

Citizens' Oversight Projects (COPs)

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September 20, 2013



TO:

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COMMENTS ON

"STAFF ANALYSIS OF JAPAN LESSONS-LEARNED TIER 3 ISSUE ON EXPEDITED TRANSFER OF SPENT FUEL TO DRY CASK STORAGE."

Please accept these written comments as follow up to the Category 3 meeting of August 22, 2013.

Thank you for allowing me to comment on this activity. I was able to make some verbal comments during the August 22, 2013 meeting but I wanted to follow up with some more concrete written comments.

1. TIER 3 PROCEDURE NOT BEING FOLLOWED.

According to the Tier 3 procedure for regulator analysis as described in your presentation, this is supposed to be Phase 1 of the process, which is to "Evaluate whether substantial increase in public health and safety exists." with a Commission paper due by October 2013.

Unfortunately, you spend most of your time working on a cost-benefit analysis, which is supposed to be handled in Phase 2. It is VERY IMPORTANT that you not jump the gun, and evaluate safety concerns using a scientific method FIRST prior to moving to Phase 2.

Your analysis should include the various options for use of dry cask storage including dual-purpose casks, so that the casks can be moved to intermediate ISFSI sites. The analysis should include the risks associated with placing the Used Nuclear Fuel (UNF) into dry casks, storing the casks, and comparing with the risks of maintaining that UNF in fuel pools. This analysis was not apparent in your presentation.

That should be the end of the Phase 1 report. It is common sense and clear that there should be a positive and substantial increase in public health and safety by doing this. Your report should conclude with a positive result.

2. COST-BENEFIT ANALYSIS IS MISPLACED

The cost-benefit analysis does not belong in this Phase 1 report. Please remove it.

3. COST-BENEFIT ANALYSIS IS POORLY SUBSTANTIATED, AND PROBABLY WRONG.

The UNF inventory is mostly stored in fuel pools, but is partially stored in dry cask storage systems (DCSS) in ISFSI installations co-located at nuclear reactor sites. You say that the cost for a reference plant is \$6 to \$47 million. However, this conclusion makes almost no sense. The reason is that the UNF needs to eventually be transferred out of those pools since the centralized waste repository will not be available

until 2048. So these costs will have to borne by those plants anyway. For each reactor, the cost is about 25 million for about 25 casks of waste, \$1 million per cask.

So since the task will most likely have to accomplished that way anyway, the cost per plant is only the cost of money being tied up for the years in the accelerated schedule.

4. COSTS SHOULD BE BORNE BY NUCLEAR WASTE FUND.

The operation of moving fuel to casks needed because the DOE has not provided a central repository for this waste. The Nuclear Waste Fund has some \$27 billion currently available, but it is administratively locked away from this process. If the rules are changed, then that money could be made available for this transfer. Although there is a cost involved, this is a cost we have planned for this eventuality for years, and there should be no consternation regarding using it to perform nuclear waste management to perform this important task.

However, by jumping the gun and performing a misleading cost-benefit analysis, you are extending the culture of profit-over-safety that is systemic at the NRC, and you are not getting to the correct conclusion.

5. WHAT IS THE CORRECT CONCLUSION

Your conclusion for Phase 1 of the regulatory analysis process, should be that there is a substantial improvement in public heath and safety in an expedited transfer of UNF to dry cask storage.

In Phase 2, you may wind up concluding that this is not cost effective for plants to perform, based on using their own funds to do it. But really, the Nuclear Waste Fund is allocated for this purpose, although it is administratively restricted from this use at this time. This should all come out in the process.

I doubt that it can cost \$47 million to put fuel into casks that will eventually be required anyway. The net cost is almost zero. And if no utility money is used in the process, they will jump at the opportunity to perofrm the work and generate revenue in the process.

