



# Realism in the Assessment of Nuclear Technologies

## Position Statement

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The American Nuclear Society (ANS) urges and encourages the use of realistic models and assumptions in all studies of the risks, properties, costs, benefits, and consequences related to the use of radiation and radioactive materials.

It is customary for scientists and engineers when modeling hypothetical accident scenarios and failure mechanisms to make conservative assumptions and add safety margins. This practice, however, should not lead to assumptions that are physically impossible or contrary to common sense. "Worst case scenarios" should not violate the laws of nature.

Nuclear technology is sometimes mischaracterized as posing hazards so extensive and unprecedented as to outweigh any possible benefits. The ANS encourages its members to avoid these extremes when communicating with the public. The absence of realism produces inaccurate results; undue alarm of the public; and ultimately, lack of public credibility.

Therefore, the ANS encourages the scientific and engineering community and national leaders to apply realism to regulations, practices, and public policy and information. Scientifically unfounded or unduly exaggerated consequences are a disservice to the scientific community and the public at large.

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Position Statements are the considered opinions and judgments of the Society in matters related to nuclear science and technology. They are intended to provide an objective basis for weighing the facts in reaching decisions on important national issues.