

Industry Trends Program Overview



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March 12, 2003

ITP and IIIEI

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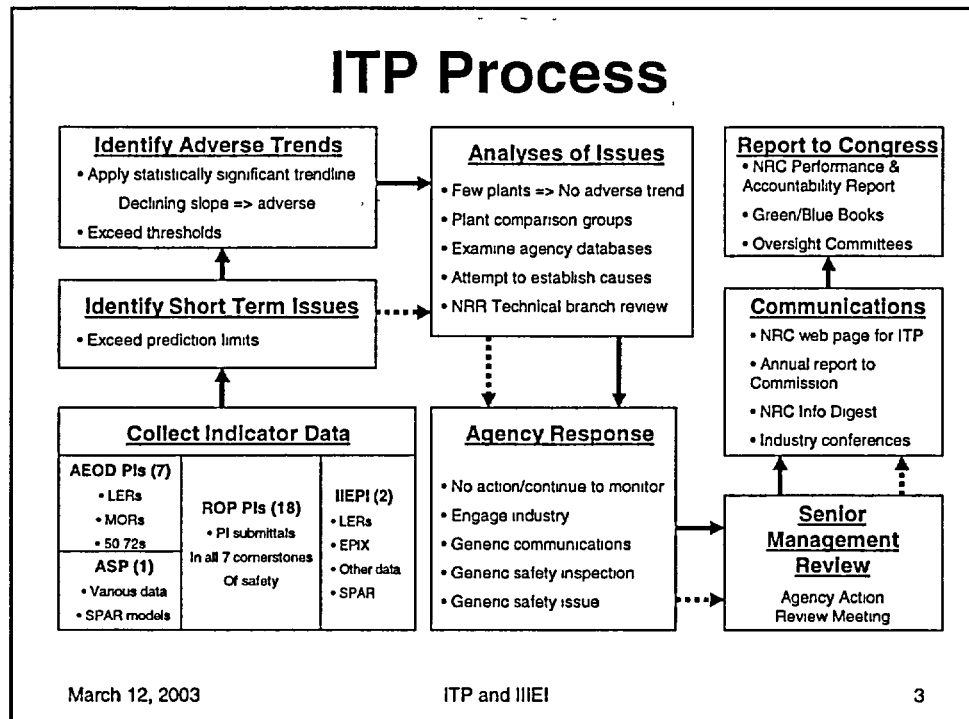
Purpose

- Initiate discussion about the IIIEI
- Solicit feedback regarding technical issues and programmatic issues of the IIIEI
- Obtain input for a public workshop on the IIIEI
- Identify any showstoppers for the IIIEI

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Indicator Characteristics

- Be used as performance measures in the annual performance report to Congress
- Are complementary to the plant-specific ROP
- Provide industry information for an ROP cornerstone
- Use industry data available from current NRC programs
- Are related to or tied closely to risk (e.g., CDF or ΔCDF)
- Utilize risk-informed measures for assessing their significance (e.g., safety goal, RG 1.174)

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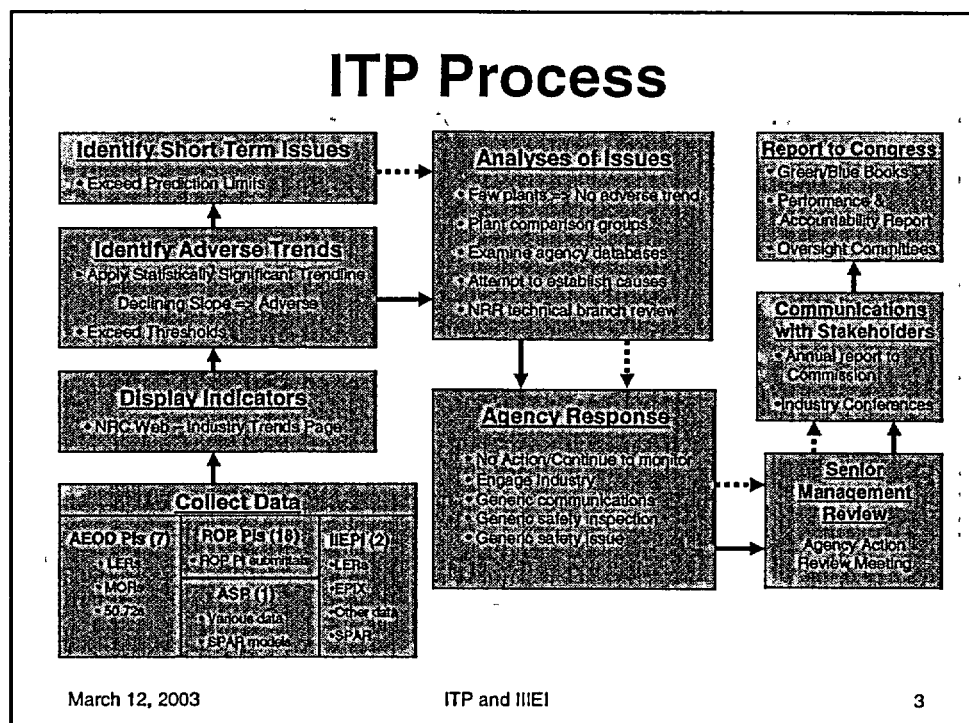
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Integrated Industry Initiating Event Indicator (IIIEI)

