing decisions, and accepting that future designs may yield only “green” ROP and SDP findings.
Personnel and budgets; for both industry and NRC to find the right size(s) at the right times for their respective organizations and to establish/nurture sources of workers, managers, and executives with the right skill sets. People make safety decisions, not procedures or regulations and guidance documents.
Intelligent and effective approaches to security, including cyber and grid, and spent fuel management.

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Nuclear Nines

Name:*	Larry Foulke
Position:*	Adjunct Prof, Univ of Pittsburgh
Nuclear Experience, years:*	47 years
What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)	
Improved training of operators and use of replica control room simulators.	
Additional passive safety systems.	
Continued improvement of nuclear safety calculation capability (i.e., RELAP & NRC's TRACE codes)	
What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)	
Retirement of the engineers who built nuclear plants of the past; loss of the U.S. infrastructure.	
Failure to resolve disposition plans for spent fuel.	
Impact of natural, catastrophic events (i.e, tsunamis, earthquakes, hurricanes and the like)	
What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)	
Instilling real safety culture in new nuclear nations; overbuilding by nations without the experienced work force.	
Enforcement of quality assurance requirements for nuclear components worldwide.	
Rush to build new plants with greater concern for budget and schedule rather than safety.	

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Nuclear Nines

Name:*	**Mary Lampert**
Position:*	**public interest- Pilgrim Watch, director-Town of Duxbury Nuclear Advisory Committee-chair**
Nuclear Experience, years:*	**28 years**

What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion) NOT LISTED IN ORDER PRIORITY

Offsite Radiological Emergency Planning: Prior to TMI there were not any offsite radiological emergency plans and procedures despite the fact that accidents requiring response called for it as TMI showed. The good news is that now there are offsite plans. The bad news is that they are inadequate- so fixing them drops into the challenge to-do list.

Security: Prior to 9/11 the public was encouraged to picnic in public park areas onsite (established for PR, the friendly atom plant); and here before 9/11 some of my friends actually walked into Pilgrim's reactor building through a side door. The good news, after 9/11 security was enhanced. The bad news is that it remains inadequate with no security from an air attack, very minimal protection from an attack by water and land. So strengthening security also should drop into the challenge to-do list.

Post-Fukushima Lessons Learned: NRC's initial lessons learned list recognized important safety issues. The bad news is how they organized the items for study and fixes. Some items were placed at the end of their analytical time-frame to address. That meant that the earlier items addressed were looked at in pre-Fukushima ways of thinking. The second bad news was that industry's concerns took priority and the fixes either were watered down, implementation delayed or no fix at all -another drop down to the to-do/challenge list.

Note: The above 3 listed followed "crises"- TMI, 9/11, Fukushima. One could say it takes an accident or crisis to bring attention to safety issues and achieve some gains – albeit insufficient NRC response.

What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion) NOT LISTED IN ORDER PRIORITY

Regulation: Not enforcing existing regulations; and, not making new regulations - instead NRC defers to either industry's voluntary non-enforceable initiatives or makes unenforceable "suggestions" to industry while keeping the public out of any meaningful input in the process.

Cost Benefit Analyses/PRA: Over-reliance on quantitative analyses and ignoring qualitative factors. There are too many unknowns requiring defense in depth but they are increasingly ignored. The computational tools used (MELCOR, MACCS, MACCS2, SOARCA) incorporate incorrect assumptions and allow the user to manipulate the inputs and choose averaging – all in order for industry to get the "right" answer. The right answer is defined as doing essentially nothing that would cost industry money and nothing to increase public safety.

Spent Fuel, Storage Onsite: High-density, closed –frame spent fuel pools are a serious threat; NRC's bogus waste confidence decision incredulously ignored or white-washed the problem and

obvious solution. To a far lesser degree challenges regarding dry storage exist and are ignored by NRC. Specifically, the threat posed by allowing continued operation during the transfer process of assemblies from pool to dry storage and challenges of dry storage on site such as security.
What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)
Spent fuel storage: Onsite: A densely packed closed frame pool is vulnerable to a fire and the consequences catastrophic; therefore reactors must be required to expedite transfer to hardened dry cask storage as soon as fuel is cool enough. Likewise when reactors cease operations spent fuel storage risks do not end-the pool contains 4-5 times the radioactivity than the core and casks are vulnerable to attack, also. Therefore NRC cannot continue to allow licensees to cease offsite emergency planning and lower security. Offsite: For the long term permanent develop permanent offsite spent fuel storage cognizant of safe transportation of fuel to the site and assuring site is scientifically defensible.
Captured Regulators: The NRC, FEMA and lesser degree EPA are captured by the nuclear industry while public stakeholders and their public safety & health concerns are effectively ignored. The consequences are regulations on the books are not enforced and any new "suggestions" to industry, requirements, or guidance are crafted essentially by industry to protect their bottom line, not safety. It sounds simplistic to say "take back our government" but that is a priority on this and on many fronts.
Cost Benefit Analyses/PRA: Current PRA allows multiplying unrealistic probability figures by consequences so that no matter how severe the consequences they will be trivialized. There is a need to reverse the trend of relying on quantitative analyses and not including and properly weighting qualitative factors. The computational tools for PRA need to be totally revamped so that they include realistic assumptions, input data and averaging. Now the game is rigged to get the "right" answer for industry that means saving industry money and ignoring safety.

