RAMPED UP

RAMP NEWSLETTER – FALL 2018, ISSUE 8
EDITOR: ALEXUS WILLIS

INSIDE THIS ISSUE

U.S. Nuclear Regulatory Commission

Rockville, MD

U.S. NRC RAMP website:
https://ramp.nrc-gateway.gov

2018 Spring RAMP Users Meeting at UAE

The third international RAMP Users Group Meeting was held March 25-29, 2018, at the Federal Authority for Nuclear Regulation (FANR) in Abu Dhabi, United Arab Emirates (UAE). The meeting was attended by nearly 50 participants with staff representing FANR, UAE's regulatory body for the nuclear sector, and the Nawah Energy Company who will operate and maintain the first nuclear power plant in UAE. In addition to NRC staff and contractors, the meeting was attended by a RAMP members from Spain, South Africa and the United Kingdom.

International Partners

The RAMP welcomes the following new international members to the RAMP User Group:

VARSKIN: The European Organization for Nuclear Research—CERN (**Switzerland**), Weill Cornell Medicine (**Qatar**), Krško Nuclear Power Plant (**Slovenia**), Catheter Technologies and Image Guided Therapies (**Germany**)

SNAP/RADTRAD: Horizon Nuclear Power (**United Kingdom**)

RASCAL: KEPCO International Nuclear Graduate School (KINGS) (**South Korea**)

RAMPED UP

RAMP Newsletter – Fall 2018, Issue 8

RAMP Team Highlights

Canadian RAMP Program Coordinator

Nana-Owusua (Nana) Kwamena, PhD

Dr. Kwamena is an Environmental Risk Assessment Specialist in the Environmental Risk Assessment Division of the Canadian Nuclear Safety Commission (CNSC) in Ottawa, Canada. Dr. Kwamena is also the Canadian RAMP Program Coordinator and the liaison between the U.S. Nuclear Regulatory Commission (NRC) and the CNSC.

Dr. Kwamena joined the CNSC in 2011 after completing post-doctoral studies in atmospheric and physical chemistry. Previously, she completed a doctoral degree in atmospheric chemistry and an undergraduate degree in chemistry with a bio-organic emphasis. She works primarily on the assessing the potential impacts from nuclear facilities on the atmospheric environment. Other expertise include transport of tritium in the terrestrial environment, environmental assessment, environmental risk assessment and emergency management.

Dr. Kwamena has also worked with the RAMP team to develop a Canadian version of the RASCAL code for CNSC's use in their Emergency Operation Center.

Dr. Kwamena is looking forward to welcoming RAMP members to Ottawa, Canada, for the 2018 North American RAMP meeting.

RAMP Website Updates

UNIVERSITY CORNER

A large portion of RAMP members are students; therefore, the RAMP Team decided to create a page where professors could obtain the resources and tools necessary to teach students each code. The **University Corner** will feature workbooks, webinars, tutorials, assignments, and answer keys for the professors use. Eventually, we want professors to implement these radiation protection codes into their curriculum. These codes will be used by multiple universities and colleges in Health Physics, Radiation Protection, or Nuclear Engineering courses.

INTERNATIONAL AGREEMENTS

Currently the RAMP Website features the **International Partners** page that allows members to learn about the RAMP partnerships that the NRC has with other agencies worldwide. Like the International Partners page, the **International Agreements** page will highlight each country. Each country will have their own secure page that will feature their code specific needs, RAMP Agreement, and information on RAMP User Meetings that they've previously hosted.

2018 Fall Users Meeting

Canadian Nuclear Safety Commission (CNSC)
435 Albert Street, Ottawa, ON, Canada
October 29 – November 2, 2018

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

RAMPED UP

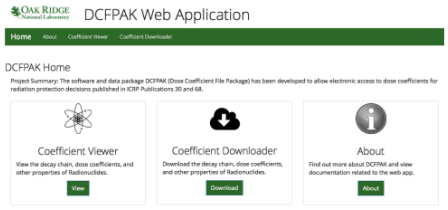
RAMP NEWSLETTER – FALL 2018, ISSUE 8

Code Updates and Highlights

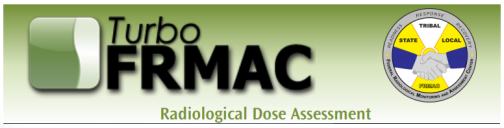
New RAMP Codes — (coming soon)

RESRAD — The RESidual RADioactive (RESRAD) family of codes are used to analyze potential human and biota radiation exposures from the environmental contamination of residual radioactive materials.