6. SYSTEMIC CULTURE OF PROFIT OVER SAFETY

I mentioned in the meeting that there is a systemic culture of PROFIT over SAFETY at the NRC. Some of the responses took this personally, as if it were a personal problem, which is not what I said. The problem is systemic, and it does not matter how safety minded you might be, you exist within a system that is biased toward increased profits (and decreased costs) in trade for safety.

I have attached a review of this systemic problem below. Due to this systemic problem, I invite you to actively work to thwart the bias. This is particularly important with your violation of the phases of the regulatory analysis which you are doing. That is a choice you are making, and I request that you eliminate the discussion of cost in Phase 1 and work only on a better and more thorough analysis of safety.

Finally, I apologize for not providing the references I would normally provide to substantiate my claims. If you have any questions about my assertions, please contact me and I will provide those.

Sincerely,



Raymond Lutz
National Coordinator, Citizens' Oversight Projects

NRC Culture Biased Toward Profits and Against Safety

Raymond Lutz, Citizens Oversight

Introduction

Citizens Oversight has briefly engaged with the Nuclear Regulatory Commission (NRC) over the last year or so regarding mainly the San Onofre Nuclear Generating Station. We learned a thing or two from this involvement, and one of those things is the fact that the system used by the NRC is inherently biased toward increased industry profits and against increased safety. This may come as a surprise given all the talk by the NRC how they put safety first. But let's face it, nuclear power is inherently dangerous. You can't get absolute safety, there will always be some risk. It would be nice if the systems employed by the NRC were able to strike a fair balance between these two forces. Unfortunately, their procedures have an inherent bias that will allow decisions to drift toward increased profits and reduced safety as a result.

Note: Because this is a systemic problem, i.e. a problem in the system itself, the fact that it exists does not mean that we are accusing the NRC of being corrupt or disingenuous. Largely, there is no real awareness of this problem, and the practitioners within it innocently participate without realizing that the system itself is tilted in the wrong direction.

Legal Paradigm Inappropriate

The NRC uses a system that is based on a legal paradigm to manage changes in the regulations which are intended to ensure the safety of nuclear plants. In this section, we will show that this system is inherently biased against increased safety, and most particularly when it is possible for a licensee to avoid further processing of questions by withdrawing License Amendment Requests (LARs), and the subsequent vacating of decisions based on their initial request (which actually happened to us.)

To explain this situation, we will attempt to construct a logical proof based on reason and logic. This approach is taken here because, we will show, that the legal paradigm is untrustworthy and biased, and should not be utilized in its present form by the NRC and other similar organizations. So for example quoting cases to prove precedent, which is commonly used within the legal paradigm will not be used.

Consider the set of Licensees who are controlled by a set of regulatory constraints contained in the Technical Specifications (TS) and other similar public documents. The Licensees have an appropriate agenda to increase production (and therefore profits), with the likely outcome that safety margins in the TS are constantly challenged or reduced. There are a set of Intervenors who have the agenda to increase (or maintain) safety margins, with the likely outcome that profits of the Licensees are constantly challenged or reduced.

In an attempt to construct a means to balance these competing agendas, the NRC utilizes a system based on the legal paradigm, where it is hoped that the two points of view will reach a balance and the best possible decisions will be made. Within this paradigm, there are a number of doctrines and traditions that have been adopted from the criminal justice system and applied to this system. We find that many of these doctrines and traditions are inherently biased, and in their implementation here, the bias is toward increased profits and reduced safety.

Asymmetric Application

In the traditions of Western law, there are Plaintiffs and Defendants they have different roles and rights in the traditional court of law. For example, in a criminal case, the plaintiff is the prosecutor and the defendant is a person accused of a crime. There are two major outcomes of the case. If the defendant

broke the law, then the defendant is supposed to be found guilty, and if not, not guilty. Such courts do not ever analyze the law itself and decide that the defendant is not only not guilty, but the law itself is improper, and as a result, his rights should be increased. So the pendulum only swings one way. You have to operate outside the court system completely using the political system and law-making bodies of government to get it to swing the other way. Thus, this system is inherently asymmetric because it can only work to change status quo in one direction.

