

May 14, 2002

S. Singh Bajwa, Director
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: GENERIC SAFETY ISSUE 191, "ASSESSMENT OF DEBRIS ACCUMULATION ON
PRESSURIZED WATER REACTOR SUMP PERFORMANCE"

Dear Mr. Bajwa:

Thank you for the information and your comments re: the subject safety issue, and the associated public meeting. I understand the intended purpose of the parametric evaluations, and further understand that they confirm a credible safety concern for PWR plants. On a personal note, I spent several years as a mechanical construction engineer for the Tennessee Valley Authority at Sequoyah Nuclear Plant, assigned to various piping systems' installation including the Emergency Core Cooling System, or ECCS. I have attached some ECCS information, which was the attachment you could not open with my last email. TVA design engineers considered the ECCS to be much more vital than it now seems to be regarded by others. If anything had been done to threaten to compromise the flow of cooling water through ECCS piping such as is considered in GSI-191, it would never have been allowed, regardless of cost or time.

TVA stresses their "public openness image" on all safety issues, and they claim to share all safety issues with their neighbors, particularly those in the emergency evacuation zones, but that is another issue, and I do not want it to interfere with the more immediate issue at hand.

I remain concerned that the NRC is receiving erroneous and misleading information from the nuclear plants and from the inspectors who participate in the ongoing "condition assessment walkdowns" for which they are generously paid annually. This has been going on for many years, and it will continue as long as it is allowed. As long as the inspectors tell the plants that the coatings "are acceptable, but need close surveillance at every scheduled outage," that is exactly what will continue. If the NRC "closely monitors" a program by consulting with the proponents of the practices ... question, it will get biased, and erroneous, information.

I am offering, again, the technology developed several years ago for evaluating, scientifically, the existing Level I coatings, i.e. "In-Situ", or in-place testing. The NRC can select the contractor(s), or plant(s), or combination, or both, at a minimal cost. The results will be absolute, realistic, and unquestionably scientific. It will be a pass or fail test and any failures will be valuable in GSI-191 considerations in predictions of quantities, densities, sizes, shapes, and other physical properties of debris potential. It can be initiated as a mere "spot check" of ongoing practices, and broaden, only if the results dictate.

Please consider this approach as the safest way to be sure of proper ECCS performance after an accident, and the only way to scientifically address GSI-191. Too much is at stake to continue what may be very dangerous compromising of an important and vital, designed-in safety system, the ECCS.

Sincerely,



Lanson Rogers
Coatingsvm@aol.com
(270) 766-2771

Enclosure 1

Emergency Core Cooling System (ECCS)

Tremendous efforts have gone into the design, fabrication, and construction of ECCS piping systems in nuclear power plants to ensure that they remain in place during and after an accident and that they perform their safety function of cooling the reactor to a safe shutdown. Anyone who has ever worked at a nuclear plant during construction knows the extreme efforts made to control the quality of the erection and installation of all ECCS-related piping and components. Some of those efforts are described below.

All ECCS piping and associated hardware is considered safety-related and is purchased from only those suppliers who have pre-approved Quality Assurance Programs in place which meet the requirements established by the ASTM. Quite simply, this means, among other things, that every section of pipe (usually the highest quality stainless steel) has a visible "steel-stamp" number with the accompanying paperwork. This QA Package certifies that the listed item is and contains the specified alloying elements in the specified amounts or percentages and that all other quality control-related criteria has been satisfied. Should any ECCS-related hardware fail, or cause problems, it can be traced back to the manufacturer, and in the case of steel products, even the "heat number" of the "melt" identifying the date, time, and all personnel involved in every step of the manufacturing process. Obviously, these are extreme efforts made to control the quality of ECCS piping and they are also extremely expensive. They include every part in the system, they have always been required by the NRC, and they are accepted by the nuclear plants' owners and licensees as necessary for safety to the general public.

The same requirements described above apply to the ECCS pipe restraints, or hangers which support the pipes throughout the plants. Some of these pipes are very large, up to 24 inches diameter, and the supports are large and complex. They are seismic-designed to withstand earthquakes of the most severe magnitude projected for the geographical area of that particular plant. Some of these hangers have shock-absorbing type cylinders and other dampers which would be needed for accident survivability. Like the pipes they restrain, each piece is marked with "steel stamped" numbers for identification and quality control.

As the ECCS piping is erected in a nuclear plant, each pipe weld is X-rayed for weld quality, and any flaws or defects are corrected immediately. Every weld is X-rayed, final inspected, documented and certified when finally acceptable. The same is done for every weld and every step of assembly of the hangers and seismic restraints.

Other quality assurance features which are designed and built into the ECCS piping systems are such things as "weld-o-lets" or special fittings which are

fabricated into the walls of the sections of piping at strategic locations to facilitate the re-X-raying of all welded joints. This allows periodic inspections of any and all welded joints for ongoing inspections and monitoring for cracking due to aging, abnormal or unexpected events, or routine quality assurance verification.

These are just some of the steps the NRC and the nuclear power plant owners and licensees have taken to ensure the safe operation and safe shut-down in the event of an Loss of Coolant or Design Basis Accident, and shows the importance of the ECCS.