

CNS Annual 2011 Conference Session Regarding
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Paper B – The Outage/ Operating Cycle Continuum

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Abstract

Operating-cycle or outage-cycle focus - in well-run plants, the two exist as a continuum, and the plant's operating success and reliability depend on that. Both concern selecting the right work for execution at the right time, and maximizing completion. Both involve intensely-integrated utility/ service-provider task planning and execution, plus rigorous management oversight throughout. Opportunities abound: service providers can perform work 'in-operation' as well as during outages; also longer operating intervals with shorter planned outages are a possibility. Two examples are presented to illustrate this continuum: a new outage scope selection approach, and industry experience with maintenance backlogs.

1. Introduction

This paper presents this 'Outage/ Operating Cycle Continuum' discussion via a 'three-part messaging' scheme which is common to the papers of this conference session. The 'three-part messaging' scheme is as follows;

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| i) | Utility-Executive Level NIOU* Statement | (by: Author 1) |
| ii) | The Importance Shake-Down Discussions | (by: Author 2) |
| iii) | A Service-Provider Tutorial | (by: Author 3, 4) |

The need for such a 'Continuum' as with everything else in our industry relates ultimately to the "...needs and interests of the operating utilities*" (NIOU*). The purpose of Item i) is the establishment by an Executive-Level representative of an Operating Utility, of such a statement as a 'customer-driver' for our subsequent discussions. Item i) is discussed more fully in Section 2 below.

Having broadly established the 'NIOU' as noted above, the next step is to conduct 'Shake-Down Discussions' to get out of the way - all of the questions (and arguing) as to; 'why is this needed anyway (?); is it really worth the effort (?) and; what is wrong with the status quo (?)'. See Section 3.

After getting such shake-down arguments as well as the exploration of the NIOU statement out of the way - someone expert in the field, such as a Service Provider, may then conduct a

thoughtful discussion (aka ‘tutorial’) of - “... how does this work/ what does all of this do for us/ what doesn’t it do/ advantages or disadvantages compared to other ways-of-working/ etc”. That discussion is provided in Section 4 below.

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

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

Note to the author – the following materials (within the ‘...’ marks) are remnants from the prior abstracts. They may be used, moved, changed or discarded as you wish – whatever works for you -

‘Nuclear plants world-wide are under great pressure to achieve ever longer operating cycles and ever-shorter outages. This is particularly true for reliable, well-run plants with already-high capacity factors – PWR plants in NA for instance have averages in 91% range – as do certain of our CANDU 6 plants. Plants which are reliable and have few legacy issues typically operate with optimally-small staffs. All of that creates a situation where the work-scope for an up-coming outage must be intensely pre-planned based on long-range Life Cycle Management plans as well as on current OpEx - and where work must, wherever possible, be performed while the plant is “on-line”. The intense planning and the tight orchestration of activity and communication among all involved as is necessary to achieve those objectives is the subject of this paper.’

‘... that means effective “service-provider and utility task leadership integration”; and it increasingly means that on-line tasks be performed under long term service contracts by service-providers which are able to participate effectively in the planning and orchestration of the work as well as in its rigorous execution.

This paper discusses the concept of “outage as continuum” and the ways-of-working and task-leadership skills needed to reliably achieve those essential long operating cycles and ever-shorter outages.

At this stage in the life of the industry, there is need for improved ways-of-working to more effectively manage the very large work-scopes and complexities of the on-going refurb programs, of new construction – and of optimally-managed outages in well-run plants. As discussed in this paper, the Conference is configured in four half-day sessions, A thru D. Focus A addresses – “Short, Tightly-Managed Outages in Reliable, Well-Run, Optimally-Staffed Plants”; Focuses B and C discuss the ways-of-working tools needed to navigate those highly-demanding situations. Focus D addresses those Hugely Complex and Scope-Expansion Prone Projects we refer to somewhat dismissively as “refurb”.’

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

5. Conclusion

As can be seen from the above, the ‘Continuum’ concept is a powerful means of helping move toward the ‘short, tightly-managed outages’ which are so important to high plant availability today – or to the achievement of cost and schedule-effective ‘plant refurbs’ – or to stake-holder-worthy ‘plant new-build’. It also elevates the role of the service-provider by their engagement from the earliest moments in the outage planning – and in the retrieval and assessment of OpEx – and in the pre-definition of in-operation and during-outage work-scopes.