The system used by the NRC is similar because has adopted the mechanisms and traditions of the courts. Licensees make requests to change the constraints of the TS using LARs but Intervenors can only object to these requests. Thus with no other factors at play, this asymmetric application of the legal paradigm will result in changes to the status quo only in one direction -- reduced safety margins and increased Licensee production (and profits) -- but never increased safety margins.

Consider a hypothetical TS containing 100 constraints. The Licensees request that 25 of the constraints are reduced, thereby allowing higher profits and reduced safety margins. Intervenors are successful in stopping say ten of these requests. Thus, 15 of the constraints are reduced. There is no similar process to increase the constraints and thereby possibly increase safety. Either the Licensees are successful at reducing them or they are not. Later, if they are first unsuccessful at reducing the constraints, they can attempt to reduce the constraints again and again, and only if Intervenors are successful can the reduction in safety be stopped. In many cases, the changes in the TS go unchallenged by Intervenors completely, and if they do, then the practice implied by the changes in the TS start to proliferate in the industry, and then we start to hear that since there are no accidents yet, that safety must be good enough, and the issue is never vetted by the hearing process.

This asymmetry is exacerbated by a vast difference in the ability of the parties to fund support of their position. Utility-funded licensees hire vast legal teams to prepare requests and to defend them against challenges, and they have nearly unlimited time to process their requests. Intervenors have limited resources and typically have a very short time window to prepare an adequate response, and are not compensated by the NRC for their efforts. Even if the two sides were equally capable, there is no pressure to increase safety margins within this structure. Licensees will rarely, if ever, request that safety margins be increased and profits decreased. Without such a request, Intervenors have no mechanism to push toward increased safety.

An additional factor in asymmetry is excessively difficult criteria that Intervenors must fully comply before the technical aspects of their contentions can be heard. In addition to just being difficult, it provides advance warning to the Licensee so that they can potentially withdraw their LAR so that no precedents can be established in favor of the Intervenors (see "Vacating is Biased," below).

Stare Decisis

This latin terms that means "to stand by decided cases; to uphold precedents; to maintain former adjudications". [\[\[http://constitution.org/col/0610staredrift.htm#01\]\]](http://constitution.org/col/0610staredrift.htm#01)^[1] We assert, as have others, that this doctrine can and does frequently get off track ¹:

[I]t has come to take on a life of its own, with all precedents being presumed to be well-founded, unbiased legal decisions, rather than political decisions, and presumed to have both the authority of the constitutional enactments on which they are based, plus that of the precedents on which they are based, so that later precedents are presumed to be more authoritative than earlier ones.

The doctrine also tends to give great weight to the opinion in the case, even to the point of treating the opinion as though it was law, even though only the order and findings have the actual force of law, and only in that case, and an explanation of how the decision was reached

is only *dictum*, or commentary. This means that a poorly-worded opinion can define a set of legal positions that exceed the bounds of the underlying constitutional enactments, and become the basis for future precedents, as though they were constitutional enactments themselves. The problem is exacerbated by the failure of judges to clearly delineate the boundaries between *edict* and *dictum*.

The doctrine tends to disfavor legal argument that precedents were wrongly decided, especially if they are precedents established at a higher level in the appeals hierarchy, and to demand the litigants "distinguish" their cases from adverse precedents, arguing that those precedents do not apply to the present case because of elements that make it different from the cases on which the precedents were established. This can be very difficult to do if there are a great many recent cases on the same issues which cover most of the possibilities.

There is no question that a body of knowledge must be maintained to assist with the correct and appropriate application of regulations to the industry to thereby provide adequate safety margins. However, even the careful application of *stare decisis* within a legal paradigm will always allow the knowledge base to drift from reality. In this case, because of the asymmetrical nature of the system from the get-go, the drift will again be toward reduced safety and increased industry profits.

