

## **Comparison of standardised decommissioning costing tools on pilot Vienna TRIGA MARK-II research reactor**

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### **Abstract:**

The main purpose of the paper is to compare decommissioning costing code CERREX (Cost Estimation for Research Reactors in Excel) with advanced calculation methodology applied in eOMEGA-RR code. CERREX code was developed in line with the IAEA recommendations for decommissioning costing of research facilities and fully implements the ISDC (International Structure for Decommissioning Costing of Nuclear Installations) structure and costing methodology. In comparison with CERREX, usually applied in preliminary costing, the code eOMEGA-RR incorporates the realistic activity and material flow during decommissioning process (e.g. decontamination, dismantling and waste management). This advanced approach enables to carry out the decommissioning planning and costing more effectively. Moreover, the user-friendly interface helps to perform wide range of sensitivity analyses.

In order to meet the above mentioned objectives, the model calculation costing case for TRIGA MARK-II research reactor in Vienna was developed in both calculation codes. The whole process covered four step-by-step procedures to be implemented. At first, inventory database taking into account physical as well as radiological parameters (e.g.: contamination, dose rates, nuclide vectors, limits and conditions) was developed. At second, advanced decommissioning costing case using CERREX and eOMEGA-RR code was created. At third, sensitivity analyses to estimate the impact of changing input parameters on calculated results were performed. Finally, costing results obtained from both cost calculation codes are compared and discussed.