



UNIVERSITY OF MISSOURI

Research Reactor Facility

Research Park  
Columbia, Missouri 65201  
Telephone (314) 882-4211

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Regulatory Improvements Branch  
Division of Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: Comments regarding NUREG-0561

Dear Sir:



The University of Missouri Research Reactor (MURR) would like to comment on NUREG-0561 but realize the comment period ended August 17, 1979. We apologize for the late submittal; MURR was in the process of making four spent fuel shipments to Savannah River Reprocessing Plant when the regulation went into affect. Therefore our limited staff had to give first priority to working through the regulation so we would be able to get the shipments approved and completed. The assistance of the NRC in helping us understand and meet the requirements of NUREG-0561 was greatly appreciated. We request the tardiness of our remarks be overlooked due to the added merit they may have gained by us working through the regulation.

The NRC states they implemented NUREG-0561 due to their concern for protecting the public health and safety. At first, one would think the principles that have been applied in the regulation would achieve this goal. However in our opinion and from our recent experience, any benefits from putting these principles into the mechanics of the regulation has more than been lost. Additionally the cost of implementing this regulation to the public is not justified by its questionable return; a greater return could be achieved if the same amount were invested in an area where there is higher probability of losses to the public.

We arrived at the above conclusions for a number of reasons. In the past, spent fuel shipments have been accomplished with good success because a limited numbers of personnel were involved with the transportation. With the implementation of NUREG-0561, a number of personnel in the NRC will coordinate or have access to spent fuel shipments information. This will result in all information concerning



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spent fuel shipments being processed under one system for the whole nation; whereas in the past there was no central clearing house for this information. Therefore the theorized terrorist now has an important part of his homework done for him. With the routing survey information put together by the NRC he can obtain the complete route, likely stopping points, where emergency communication is the weakest, and where the local law enforcement agencies have the slowest response time. This, we conclude, increases the probability of an adversary group successfully completing their mission.

Secondly, we question the advisability of using secondary roads for transporting spent fuel shipments. Not only are these roads usually below the safety standards of interstate highways and have a higher accident rate per vehicle mile, but the stop and go traffic experienced on these roads provide a greater opportunity for diversion. The chances of successfully diverting a spent fuel shipment is increased when a shipment is stopped or moving very slowly, conditions that exist on most secondary roads. Once the hurdle of stopping a spent fuel shipment is achieved, the next obstacle is evading the local law enforcement agency (LEA). This would be easier on the rural secondary highways than it would be on the interstate near large cities as highlighted in the report from Sandia Laboratories (SAND-77-1927).

Transport of Radionuclides in Urban Environs:  
Working Draft Assessment, Sandia Lab, N.M., May 1978

6.5.1 Response Time and Numbers of Local LEA

In urban areas, the number of defenders (escorts plus local LEA) can be quadrupled in 10 minutes or less even in smaller cities the number can be doubled. This simple difference in numbers appears to provide the urban LEA and the shipment escorts much more flexibility in responding to an attack than would be the case in small cities or a semi-rural environment. Also because the responding force in large cities represents only a small fraction of the officers on duty, the urban LEA should be better able to cope with diversionary or multiple attacks.

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Similarly it would be hard to hijack a spent fuel shipment and once hijacked it would be more easily located if its movements were originally restricted to the interstate highways. Since a truck with a spent fuel shipment is quite distinct and its movements would be more likely observed, attempts to hide or camouflage the vehicles while on a major interstate would be more difficult. Likewise the frequency of LEA patrolling the area is higher on interstates. This would not be the case if the shipment was on a secondary road where the opportunity for hiding or camouflaging a shipment could be accomplished with less chance of being observed due to traffic patterns, terrain, and lower LEA patrol frequency.

Consideration should also be given to the immobilization aspect of the security regulations. Any mechanical immobilization feature that fails during movement could result in vehicle fatalities. This situation is of higher probability than that projected for a sabotage attempt. The consequence of this type of accident is made very evident when one watches the Sandia movies of shipping casks and trucks stopping abruptly; it becomes apparent that the greatest danger to personnel safety is from the truck stopping abruptly and the driver and other vehicles being smashed by the casks.

The cost/benefit has to be based on the hypothesized scenerio calling for a spent fuel shipment to be hijacked then blown up in a highly populated area. If one is truly concerned about the safety and welfare of the general public, one would insure the citizen is getting the most return for spending his money, a limited resource - this regulation will cost either as a taxpayer, utility consumer, or both. The citizen would get more for his dollar if it were invested in one of the weaker links in the overall public safety chain - not one as strong as spent fuel shipments, which has a good safety record. For example, the scenerio of terrorists blowing up chemical tanks, railroad tank cars, or natural gas storage tanks in highly populated areas are far more probable, and the consequence the same order of magnitude. The only difference may be the fear the general public has of radioactive and nuclear power. Perhaps what is really needed is a better education for the public.

For the above mentioned reasons, we question the basis for implementing NUREG-0561. The likelihood of a sabotage/accident event occurring is very remote according to everyone concerned, but the alarm caused by such an event seems to have dictated more regulations as a solution. In our opinion, the increased regulations have passed the point of being a benefit to the public and just result is pushing research reactors closer toward shutting down and producing higher

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utility costs in power reactors. We believe that the health and safety of the U. S. public is better served by having reactors operate and operate economically than by having them shutdown.

Sincerely,

A handwritten signature in cursive script, reading "Robert M. Brugger". The signature is written in dark ink and is positioned below the word "Sincerely,".

Robert M. Brugger  
Director

RMB:vs

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