In any system that makes decisions, some decisions will be faulty. Since all such decisions are in the direction of reduced safety, over time the drift toward profits and away from safety can become extreme.

The same reference above goes on to say:

There are two variants on the doctrine of *stare decisis*. The problem we have discussed here is with the strong form, which treats precedents as *binding*. However, there is a weaker form, which treats precedents as merely *persuasive*. In this second variant, a dissenting opinion could be more persuasive than the prevailing opinion, if the person citing it agreed with it. In this variant, precedent becomes merely a convenient way to save time and words by citing the reasoning in another case, saying "My reasoning is similar to that", and nothing more. Historically, what came to be treated as binding started as persuasive. Returning to treatment of precedents as merely persuasive would solve the problem discussed here, but history shows us that judges are prone to drift back to treating them as binding unless some corrective mechanism is instituted to prevent it. Finding such a check would then be an essential component of any lasting reform.

Stare decisis is the way judges seek the safety of the herd. We need to demand they exhibit more courage, and return to fundamental principles, resorting to *stare decisis* only when the positions lie on the fuzzy boundary of the region of legitimacy.

This was used against our petition regarding a LAR at San Onofre. Even though the case referenced was far different from our case, Atomic Licensing and Safety Board (ASLB) ruled that they could not allow our petition a hearing because of the prior precedent. Relying on precedent means the judges are not willing to think the case through.

Vacating Interventions is Inherently Biased

In addition to the asymmetry described above, there is an unfortunate asymmetry due to the fact that Licensees can withdraw their LAR "prior to a hearing" and any related decisions that may have resulted from the initial processing of the LAR are vacated, and essentially erased from the knowledge base used in the application of *stare decisis*.

For LARs that are challenged by Intervenors and approved, those cases remain within the set of cases that can be referenced as applicable precedent, per *stare decisis* mentioned above. However, if Licensees see that their LAR may not be successful and the arguments of the Intervenors may be successful, they can pull their LAR (or sometimes completely close the plant) and the Licensee (and NRC Staff) will move (as they did in our petition for intervention at San Onofre) that all decisions and actions in process, particularly those which were in favor (or may produce results) of increased safety and in general opposition to their profit motive, should be vacated. This act will remove those decisions from the potential knowledge base for references to support arguments to support the positions of the Intervenors. Thus if Licensees withdraw their LARs before the hearings occur, we are left with only those arguments and positions that support the Licensees, and all arguments that support the positions of the Intervenors are lost. Therefore, the knowledge base of precedents is biased toward those decisions that were in favor of a LARs approval, and any decisions that could potentially exist that would disallow LARs in the future, are removed through the vacating process. This is an inherently biased process and is bad policy.

Instead, just the opposite should be the case. If a Licensee withdraws their LAR or shuts down the plant when threatened with a likely successful action by an Intervenor, all cases related to those premature withdrawals (or closures) should be processed to their conclusion, particularly when the implications of the case may be useful in the precedential knowledge base, such that future actions by Intervenors can be supported. We assert that instead of vacating and terminating these proceedings, they should be continued to their logical conclusion to actively avoid the bias inherent in the vacating process.

Removal of Constraints

One common strategy to further allow safety margins to be reduced is for Licensees to remove constraints from the TS and place them in "Licensee-controlled documents" which are proprietary in nature, so these constraints can be modified at will by the Licensee without any threat of an objection by Intervenors. This reduces the number of constraints included in the set, and not just the value of the constraints. Such a strategy has been a trend in recent years and permanently decreases the ability of Intervenors to ensure that adequate safety margins exist. This action essentially eliminates the constraints from the entire process, and as such, is not just a simple change to the constraint, but essentially elimination of the constraint from the process, providing Intervenors with no ability to object to unreasonable changes to the constraints.

So in the example above, if instead of arguing to loosen the 25 constraints out of the 100 constraints in the regulatory set, the Licensee simply eliminates them completely by relocating the constraints to a "licensee controlled document," thereby eliminating any future threat that Intervenors may be able to stop loosening of those constraints to reduce safety and increase profits.

