



# RAMPED UP

RAMP NEWSLETTER – SPRING 2018, ISSUE 7



New RAMP Web Address: <https://ramp.nrc-gateway.gov>

## 2017 Fall RAMP Users Meeting

The third domestic RAMP Users Group Meeting was held October 16-20, 2017, at NRC Headquarters in Rockville, Maryland. The NRC welcomed the largest number of RAMP meeting attendees thus far with over 90 registered participants, instructors, and support staff. Eight international regulators were represented with international users from Australia, Canada, China, South Africa, South Korea, Spain, United Arab Emirates, and Taiwan. Domestic users comprised multiple U.S. Federal Government and State agencies, national laboratories, universities, and the nuclear industry.



The meeting featured training sessions and discussions for RASCAL, VARSKIN, RADTRAD, GENII, PiMAL, GALE, HABIT, MILDOS, RESRAD, RESRAD-Biota, COMPLY, CAP88, Radiological Toolbox, DCFPAK, and the Atmospheric Codes. The hands-on training offered users a way to test the codes and their ability to use them while receiving direct feedback from the code developers. Attendees participated in open discussions with developers, provided suggestions for code improvements, and learned more about code upgrades and future releases.



In addition, this year the RAMP program held the first VARSKIN Technical session in conjunction with the RAMP Users Group Meeting. The 2.5-day technical session included 16 discussions led by government, university, and commercial representatives with topics that focused on future developments of the code and numerous examples of both routine and novel uses of the code in practice across several industries, agencies, and countries.

Aside from networking and collaborating, RAMP users also had the opportunity to tour the NRC Emergency Operations Center and the National Institute of Standards and Technology.



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## RAMP Team Highlight

**Kerstun Norman** joined the U.S. NRC RAMP Team in February 2017. Mrs. Norman is the Program Manager for the atmospheric dispersion codes, PAVAN, ARCON, and XOQDOQ.



Most recently, Mrs. Norman spearheaded the upgrade from ARCON96 to ARCON 2.0. The ARCON 2.0 code includes an updated graphical user interface, which replaces the original interface written in Visual Basic for DOS. The new Windows graphical user interface improves the ease with which data can be entered and provides a visual representation of the source-receptor values. ARCON 2.0 updates the initial ARCON96 low wind speed and building wake corrections, which were the published corrections developed by Ramsdell in 1998.

Next, Mrs. Norman will oversee the software quality assurance evaluation of ARCON 2.0 by the Department of Energy (DOE). Upon satisfactory evaluation, ARCON 2.0 will be listed as an approved Toolbox Code in the DOE Central Registry of Safety Software. Toolbox codes are used to establish the safety basis for DOE nuclear facilities and their operation, and to support the variety of safety analyses and safety evaluations developed for these facilities.

Mrs. Norman has 15 years of experience providing technical and project management support in health physics, regulatory compliance, quality assurance, and public outreach.

## International Partners

### RAMP Agreement Renewal

Our deepest appreciation to South Africa, our first international partner, for renewing their RAMP Agreement. In 2016, South Africa also hosted RAMP's first international meeting. We're looking forward to continuing our collaborative relationship with South Africa.

### New International Users

The RAMP Team would like to welcome the following new international members to the RAMP User Group: Department of Nuclear Science and Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh; Hevesy Lab, Technical University of Denmark; Algeria Nuclear Research Center of Birine; and the National Institute of Nuclear Research, Mexico.

### New International Webpage

The RAMP website now includes an international partners webpage that serves to enhance communication and collaboration among our international partners. The comprehensive list provides the organization's general contact information and specific RAMP codes which allows the partners to share experiences and discuss topics with each other. Sharing information with other partners as well as with RAMP will improve code development, maintenance, and benchmarking. For more information, please visit our website: <http://ramp.nrc-gateway.gov/content/member-countries>



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## Code Updates and Highlights

RAMP is a program for training, developing, maintaining, and distributing the U.S. NRC's radiation protection, dose assessment and emergency response computer codes. The RAMP user community benefits by having access to the latest version of the code as well as code maintenance, development, benchmarking, and uncertainty studies.

