

Dose Assessment RASCAL Interface

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Our Goal

To combine the best features of RASCAL with a site specific front end to create a user friendly interface for the occasional end user.

RASCAL

- Provides many methods for performing dose assessments.
- Has new plume dispersion and deposition models
- Is often times the compared “standard” for licensees.
- Is free to the licensee

RASCAL

- Does not have a direct method allowing the use of licensee's effluent monitors
- Is generically written for all sites in the US
- Can be difficult for the occasional user to run with consistency
- Usually requires more extensive procedures and longer training times

Licensee Dose Assessment Programs

- Typically simplified for the licensee's needs
- Users “recognize” terminology, site specific components, release pathways, etc...
- Allow for the use of effluent monitors direct readings.

Licensee Dose Assessment Program

- Typically requires a third party contractor to maintain
- Will probably require extensive upgrades due to the changes with the new modeling used by RASCAL
- Expensive up keep costs.

Our Goal

- Write a site specific front end the user will be comfortable with and calculate an isotopic release rate
- Use RASCAL's "Effluent Release Rates - by Nuclide" methodology to process the assessment.
- Use RASCAL's meteorological, plume and puff modeling programs to calculate the doses
- Read RASCAL's results files to present the doses in a site specific format.

Results

- Created a very adaptable front and back end to RASCAL which will be utilized at Entergy and Exelon sites
- Integrated the RASCAL processors including the new dispersion and deposition models
- Licensee assessments are very close to RASCAL since the dispersion and deposition models are identical

Long term

- The Licensee maintains control of the interface
- Reduced training costs
- Typically the interface will not need significant upgrades or changes
- If the NRC changes the RASCAL processor programs the licensee won't need to change the interface

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RASCAL webpage for files and updates:
atheyconsulting.com/RASCAL_files.html