NRC Staff Parrots the Industry Position

In proceedings, Intervenors are not just struggling to make their point against the members of the industry. They are also faced with another party, the NRC Staff. Since the NRC Staff members who participate in these hearings and other hearing-like meetings are attorneys, they dwell within the biased framework, and quote chapter and verse of legal precedent that has been established in the same biased system, thereby making it nearly impossible for intervenors to even hold the line and stop the slide toward profits on this slippery slope. Within that legal paradigm, these attorneys are acting appropriately. Unfortunately, the procedural paradigm is biased from the get go.

Staff Analyses Jump Over Safety Analysis and Go Directly to Cost/Benefit Analysis

There is one opportunity for safety to be increased outside the scope of the legal paradigm described

above. This is when the NRC Staff conducts independent investigations into an issue to determine if changes to regulation are warranted. This should be an opportunity to move up the slippery slope described above and improve safety. In fact, the procedures in place are intended to do just that. Unfortunately, the NRC does not implement their own procedures according to the noble intentions obviously behind them, and there is little if any progress up the slippery slope.

An example is in order here. On August 22, 2013, a webinar was conducted regarding "Japan Lessons Learned Tier 3 Issue: Expedited Transfer of Spent Fuel to Dry Cask Storage." (See NRC ADAMS accession ML13231A069 for presentation slides.) This project was started because it was noted that spent fuel stored in fuel pools was compromised at the Fukushima Daiichi power plant while spent fuel stored in dry casks was not harmed by the earthquake or tidal wave. It does not take a Ph.D. to realize that dry casks are safer than pools. But how much safer, and does the act of transferring it and handling the fuel eliminate the safety improvements?

The regulatory process uses what the NRC calls a "Tier 3 Plan." (For some reason they don't use the more descriptive "3 Tier Plan" since there are three phases in the process.)

- Phase 1 - Evaluate whether substantial increase in public health and safety exists.
- Phase 2 - If necessary, perform detailed analysis of costs and benefits
- Phase 3 - If necessary, consider other factors (criticality, mitigating strategies, solar storms, economic consequences, new regulatory framework, etc.)

In this case, they were working on Phase 1, with due date being a Commission paper by October 2013. So you would think this phase would be all about safety and public health, comparing the situation in fuel pools with the situation in dry casks, including the increase in safety provided by the casks compared with the danger imposed by the act of transferring them, and then the improvement in safety of the pools as a result.

Instead, they get into a cost/benefit analysis right away, concluding that "Alternative considered does not achieve a cost-beneficial increase in public health and safety for the reference plant."

The most the public can do here is to make comments on the progress of the regulatory analysis. There may be a way outside the procedures of the NRC to affect this methodology. Clearly, they are not following the process, which should first detail out the improvements in safety that would be possible by going to dry cask storage, and clearly there are. They should not get into any cost/benefit analysis until Phase 2, if they actually follow their own procedure. But apparently, following the proper procedure would expose the fact that safety and public health would improve, and the only reason they are not doing it is because there is a cost.

But the reality in this case is that the cost factors are exaggerated, because the current plan for all spent fuel is to eventually move it to dry casks. So to say that it will cost \$47 million per plant is not really correct, because that expenditure will eventually have to occur anyway. The real cost is just the fact that the plant will have to make the change earlier in time. In this case, it seems that the result was predetermined, and the NRC Staff just had to find a way to support it. They wanted to cut this off in Phase 1, so intervenors (advocates for safety) would have no ammunition to use in any future proceedings.

So again, we see that by not following their own procedures, the NRC allows profits to dominate over safety. It is driven by culture and procedures that are inherently biased.

[1 http://constitution.org/col/0610staredrift.htm](http://constitution.org/col/0610staredrift.htm) "How stare decisis Subverts the Law," Jon Roland

2000 June 10

[2](#)ASLBP No. 13-924-01-CAL-BD01