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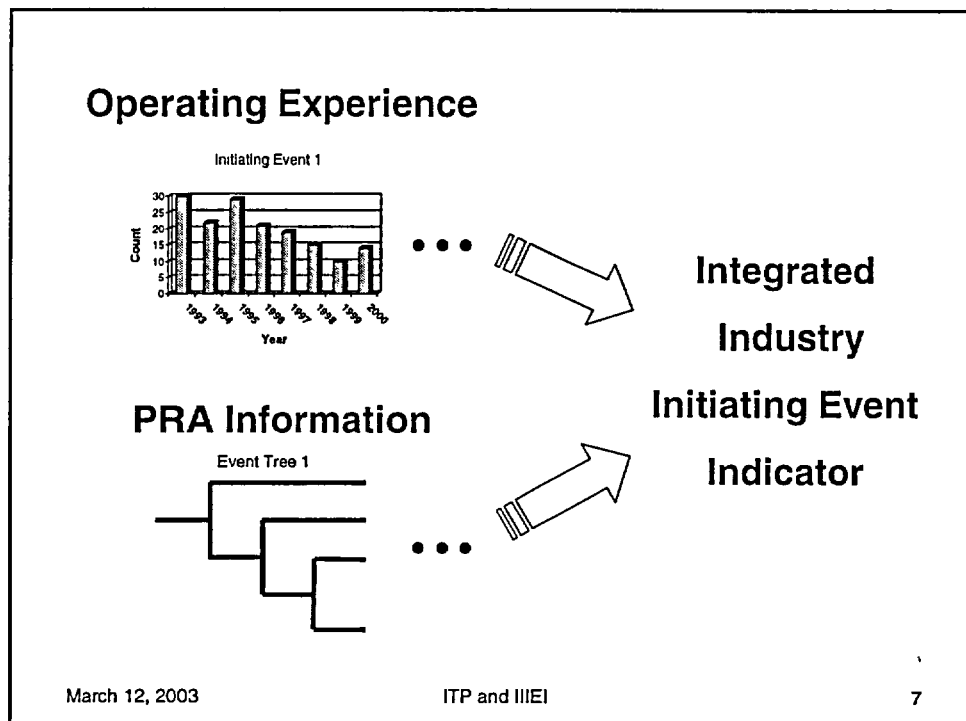
Philosophy

- Trending individual initiating events does not capture their risk importance
- Mitigating systems performance indicator (MSPI) has provided a way of combining risk information with operating experience
- MSPI approach can be used for initiating events

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Integrated Industry I.E. Indicator

- Addresses the first cornerstone of safety (initiating events) from an industry perspective
- Is complementary to the plant-specific ROP
- Is related to core damage frequency
- Allows combined trending of frequent and infrequent initiating events with different risk importances
- Does not require any new data be submitted by licensees

What is the IIIEI?

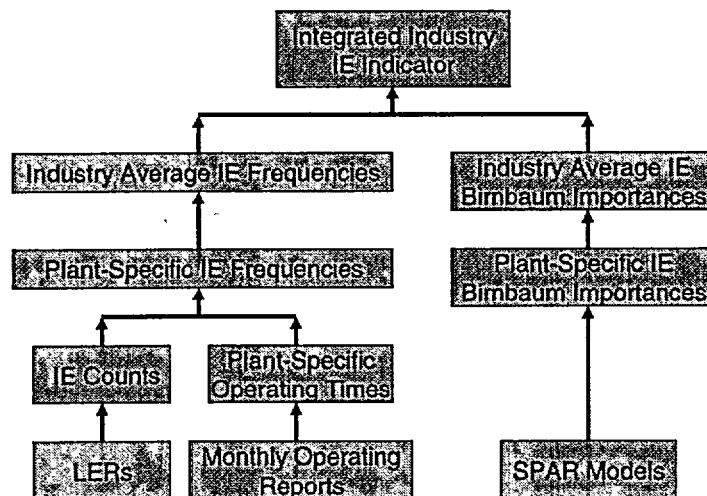
- The IIIEI is the product of the industry initiating event frequency times the associated industry average conditional core damage probability (Birnbaum importance measure) summed over the set of risk important initiating events
- One integrated indicator for BWRs and another for PWRs

