From:	Giacinto, Joseph
Sent:	Tuesday, May 25, 2021 2:07 PM
То:	AdvancedReactors-GEISDocsPEm Resource
Subject:	NOAA - Protective Action Criteria for Chemicals (PACs)
Attachments:	NOAA ORR 2020 PACs.pdf

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Protective Action Criteria for Chemicals (PACs)



The <u>PACs</u> dataset is a hierarchy-based system of the three common <u>public exposure guideline</u> systems: <u>AEGLs</u>, <u>ERPGs</u>, and <u>TEELs</u>. A particular hazardous substance may have values in any—or all —of these systems.

The PACs dataset implements the following hierarchy when choosing which values to use for the PACs:

- 1. Final, 60-minute AEGL values (preferred)
- 2. Interim, 60-minute AEGL values
- 3. ERPG values
- 4. TEEL values

The PACs dataset has a single set of values (PAC-1, PAC-2, and PAC-3) for each chemical, but the source of those values will vary. So, for instance, the PAC-3 value for one chemical might be an ERPG-3 and the PAC-3 value for a different chemical might be the TEEL-3. A hierarchical system can be helpful for choosing levels of concern for chemicals that are defined under two or more of the public exposure guidelines.

The PACs dataset is created by the TEEL developers (Department of Energy, Subcommittee on Consequence Assessment and Protective Actions). To find out more, go to the PACs and TEELs Program website .

How does ALOHA use PACs?

In <u>ALOHA</u>, you can choose PACs as your toxic Levels of Concern (LOCs) when modeling a toxic chemical release—if PACs have been defined for that chemical. ALOHA allows you to specify up to three toxic LOCs. So, you can choose the PAC-1, PAC-2, and PAC-3 values to generate a threat zone estimate where yellow, orange, and red zones indicate areas where those values were predicted to be exceeded at some point after the chemical release began. (To determine how long the LOC was

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exceeded at a particular location, read the Ask Dr. ALOHA article on working with the concentration graph.)

For chemicals defined under the PACs classification system, ALOHA will provide the PAC values as the default toxic LOCs until AEGL or ERPG values are established.

PAC Information Online

- PAC/TEEL Program: Read all about PACs and TEELs on this Department of Energy site, which contains PAC/TEEL resources and details about PAC/TEEL development.
- PACs Overview: Get a summary of the PACs dataset and links to key resources on this Department of Energy site.
- PACs Database: Search for PAC values in a database on this Department of Energy site.

Last updated Tuesday, March 10, 2020 3:08pm PDT

Public Exposure Guidelines AEGLs ERPGs TEELs PACs

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