



# Introduction to Conclusions & Discussion

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\* *Personal Perspective & Presentation – Does not represent Agency policy*

See: <http://epa.gov/oswer/vaporintrusion>

# The evidence suggests (to some), it is time to consider some *Interim* Recommendations

- Appears it is time for something like:
- *“Document the indoor radon, differential temperature and pressure levels,*
  - *at least at the time of CVOC sampling,*
  - *and the surrounding ‘baseline’ periods for comparison,*
- *to allow and improve future understanding and interpretations of*
- *the buildings’ [relative] intrusion levels at the time of CVOC sampling?”*

# More specifically; Documenting ITS allows:

- And improves **future** understanding and interpretations of;
  - Visually-apparent Relative levels of soil gas intrusion at the time of CVOC sampling &
    - Calculated percentile (%ile) of the exposure distribution the CVOC sample **conc.** found could **represent**”
  - The Alternative:
- Random samples ‘accuracy’ (~5% ea.; 58 random ~95% Conf. of 1 in 95<sup>th</sup>%ile)
- CVOC samples reported **without** associated ITS measurements:
  - Will have **limited value** in the future (as ITS metrics are better understood)
  - Could be from times with **known ‘low’ probabilities** for representing the exposure levels of most concern (e.g., ‘elevated’) for long-lasting risk management decisions

# Probability statistics for ITS distribution of Rn conc. converted to percentiles (%ile) of TCE\*

Conc. of Rn (in %iles)	Probability of CVOC conc. = ND	Probability of CVOC con. < 95 <sup>th</sup> %ile	Probability of 1 sample in the > 95 <sup>th</sup> %ile of CVOC
<80 <sup>th</sup>	40%		
<90 <sup>th</sup>		99%	
>90 <sup>th</sup>			40%**

\*Evidence from two residences in Building Zone 5 (SDM & EID) show:  
***If*** new bldgs. 'match' this well-studied Building-Setting-Scenario;

\*\* Eight times (8x) higher probability than a random sample

# In Summary

## Documenting ITS measurements can:

- Be practically & easily added to typical regularly-scheduled CVOC sampling efforts, &
- Add significant context and meaning to these short-time CVOC indoor air samples, e.g., allow the samples to:
  - Represent much longer periods of time (not sampled for CVOCs)
  - Calculate Quantitative confidence for representing the VI-levels of highest concern
- Help avoid misuse of the observed correlations with 'low' CVOC conc.
- Comments?