In our efforts to continue to innovate and transform, we will devote additional resources to software development and maintenance. Hence, we have updated RASCAL, VARSKIN, ARCON96, and GENII.

### RASCAL

The RASCAL Development Team is pleased to announce the release of RASCAL 4.3.3 which adds the capability to download international meteorological data (METAR) from the Aviation Weather Center (AWC) servers using the MetFetch tool in RASCAL. Additionally, this update to RASCAL corrects some minor coding errors as well as adds new nuclear power plant facilities and meteorological stations for international sites in the United Arab Emirates (UAE), Taiwan, and Canada.

### VARSKIN

VARSKIN is used to perform confirmatory calculations of licensees' submittals regarding skin dose estimates. The latest version of the code, VARSKIN 6.0, was released in January 2018. The upgrade gives users the option to include all decay products in dosimetry calculations and the option to calculate skin dose using ICRP 107 nuclide decay

data (ICRP 2008). By activating a simple check box, progeny will now be automatically included in the calculation.

### ARCON96

ARCON96 uses hourly meteorological data for estimating dispersion in the vicinity of buildings to calculate relative concentration at the control room and technical support center. The latest version of the code, ARCON 2.0, is being released in March 2018. The upgrade includes an updated graphical user interface as well as updated low wind speed and building wake corrections.

### GENII

GENII, Version 2.10, is now part of the RAMP website. GENII is a documented set of programs for calculating radiation dose and risk from radionuclides released to the environment.

Additionally, we have recently redesigned the following three RAMP icons and will embark on efforts to redesign the remaining icons.





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## Spring 2018 RAMP USERS GROUP MEETING – United Arab Emirates

March 25-29, 2018

Federal Authority of Nuclear Regulation (FANR)

	Radiation Protection Computer Code Analysis and Maintenance Program (RAMP) 2018 UAE Users Group Meeting, March, 25-29, 2018 Federal Authority for Nuclear Regulation (FANR) The Landmark Tower Al Markaziyah West - Abu Dhabi Corniche RAMP Website: <a href="https://www.usnrc-ramp.com">https://www.usnrc-ramp.com</a>		
	<b>Sunday, March 25, 2018</b>	9:00 AM – 10:00 AM	<b>Registration and Check-In</b>
		10:00 AM – 11:30 PM	<b>Opening Session</b>
		1:00 PM – 5:00 PM	RASCAL
5:00 PM – 6:30 PM		<b>RAMP Dinner</b>	
<b>Monday, March 26, 2018</b>	8:00 AM – 8:45 AM	<b>Morning Primer: The REIRS Database</b>	
	9:00 AM – 12:00 PM	RASCAL	VARSKIN
	1:00 PM – 5:00 PM		
<b>Tuesday, March 27, 2018</b>	8:00 AM – 8:45 AM	<b>Morning Primer RadToolbox</b>	
	9:00 AM – 12:00 PM	RASCAL	RADTRAD
	1:00 PM – 5:00 PM	Turbo FRMAC	RADTRAD
<b>Wednesday, March 28, 2018</b>	8:00 AM – 8:45 AM	<b>Morning Primer: HABIT</b>	
	9:00 AM – 12:00 PM	Turbo FRMAC	RADTRAD
	1:00 PM – 5:00 PM		
<b>Thursday, March 29, 2018</b>	8:00 AM – 8:45 AM	<b>Morning Primer: TBD</b>	
	9:00 AM – 10:30 AM	<b>Question and Answer Session</b>	
	10:30 AM – 11:00 AM	<b>RAMP Closing Remarks and Ceremony</b>	
	1:00 PM – 5:00 PM	<b>Optional RAMP Tour</b>	