

Application of Configuration Management to Nuclear Safety Analysis Tools and Analysis Results

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The application of configuration management principles to physical installations or systems is well known, and is practiced in a number of industries. (Examples). However, application of configuration management to the tools and methods used in problem solving, with the clear exception of computer codes, is less advanced, and in some areas is all but non-existent. The present paper describes the approach being adopted by Ontario Hydro Nuclear to apply CM to analysis methods and products in a systematic and integrated way.

The need for CM in the traditional areas of managing hardware configurations, and the advantages of its use in this sphere are well known. Due to the multiplicity of definitions of CM and consequently of the understanding of it in a general context, the need for and advantages of CM in areas other than hardware and computer codes is difficult to appreciate. The first requirement, therefore, was to define CM in a way that its application to nuclear safety analysis was more obvious. In conjunction with this, it was necessary to describe the advantages of CM in this area, and what its application would "look like".

The basis for this work within OHN is a "CM Strategy Document". This is a paper which lays out the principles to be used in applying CM, defines the scope for its application to areas related to analysis, lays out an overall plan for carrying out the CM strategy and establishes a schedule for this work. The paper describes this strategy briefly.

There are three individual areas in which it is envisaged that CM will be applied: in codes, in data and in analysis. Codes is not discussed in any detail in the paper because this is a well-established application of CM and is adequately dealt with in the literature. Data and analysis are applications not so commonly encountered, and they are discussed in greater detail. The interconnections among these three areas and how they are handled from the point of view of an integrated approach to analysis CM is also presented.

Trial applications in the CM of both data and analysis are underway. The use of CM in analysis has involved the construction of an application framework and its use in a series of trials, the first of which is presently nearing completion. The framework, the series of trial applications and preliminary findings from the first of these trials are described in some detail. The paper concludes with a summary of what we have learned from this work thus far, and a description of our current plans for a more general application of CM to analysis.

