

SECTION A: ERROR DETAILS

Bugzilla Error Number	BUG4440		
Description of Error:			
When the volumetric flux option is selected in the run-time neutronics script the power distribution assigned to each zone is incorrectly.			
Comments:			
When the volumetric flux option is selected in the run-time neutronics script the power distribution assigned to each zone is divided by the volume. This is not correct as the values in the "heat_distribution.txt" file for the volumetric flux option are already provided on a per volume basis. This results in an incorrect power distribution.			
First Incorrect Version:	8.12.8.4469	Corrected Version:	8.14.1.4844

SECTION B: WORKAROUND

Workaround Description: It is recommended that the "Total over zone volume" heat distribution option be selected and that a suitable "heat_distribution.txt" file be generated that contains volume integrated flux values. If the "Volumetric flux" heat distribution option is selected there is no workaround that does not involve a code change or further manipulation of the data in the "heat_distribution.txt" file. The runtime neutronics script is user editable and can be converted to a local script and corrected by the user by changing this line: <code>Power_Matrix[i, j] += NeutronFlux_Matrix[n_column - 1, n_row - 1] * dOverlapVolume/dVolume;</code> To: <code>Power_Matrix[i, j] += NeutronFlux_Matrix[n_column - 1, n_row - 1] * dOverlapVolume;</code> And recompiling the script.	
--	--

SECTION C: SIGNOFF

Person Responsible for Fix:		
Eugene van Heerden		2025-03-13
Name	Signature	Date
Person Responsible for Review:		
Tiaan Dercksen		2025/03/13
Name	Signature	Date