

From: "Mike Mulligan" <steamshovel@adelphia.net>
To: <vld@nrc.gov>
Date: 12/13/02 1:36PM
Subject: Please review 'LaSalle SPC'

Actually I meant to send this one. Please ignore the one I sent on Dec 13,2002 @ 1:31pm.

MEMORANDUM TO:

Geoffrey E. Grant, Director
Division of Reactor Projects
Region III

From:

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Dec. 13, 2002

This memo is in response to my previous concern about SRV leakage, excessive safety equipment operation: a series of 2.206 with LaSalle, Vermont Yankee, and other similar situation within the nuclear industry. I admit I don't know just where to send this too: Although I request this be entered into Adams.

I find it amazing the tech spec characterization of SPC. I though a fundamental nuclear philosophy was; we only go down the well worn path of plant planned and engineered operation. I though plant design and operational characterization (UFSAR and TS) defined "what was permissible operation" and thus properly build and planned for. Now you are telling me that the bureaucratic regime (rules) only defines what is non permissible; that any plant safety equipment and operational strategy is "very permissible and safe", if it is not expressly prohibited in plant design and operational characterizations. Anybody with any technical ability, and any administrator of rules, can clearly see through the huge hole in this UFASAR characterization and its disconnected statements. You can't be serious with this as the controlling wording in which our government characterizes the ability of LaSalle to control the potential release of radioactivity.

"The heat removal capability of one RHR pump in one subsystem is sufficient to meet the overall DBA [design basis accident] pool cooling requirement to limit peak pool temperature to 208 degrees F for loss of coolant accidents (LOCAs) and transient events such as a turbine trip or stuck open safety/relief valve (S/RV). S/RV leakage and Reactor Core Isolation Cooling System testing increase suppression pool temperature more slowly. The RHR Suppression Pool Cooling System is also used to lower the suppression pool water bulk temperature following such events."

Per Microsoft Bookshelf 98 definition of "event": 5. *Physics*. A phenomenon or occurrence located at a single point in space-time, regarded as the fundamental observational entity in relativity theory.¹

"Events" generally defines a specific occurrence and it generally doesn't speak of prolonged problems.

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Can't you hear this in current events in the industry? Well, with 50 lbms of high carbon steel missing from the vessel head – there are no prohibitions of this in the UFSAR and TS. Why should we measure this trend and worry about safety. Even if the vessel deformed liner, which has cracks in it becomes the pressure boundary; it is safe because there is no safety evaluation at the current time which proves that this is unsafe. Massive rust and boron on the head, leak detection system who are getting clogged up; hey there is no specific prohibition of this operation so why worry.

What really concerns me is the agency absolute hyper focus on the highly simplified and disconnected control wording of TS and the UFSAR –in which the agency designs to be vague and opened to interpretation. It's is appalling that nobody in the agency has challenged this. The first responsibility of a utility and the agency in any event, and prolonged occurrence, is to first question if the UFSAR statement is an adequate method of control of the accident precursor. The very next step is if the UFSAR and TS doesn't fully characterize the "event"; is for the agency and utility to place conservative limits on this new trend and activity. It is not to set a course to decade's of ignorance and inactivity.

At the top of any future NRC report like this, you should clearly express the potential consequence of an agency adverse ruling on a event. You have to give the public an idea of what kind of pressures the agency will face by an adverse ruling. You should clearly state what the potential adverse consequence to the power plant and what are the generic consequences are to the industry. This would give the public a much better understanding why ruling come out as they do. In other words, if SPC was limited to a very small percentage of operation, what would be the expected fallout to the industry? You should query the industry about excessive SPC and if they submitted their 10 CFR50.59.

What the public doesn't understand; is that the agency interpretation of rules and conflict is absolutely consequence driven for the industry. The rules are bent (illusion) at the very beginning to limit consequence to the industry. I bet you this is their highest priority. In other words, the interpretation of the rules is targeted to limit consequences to the industry. Even better yet, the TS and UFASR is written in a very intentionally vague and opaque manner, in that the wording of rules defies any logical rational and specific explanation, except to give wiggle room within prolonged operation of a plant with degraded safety components.

The NRC NRR conclusion of "The NRC staff has determined that continuous long term operation of a single train of the RHR system in the SPC mode is within the LaSalle design basis" is absolutely disconnected from the initial questions by region III and from the facts of the safety questions raised in the report itself. Region III asks two separate questions: 1) is SPC long term operation characterized in the design bases and 2) does it have a waterhammer problem.

We really know that the long term operation of the SPC, like in the summer of 2001 –the single train training that was continuously running was really not functional. There can be no doubt that many other facilities have been excessively using SPC. and in that use, the component should have been declared as INOP. You should have

followed TS with one train INOP.

Another issue of the intentional NRC selectivity; is the agency limited the discussion of SPC operation in the summer of 2001. My bet is that LaSalle was repetitively destructively starting and stopping the SPC based on some temperature consideration throughout the recent years. We should have had the data and trends on the last ten years of operation with SPC and SRV leakage at both plants. The agency is being intentionally selective in this limited disclosure and the portrayal as this problem only being in the summer of 2001. I will bet you for many years LaSalle didn't meet the limitation of less than 2% operation. Like how many startups are allowed in the 92 day period.

