RIC 2003
Risk-Informed Activities, Session T3

My Favorite Complaints

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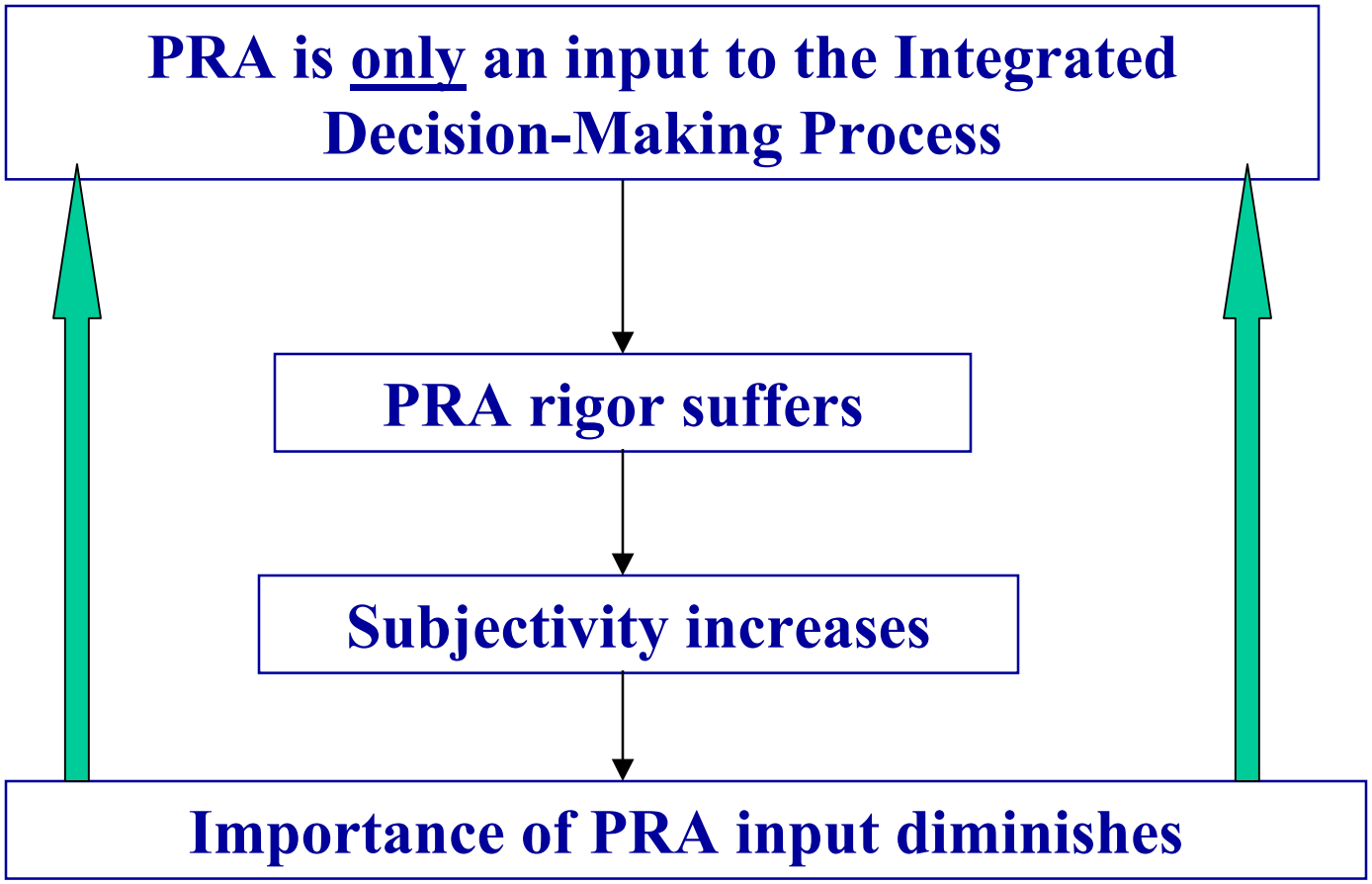
An Unexpected Consequence of Good Intentions



Uncertainty Analysis

- **WASH-1400 quantified parameter uncertainties.**
- **These are not very important in most applications.**

