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Comments Regarding NRC's Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Power Plants

My name is Oliver Hall, and I am testifying on behalf of MASSPIRG, the Massachusetts Public Interest Research Group. MASSPIRG is a non-profit, non-partisan organization with over 50,000 members throughout the commonwealth. I appreciate the opportunity to testify, and MASSPIRG and the National Association of State PIRGs will follow our oral comments with written testimony.

In general, it is clear that the Generic Environmental Impact Statement (GEIS) needs major improvements in order to adequately protect the public health and safety. Further, many site-specific issues must be addressed for each nuclear plant renewal application. In addition, the new GEIS should apply to licensees which submit applications prior to 2006.

Specifically, there is a long list of problems with the current GEIS that render it inadequate and that must be fixed in the updated GEIS.

1. The increased threat of terrorist attacks must be taken into account. Licensees must demonstrate that they have the means to resist an attack on the reactor building, its support structures, and spent fuel.

2. Re-licensing will result in increased spent fuel storage on-site, and it has not been demonstrated that on-site storage as currently executed is safe.

3. The classification system for radioactive wastes fails to serve the public interest because the classification is based on how waste is generated, not on how toxic or long-lived it is. Therefore, dangerous and very long-lived radionuclides are in so-called low-level radioactive wastes. Wastes need to be re-classified according to longevity and toxicity.

4. Twenty more years of operations would clearly produce more wastes of all classes. It is unreasonable to allow continued generation of wastes until a final solution is developed and current waste is transported to it. In the interim, safer on site storage must be required.
5. Our nuclear fleet is old and tired. As in any other industry, the nuclear industry is experiencing problems with wear-and-tear of components and systems. The industry is now plagued with age-related deterioration of mechanisms unique to nuclear power operations. Chronic exposure to extreme radiation, heat, pressure, fatigue, and corrosive chemistry are combining to cause a long list of mechanical problems. As nuclear reactors get older and are re-licensed, the chance of failure of this

equipment only increases. Aging management programs are intended to monitor the condition of equipment and structures and implement repairs or replacements when necessary to prevent failures. The long list of aging-related failures since 2000, occurring about once every 60 days, indicate beyond reasonable doubt that the aging management programs are inadequate because they are *not* preventing equipment failures. The NRC must ascertain the effectiveness of aging management programs -- not merely the scope of these programs -- *before* granting license extensions.

6. The NRC cannot continue with the generic approach to age-related degradation issues for reactor licensing extension. Our nation's reactors are not made from the same cookie-cutter. In addition, many reactor components have been identified by the General Accounting Office as counterfeit and substandard[1]. Therefore industry experience is not applicable. All the generic approach accomplishes is to effectively eliminate site-specific public participation and intervention in the re-licensing proceedings on aging issues. In turn, this approach eliminates independent experts and public review of the potential impact of age-related degradation issues from the license extension process. It removes the affected public's discovery process and their ability to scrutinize and cross-examine industry and regulatory assumptions pertaining to aging safety components and public safety within the context of an adjudicatory proceeding.
7. Nuclear reactors release radioactivity to the air and water as part of their normal day-to-day operation. There is no safe dose of radiation. Its effects are cumulative. Many studies have demonstrated that low, constant levels of radiation exposure can cause cancer and genetic mutations. Continuing at current levels associated with normal operations is no comfort. Do we really need more radiation to add to our existing biological burden? The allowable rate of release has been too large. It must be decreased.

8. The NRC currently grossly underestimates the risk of the public's exposure to radiation released by licensees through a number of statistical and methodological errors. Therefore calculations have to be readjusted to determine real impact; lower allowable limits must be established, monitoring put in place, and an alternative assessment performed.

9. Former FEMA director James Lee Witt was asked by the NY Governor to evaluate emergency planning for Indian Point and concluded that, "...the current radiological response system and capabilities are not adequate to ... protect the people from an unacceptable dose of radiation in the event of a release..." His conclusions should be applied to other facilities and

[1] GAO/RCED 91-6, Counterfeit and Substandard Parts, October 1990.

evaluated in the GEIS. For example, the radiological emergency plan covers the 10-mile radius around each reactor. However, radioactive pollution from a release can be dispersed much further. Additionally, population and traffic congestion is far different today, and will be far different over the next 30 years, than when reactors were originally licensed. With respect to the terrorist threat and the federal government's disclosure that nuclear power plants are known targets, we need to reevaluate emergency planning at the local, state and federal level.

10. The EIS discusses the effects of re-licensing on the environment but does not discuss the reverse side of the coin – the effects of projected changes in the environment over the next 30 years on the reactor and its site. Evidence mounts on global warming – elevated sea levels, erosion and increased frequency and intensity of storms. Its effects need to be analyzed for each site seeking a re-license.

11. Marine life in all forms, from endangered species to essential microscopic organisms, is being harmed and killed by once-through cooling systems, used to remove waste heat at nuclear power stations. It would seem reasonable that the nuclear reactor sites be held to the exact same standards as individuals and groups impacting aquatic ecology - this is not the case, now. Also it is reasonable to require "least impact" – that is cooling towers for those reactors relying on once-through systems. Relicensing must be contingent upon replacing once through cooling systems with cooling towers or another state-of-the-art cooling system that reduces water intake below the rate achieved by cooling towers and eliminates heated water discharge.

12. Nuclear plant risk assessments are really not risk assessments because potential accident consequences are not evaluated. They merely examine accident probabilities – only half of the risk equation. Consequences are potentially so catastrophic that they must be considered. Moreover, the accident probability calculations are seriously flawed. They rely on assumptions that contradict actual operating experience. For example, the risk assessments assume nuclear plants always conform to safety requirements, yet each year more than a thousand violations are reported. Plants are assumed to have no design problems even though hundreds are reported every year. Aging is assumed to result in no damage, despite evidence that aging materials killed four workers. Reactor pressure vessels are assumed to be fail-proof, even though embrittlement forced the Yankee Rowe nuclear plant to shut down. The risk assessments assume that plant workers are far less likely to make mistakes than actual operating experience demonstrates.

This is just a partial list of the problems that need to be addressed before re-licensing of nuclear plants can move forward. We look forward to submitting written testimony and to the NRC's response to these comments.