SUMMARY

Structural analysis of various reactor components is an important field of application for large-scale program systems for finite element analysis. Present practice of their field support and maintenance is briefly reviewed, leading to a list of shortcomings that has been collected from the user’s point of view. Experience in developing and operating contemporary finite element program systems as well as further progress in software engineering suggest a new approach to their design and development. Software sharing and program maintenance must be an important on-goings concern starting at the very beginning of the design cycle. An outline is given of a new software project which is aimed at structured software sharing. The ultimate goal is to provide cheap and highly reliable software modules that can be combined from various sources with in-house developed software, yielding highly differentiated operational software systems that are optimally adapted to the class of problems of interest at a particular user’s site. The results obtained during the past three years are quite encouraging. In comparison to presently used finite element software the implementation effort can be reduced by about one order of magnitude. At the same time, overall software reliability seems to be improved by several orders of magnitude.