Let us talk about another nuclear "absolute" safety philosophy. That a safety system engineering analysis is highly detailed and accurate, and its adequacy of the safety evaluation is never questioned, or the system is declared broken. In other words, if the adequacy of the evaluation is questioned: 1) you should not ever depend of the equipment in a safety situation and 2) You should define its functionality as broken until all of the questions are clear up. You should even question now if "other" safety system evaluations - "contains many simplifying assumptions for which the staff has identified numerous concerns that reflect on the adequacy of the waterhammer evaluation". I mean how wide spread is this problem in other systems. We absolutely know the shallow and simplified evaluation of the waterhammer issue comes directly from the top, with the horribly simplified control wording of the UFSAR state and TS. The agency really needs to explain what that wording allows.

Another very serious problem is the length of delay to the public in getting this report. What really happens is there is a large set of questions that the utility just doesn't have the answers to, in a situation like the SPC. Like I said, if a nuclear safety system is not fully characterized in an engineering evaluation – than the equipment should be thought of as broken. What we are doing, is we are facilitating a plant's operating with safety equipment and analysis being inadequate for a prolonged period. We are giving the utilities a benefit with being uncharacterized.

They should never have been an unanswered questions as this, in an operational reactor. By the time a report like this comes out, and all the back door communications between the NRC and the utility; the public never gets a real time perception of all of open questions on the situation. These opened questions generally ask if a component is degraded or broken. It's only in hindsight, after years of not knowing, that the public finds out of the problem and the length of time delay has allowed the utility to answer the problem. It is corrupt and you know it. Basically the special deal the NRC has given the industry is –we will give you have many years of delay to correct this problem – in which the NRC and the utility should have never allowed the facility to go into. Are you going to make a retroactive 10 CFR 50.59?

"While it is clear from the TS Bases that the NRC staff acknowledged RHR operation in the SPC mode for S/RV leakage, it was the staff's expectation that the S/RVs would be well maintained such that any leakage would be minor and the use of SPC would be infrequent and of short duration." – This statement is very troubling. It basically tells us what the NRC's long term expectation of the limits with SPC and SRV. Why didn't the NRC enforce those limits in the summer of 2001? Further, why didn't the inspection

program fully characterize these deficiencies and force the utility into performing a timely 10CFR 50.59? Why didn't the NRC fully characterize the SRV in inspection reports, such that they are "well maintained" in the summer of 2001? As I said before, if you don't know what the characterization is on the degradation of a safety component is, you define the component as broken until proven reliable.

I find these two NRC statements very troubling:

- 1) "The NRC staff has determined that continuous long term operation of a single train of the RHR system in the SPC mode is within the LaSalle design basis."
- 2) Although SPC operation is bounded by RHR system analysis and its frequency is not restricted, unless otherwise specified in the licensing basis, the staff expects that use of SPC during normal operation would be of short duration and that any significant increase in frequency be reviewed in accordance with the 10 CFR 50.59 change process.

Wait a minute, where do you get that the "frequency is not restricted". Does it come from the absence of a specific prohibited wording on the simplified wording of the UFSAR and TS. Is it a just a matter of regulatory wording –and not an actual safety analysis and engineering evaluation of the operating regime. Is it just a matter of your simplified wording: you have got to be kidding? Where do I get the RHR system analysis? I wonder how many numerous simplifying assumptions are made within the specific RHR system Analysis for LaSalle?

The only conclusion you can get from this is that the design bases wording is inadequate and the NRC is unwilling to challenge this. I will bet you an adverse NRC finding of this will have a huge consequence to the industry –with most of the control wording at the plant's being vague and designed to be open to interpretation. As I said before, the UFSAR wording of this is so opaque and vague, (you should be ashamed of it) and it is plain wrong if you allow plant operation regimes that are not expressly characterized (expressly analyzed, designed, tested and proceduralized) in the TS and the UFSAR.

You know the risks of this activity has not been evaluated. The risk of a premature component breakdown, the risk of a breaker explosion and fire, the risk of personnel being caught up with a problem with the operation of SPC and being distracted from more important problems, and let us not forget, from the SPC tiring the shift leading to errors. And there has been preventable errors already seen by this improper operation at multiple sites, from the excessive operation of safety equipment as the SPC. We know you passed the buck by telling us it is a maintenance issue – without telling us just what extra maintenance action has occurred do to the excessive operation of the components (delta change). We also know that SRV leakage, to the extent of that as LaSalle, was never planned for in initial plant design and the initial generic design of GE.

The pressures which led to this have been well expressed. We had enormous political and economic pressures place on the industry. And it can't be forgotten; we had two somewhat subtle trends that have been interacting. We had the heat sink and weather

patterns interacting with the long term maintenance failures with SRV valves. And again and again, we get around to the rather vague NRC declarations that SRV problems and leakage has been improving without any detailed explanation. Of course, what we worry about is the NRC will just look like a selective set of facts on the SRV problems and thus gives us an intentionally misleading indication of the problems.

From IN 87-10

"Extended use (increased frequency and long duration) of the RHR system in the SPC mode during normal operation may be outside the original design-basis analysis (LOCA) assumptions." And "In addition, a significant increase in the amount of time the RHR system is operated may affect the amount and types of preventive maintenance and monitoring activities that are required to ensure that it is capable of performing its intended function."

Can you believe that the agency does not have any absolute regulatory stance about this yet? What I can't figure out, why the utilities can't figure out a way, such that the energy and water is directed away and accurately measured from the suppression pool.

Sincerely,

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