

2. Finding Hope in the Fukushima Accident Experience

Scott Newberry
Principal Nuclear Safety Consultant, AdSTM, Inc., USA

I want to first express my sympathy to the people of Japan for the events brought on by the earthquake and tsunami of last March.

My name is Scott Newberry. I had only worked at the USNRC about two years when the TMI accident occurred. I was a nuclear submarine officer for about six years prior to joining the NRC in late 1976. While the events that make up my experience prior to, during, and after TMI are insignificant compared to what many in Japan are going through, they provide us with reason for hope going forward after Fukushima.

I have worked in the nuclear reactor safety area for all of my professional career. After starting out at the NRC before the TMI accident, I continued for almost 30 years, retiring in 2004. I shifted to the commercial consulting sector and provide safety/licensing consulting services or manage the efforts of others. I currently work as a safety consultant in a small company, AdSTM, which is the principal contractor for the NRC's Office of International Programs activity that provides support to countries around the world considering or moving ahead with the nuclear energy option.

My own relevant experience started prior to the TMI accident. Many mistakes were made that are now well documented. The safety culture of the industry and the NRC was not where it needed to

be. As a young engineer, I worked in one of the NRC groups that could have prevented the accident by properly identifying the shortcomings in the design and operation of emergency core cooling systems and correcting problems that were found to be precursors to the TMI accident.

My basis for hope in this essay is that, from my personal experience, the hardworking and dedicated people who sincerely participated in some way in the TMI accident experience have gone on to improve the safety and availability of the nuclear generation option in the United States and around the world. They include those that worked countless hours stabilizing the damaged plant and prevented radioactive releases to the public, those that searched for the most important lessons learned, and the many who followed through to make lasting safety improvements based on these lessons---and their own personal experience before, during, and after the accident.

The second day after the accident I was a member of the second NRC team that was flown by helicopter to the TMI site. Our job was to monitor the status of the plant and to review and approve the conduct of all activities, such as dealing with the hydrogen bubble in the reactor and the design and installation of new systems to cool the reactor if the situation deteriorated. While the conditions at TMI were nothing like Fukushima, they were

difficult. I met many dedicated people at the site, some from all over the world, working long hours to ensure safety.

My experience continued through investigations, the debates to zero in on the most important lessons learned, working through the complexities of implementing some of the lessons learned, and years of never forgetting what happened at TMI so that such an accident would not occur again. Because of the efforts of many dedicated people, important lessons have been learned and improvements well documented. Although hindsight indicates that some particular changes following the accident went too far, the situation is so much better now.

Reflecting back, I am fortunate to know people throughout the industry, like me, for whom the TMI lessons were not only challenging, but personal. We were part of the culture before the TMI accident. I believe that many of the people most involved in TMI are the people that have made tremendous contributions since the accident. Without them, the improvements in safety culture, the broader look at safety issues and severe accidents, and the training of new engineers would not be where it is today.

The Fukushima situation is still very very difficult and so many people are working hard. Families still need to find places to live. The facility is being stabilized and needs to be cleaned up. It will take a long time, lots of money, and the work of many. My hope is that, like the TMI experience, the Fukushima accident, the recovery, and the lessons will improve the safety and availability of the nuclear generation option around the world. My hope is that the hardworking and dedicated Japanese people, who are now leading the challenging recovery, will share their experience with the world and be at the forefront of the lessons learned and improvements.

I appreciate the opportunity to share my thoughts.

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