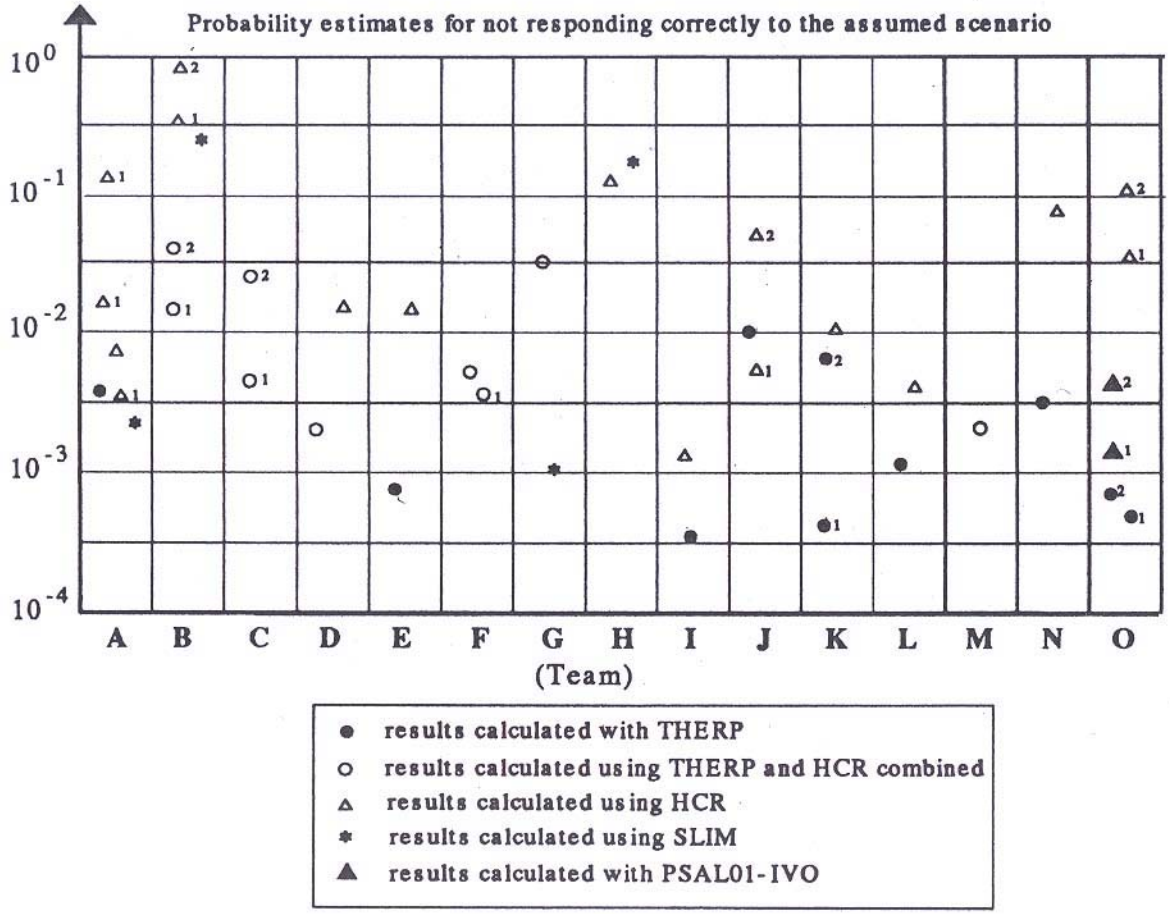
- **Consequences:**
  - **Uncertainty analysis is viewed as an unnecessary burden.**
  - **Simple sensitivity analyses are employed instead.**
- **The uncertainties that matter are due to:**
  - **Model inadequacies**
  - **Incompleteness**

Model Uncertainties

Examples

- **Human Reliability Models**
- **Reactor Coolant Pump Seal LOCA timing**
- **HVAC success criteria**
- **Seismic fragility curves**

The European Benchmark Exercise on HRA (1989)



A. Poucet, PSA '89, Pittsburgh, April 2-7, 1989.

Can We Do Better?

- **Identify important models/assumptions through sensitivity analyses.**
- **Evaluate their probabilities utilizing the totality of available evidence and employing expert opinions.**
- **Propagate all uncertainties to final results and identify major contributors.**

How Can We Improve Completeness?

- **Make better use of the wealth of information produced by the NRC, e.g.,**
  - **The Accident Sequence Precursor Program**
  - **The Augmented Investigation Team Reports**
  - **The Component Reliability Reports**