

March 22, 2005

Dr. Po Kee Wong  
Chief Executive Officer  
Systems Research Company  
2413 Spencer Road  
Silver Spring, MD 20910-2344

Dear Dr. Wong,

On Wednesday, March 9, 2005, at the Nuclear Regulatory Commission's (NRC) Regulatory Information Conference, you handed me several documents which you implied showed that computer codes used to analyze nuclear plant performance were inaccurate.

I and several members of my staff have looked through the documents you provided and have been unable to find any information in them that supports your claim that computer analysis codes for nuclear power plant safety calculations are in error. In fact, my staff has reviewed the mathematical formulas presented in your paper and found that the exponentiation operator, which is at the heart of your paper, forms a non-commutative algebra over a field. Whether the field is real or complex is irrelevant. In order for the proof of your paper to hold true, the operation must commute (i.e., the ordering of the operation does not change the result). Our analysis methods, as your own calculations show, do take into account the mathematical fact that exponentiation forms a non-commutative algebra. Therefore, you can be assured that our safety analysis calculations, at least with respect to exponentiation, are correct.

I appreciate your interest in nuclear safety. However, unless you identify specific safety concerns associated with the nuclear power reactors the NRC regulates, we do not intend to pursue this matter further. If you have a specific nuclear safety concern, please visit our website at <http://www.nrc.gov/what-we-do/regulatory/allegations/safety-concern.html>, email [allegations@nrc.gov](mailto:allegations@nrc.gov), or call NRC's Toll-Free Safety Hotline at (800) 695-7403.

Sincerely,

*/RA/*

Brian W. Sheron  
Associate Director for Project Licensing  
and Technical Analysis  
Office of Nuclear Reactor Regulation

Dr. Po Kee Wong  
Chief Executive Officer  
Systems Research Company  
2413 Spencer Road  
Silver Spring, MD 20910-2344

Dear Dr. Wong,

On Wednesday, March 9, 2005, at the Nuclear Regulatory Commission's (NRC) Regulatory Information Conference, you handed me several documents which you implied showed that computer codes used to analyze nuclear plant performance were inaccurate.

I and several members of my staff have looked through the documents you provided and have been unable to find any information in them that supports your claim that computer analysis codes for nuclear power plant safety calculations are in error. In fact, my staff has reviewed the mathematical formulas presented in your paper and found that the exponentiation operator, which is at the heart of your paper, forms a non-commutative algebra over a field. Whether the field is real or complex is irrelevant. In order for the proof of your paper to hold true, the operation must commute (i.e., the ordering of the operation does not change the result). Our analysis methods, as your own calculations show, do take into account the mathematical fact that exponentiation forms a non-commutative algebra. Therefore, you can be assured that our safety analysis calculations, at least with respect to exponentiation, are correct.

I appreciate your interest in nuclear safety. However, unless you identify specific safety concerns associated with the nuclear power reactors the NRC regulates, we do not intend to pursue this matter further. If you have a specific nuclear safety concern, please visit our website at <http://www.nrc.gov/what-we-do/regulatory/allegations/safety-concern.html>, email [allegations@nrc.gov](mailto:allegations@nrc.gov), or call NRC's Toll-Free Safety Hotline at (800) 695-7403.

Sincerely,

*/RA/*

Brian W. Sheron  
Associate Director for Project Licensing  
and Technical Analysis  
Office of Nuclear Reactor Regulation

Distribution:

ADPT r/f RidsNrrDssa

**Accession Number: ML050800030**

OFFICE	NRR/ADPT
NAME	BSheron
DATE	03/22/05

OFFICIAL RECORD COPY