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Nuclear Nines

Name:	Dave Lochbaum
Position:	Director, Nuclear Safety Project
Nuclear Experience, years:	36-plus

What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)
NRC's Maintenance Rule improved safety by increasing the awareness of and resources applied to systems supporting front-line safety systems and risks incurred during maintenance and testing activities
NRC's Reactor Oversight Process improved safety by coupling more timely and discrete measures of safety performance with specific regulatory responses to indications of declining performance
INPO improved safety by establishing standards far above those defined by regulatory minimums and conducting periodic evaluations against these higher standards
What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)
De-Regulation of the Electricity Marketplace challenged safety by shifting emphasis from the prudency of infrastructure investments to the short-term electricity costs
Proliferation of Voluntary Regulatory Options challenged safety by making nuclear reactor designs and associated operating procedures less and less standard
Changes Implemented Without Ensuring Expectations Being Met challenged safety by reducing testing/inspection frequencies, reducing scopes of inspection regimes, uprating reactor power levels, etc. based on recent failures rates along the flat portion of the bathtub curve without (a) sufficient time to demonstrate that expectations were met without unintended consequences and (b) considering the cumulative effects of many relaxed requirements
What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)
Narrowing the Gap Between Perception and Reality upgrades the effectiveness of tests and inspections conducted by plant workers and NRC inspectors such that "surprises" like Fort Calhoun having more than two years of longstanding safety problems to fix become less frequent
Lessening the Economic Barriers to Safety Upgrades so that plant owners can recoup investments in safety upgrades comparable to how they benefit from investments in uprating reactor power levels and increasing the reliability of production equipment
Avoiding Complacency that can develop when declining trends in forced outage rates, safety system failure rates, etc. tempt people to cut the budgets for efforts that drove the rates downward

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Nuclear Nines

Name:*	Garry Morgan, U.S. Army Medical Dept., Retired
Position:*	(current) Director, Community Radiation & Health Monitoring Project
Nuclear Experience, years:*	28 years including military experience

What do you think have been the three largest nuclear safety gains since January 1, 1975? (with brief reasons for inclusion)

Increased control room training to prevent distractions and increased understanding of systems to prevent misunderstandings of cascading system failures in accident scenarios. (Reason - Three Mile Island Accident)

Improvement in controls & instrumentation in reactor control rooms; also increased communications and information sharing industry wide. (Reason - Three Mile Island Accident)

Increased safety enhancements, particularly vent requirements in GE BWR reactors; backup on-site safety equipment, particularly in the case of an extended station blackout; spent fuel pool instrumentation; increase in flooding and seismic protection. (Lessons of Fukushima)

What do you think have been the three largest nuclear safety declines/challenges since January 1, 1975? (with brief reasons for inclusion)

Failure to enforce existing regulations. Ongoing failure to enforce fire regulations.

Human Reliability failures at high levels of management and the regulator. Inaccurate, out of date safety reports, classic example is the Tornado Safety Report for the GE Mark 1 Reactors dated 1968. Skewered risk management regarding accident scenarios, earthquake events in California and severe weather tornadic activity are two high risk events that are not accurately considered as to safety implications of nuclear operations. Failure to disclose to the public the truth about nuclear safety - all U.S. nuclear operators in conjunction with the NRC support secrecy in disclosing INPO and WANO Safety Reports and Reviews. These reports are said to be proprietary information. Both organizations are not for profit and report safety problems. Hiding these problems is hiding safety failures and nuclear industry management and regulatory failures. The INPO or WANO reports often report problems not seen by the NRC or not reported to the public. The regulator cannot be trusted until there is a full disclosure regarding all INPO and WANO safety reports.

Physical Security and Safety of GE Mark 1 BWR Nuclear Reactors is an ongoing problem. The lack of proper, sufficient overhead containment is an ongoing design defect which industry and the regulator ignores the safety and security implications.

What do you think are the top three safety priorities for the future? (with brief reasons for inclusion)

Enforce existing regulations, particularly fire protection. All operational technical specifications must be complied with. The NRC has waived enforcement of fire rules at U.S. plants, this is a widespread problem diminishing the safe operation of nuclear plants in the United States.

Publish online, in real time all emissions from U.S. nuclear power plants and fuel facilities emission points and at facility perimeters and 2 mile and 10 mile areas at 8 compass points at the 2 and 10 mile

zones. Alert communities via media when there will be routine emission releases and emergency emission releases.
Fix the broken, deplorable Human Reliability/Security programs at all U.S Nuclear facilities and the NRC. Never should INPO & WANO reports be kept from the public, particularly in lieu of whistle-blower disclosures that the NRC is too close to the nuclear industry. Never should NRC meetings be held at the NEI, special interest group facilities. Never should the NEI establish standards for the NRC to follow. The NRC's work should be fully independent of any special interest group influence and free from political threats, such as defunding of the NRC because they enforce regulations. Inappropriate political influence denigrating the emphasis on nuclear safety requirements is an ongoing problem.

Anonymous responses will be accepted. Respondents can enter “Anonymous” or “Withheld” or word(s) to that effect in the Name box. Respondents can also enter “Anonymous” or alternate in the Position box, but are encouraged to indicate the general field (e.g, “Nuclear industry” or “Regulator” or “Public interest group” when uncomfortable providing a specific affiliation.

By emailing a completed form to dlochbaum@ucsusa.org, the respondent agrees to allow UCS to compile overall statistics from the information (e.g., what percentage of the respondents identified X as being among the three largest nuclear safety gains) and to include this form in material posted to UCS’s website and submitted to the NRC provided that (1) no additions, deletions, or alterations are made to the submitted form, and (2) UCS does not include commentaries, insights, and/or observations with either the compilations or response forms.