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Paper C – The Configuration Management Challenge

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Abstract

Configuration Management is the process of ensuring the construction, operation, maintenance and testing of the systems, components and structures of a physical plant are in full compliance with the design requirements. It also warrants that all documentation detailing the physical plant is consistent with what actually exists, and is readily retrievable. A rigorous Configuration Management system supports making safe, knowledgeable and cost effective decisions with confidence. This paper addresses Configuration Management at the three levels of: "Utility Executive Level statement of need", "…a why is this so important anyway discussion", and as a "thoughtful tutorial" on its features and practice.

1. Introduction

To that end, this paper pursues Configuration Management via a 'three-part messaging' scheme as follows;

i) Utility-Executive Level NIOU* Statement (by: Author 1)
ii) The Importance Shake-Down Discussions (by: Author 2)
iii) The Service-Provider Tutorial (by: Author 3)

This is an issue which firstly requires a strong, high-level "…needs and interests of the operating utilities*" (NIOU*) statement as the ultimate 'customer-driver statement' – the operating utilities being, after all, the only customers in this business. Such a statement is provided as Item i) in the Abstract and discussed in Section 2 below.

Having broadly established the NIOU via Item i), the next step is to have 'Shake-Down Discussions' to get all of the questions (and arguing) out of the way as to – '…why is this needed anyway (?)/ is it really worth the effort (?) and/ what is wrong with the status quo (?)' - see Section 3.

By getting such arguments (and exploration of the NIOU statement) out of the way up front, it allows someone expert in the field, such as a Service Provider, to conduct a thoughtful discussion of - "… how does this work/ what does it do for us/ what doesn't it do/ advantages or disadvantages compared to other ways-of-working/ etc" – see Section 4.

2. The Utility-Executive Level NIOU Statement (by: Author 1)

3. The Shake-Down Discussions (by: Author 2)

4. The Service-Provider Tutorial (by: Author 3)

5. Conclusion

"Without sound Configuration Management, we have no sound basis for undertaking any maintenance and refurbishment operations. As we go forward into the next 30 years of operation of CANDU plants, we must embrace not only Configuration Management as a tool to collect the information of where we are today, but the advanced tool which can guide us to rapid, informed decisions on where we want to be going forward." (Ref Author 1)

As can be seen from the above paper, Configuration Management is fundamental to being able to turn to the Regulator at the time of the 'return-to-service approval' request at the end of an outage, re-furb, or new-build operation and confirming that; a) the system is now suitable (as demonstrated by the fitness-for-service documentation) for return-to-service approval and ; b) the configuration of all of the systems, equipment, and processes are exactly as-represented, are fully known, and are rigorously-documented. Without both of those, a return-to-service approval would be able to be delivered only on an 'at-risk' basis – clearly not a good situation.