DCFPAK — The Dose Coefficient File Package (DCFPAK) is a Fortran-based computer package developed to provide electronic access to the dose and risk coefficients summarized in Federal Guidance Reports (FGR) 11 and 12.



Turbo FRMAC — The Turbo FRMAC (TF) software automates the calculations described in Volume 1 of "The Federal Manual for Assessing Environmental Data During a Radiological Emergency", (FRMAC Manual) and performs complex calculations to quickly evaluate radiological hazards during an emergency response by assessing impacts to the public, workers, and the food supply.



Atmospheric Codes

ARCON 2.0 and PAVAN — In anticipation of the upcoming release of ARCON 2.0, with its updated graphical user interface (GUI) and updated low wind speed and building wake corrections, there has been continued discussion regarding the plans to update another atmospheric dispersion code – PAVAN.

Both ARCON 2.0 and PAVAN model the atmosphere's influence on design basis accidents (DBA) with the main difference being the modeling distances for each code. ARCON 2.0 models atmospheric dispersion at the relatively close distances of the nuclear power plant (NPP) control room and technical support center. While PAVAN models the atmospheric dispersion to distances that include the NPP exclusion area boundary (EAB) and low population zone (LPZ). In addition to the differences in dispersion distances, the codes have different meteorological data format, release modes, and terrain considerations.

The RAMP Atmospheric Development Team have raised questions and have started looking into the feasibility of combining PAVAN and ARCON 2.0 into a single platform with one GUI with the ability to model atmospheric dispersion using either code. Simultaneously, discussions have also ensued regarding the upgrading of PAVAN separately but in a manner similar to ARCON 2.0 (i.e., updating the GUI and dispersion coefficients).

Although the cost and time to develop both options would need to be considered, the RAMP Team want to ensure that you, our code users, have an opportunity to provide feedback on these options. Please let us know which option you prefer: (1) combine PAVAN with ARCON using a single platform; or (2) develop PAVAN separately, but similarly to ARCON 2.0. Please send your feedback to ATM_Help@nrc.gov.

RAMPED UP

RAMP NEWSLETTER – FALL 2018, ISSUE 8

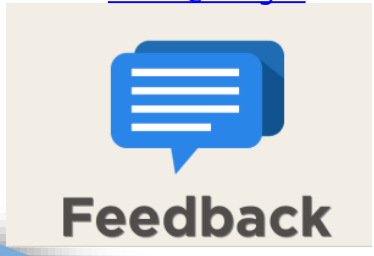
RAMP Summer Intern

Alexus Willis

Alexus Willis is an Summer Intern in the Office of Nuclear Regulatory Research, Division of System Analysis, Radiation Protection Branch. She is a rising senior at Texas A&M University at College Station. She is pursuing a B.S. in Nuclear Engineering with a minor in Biomedical Engineering. Alexus plans to return to the Radiation Protection Branch next summer.

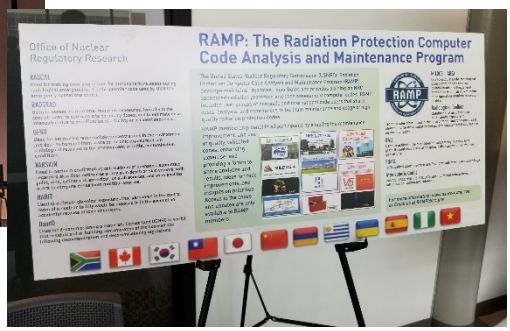
WE'D LOVE TO HEAR FROM YOU!

The RAMP Team welcomes your thoughts and feedback on any code features and enhancements for the RAMP codes and the RAMP website. Please send your feedback to RAMP@nrc.gov.



RAMP at the 2018 EFCOG Nuclear Facility Safety Conference

RAMP participated in the 2018 Energy Facility Contractors Group (EFCOG) Nuclear Facility Safety Conference hosted by Pacific Northwest National Laboratory (PNNL) August 11–17, 2018 in Richland, Washington. There were 150 people in attendance, primarily Department of Energy (DOE) management, staff and contractors associated with DOE Labs and Facilities. The RAMP Team gave a 2-hour presentation on the **ARCON** code and a 4-hour presentation on the **GENII** code. In addition, RAMP hosted an information table that facilitated reaching an additional 20 attendees outside the class sessions. Attendees were mostly interested in learning about the **ARCON**, **GENII**, and **HABIT** codes.



IN THE NEXT ISSUE OF RAMPED UP…

- 2018 Fall RAMP Users Meeting Recap
- Who's new in RAMP?
- Code Updates and Highlights
- More Details on the Spring 2019 Users Group Meeting
- …and More!!