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IIIEI Data Sources

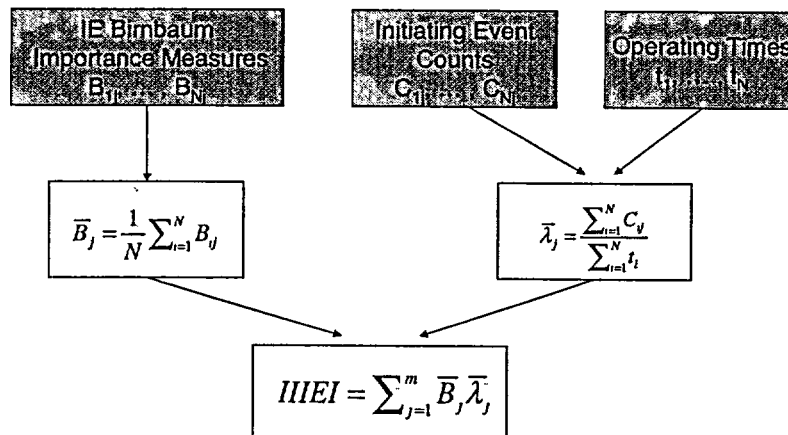


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IIIEI Calculations

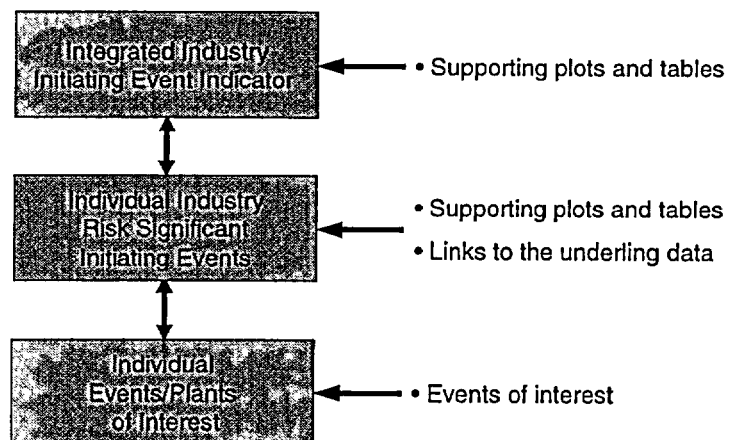


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Indicator Hierarchy



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Thresholds for the IIIEI

- Thresholds may be established using the following information
 - Safety Goal and/or Regulatory Guide 1.174
 - Behavior of the integrated indicator
 - Simulations
 - Maximum value
 - Major contributors
 - Distributions of the Birnbaum importance measures
 - Past operating experience trends for initiating event
- An expert panel would be established to propose threshold values that satisfy policy and operational needs and objectives

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?? Question ??

**Are there any show stoppers
with the concept of the
Integrated Industry
Initiating Event Indicator?**

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Plant-Specific I.E. Indicator

- The same concepts used to develop the IIIEI can also be used to develop plant-specific initiating event indicators
- This can be done without licensees submitting any data
- Some technical issues exist that need to be investigated before the concept is tried

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Technical Questions

- How many years should be included in the estimation of a trend?
- Should CDF or Δ CDF form of the indicator be used?
- What level is appropriate for reporting to Congress?
- What level is appropriate for agency action to an adverse trend?
- Should some of the PIs be grouped?
- How does the safety goal influence setting thresholds?
- Should concepts in Reg. Guide 1.174 be used in setting thresholds?

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Schedule

- Review of the draft report and comment resolution – June 2003
- Public Workshop – July 2003
- “Proof of Principle” Exercise – July 2003
- Final Report – August 2003
- ACRS Briefing – Sept/Oct. 2003
- Commission Paper – January 2004

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