

A Study on a Systematic Approach of Verification and Validation of a Computerized Procedure System: ImPRO

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Abstract

Paper Based Procedure (PBP) and Computerized Procedure System (CPS) are studied to demonstrate that it is necessary to develop CPS in NPP I&C system. Computerized procedure system is actually a software system. All the desired and undesired properties of a software system can be described and evaluated as software qualities. Generally, software qualities can be categorized into product quality and process quality. In order to achieve product quality, the process quality of a software system should also be considered and achieved. Characteristics of CPS will be described to analyse the product and process of an example CPS: ImPRO. At the same time, several main product and process issues will be analysed from Verification and Validation (V&V) point of view. It is concluded and suggested that V&V activities can also be regarded as software development process, this point of view then is applied to the V&V activities of ImPRO as a systematic approach of V&V of ImPRO. To support and realize this approach, suitable testing technologies and testing strategies are suggested.