Paris Session 2022

Transpower's experience with HVDC Life Extensions

SC B4 PS1 Question 5 - HVDC Systems and their Applications

How should the existing HVDC installations manage the security issues and updates?

How can the lifetime of control systems be extended?

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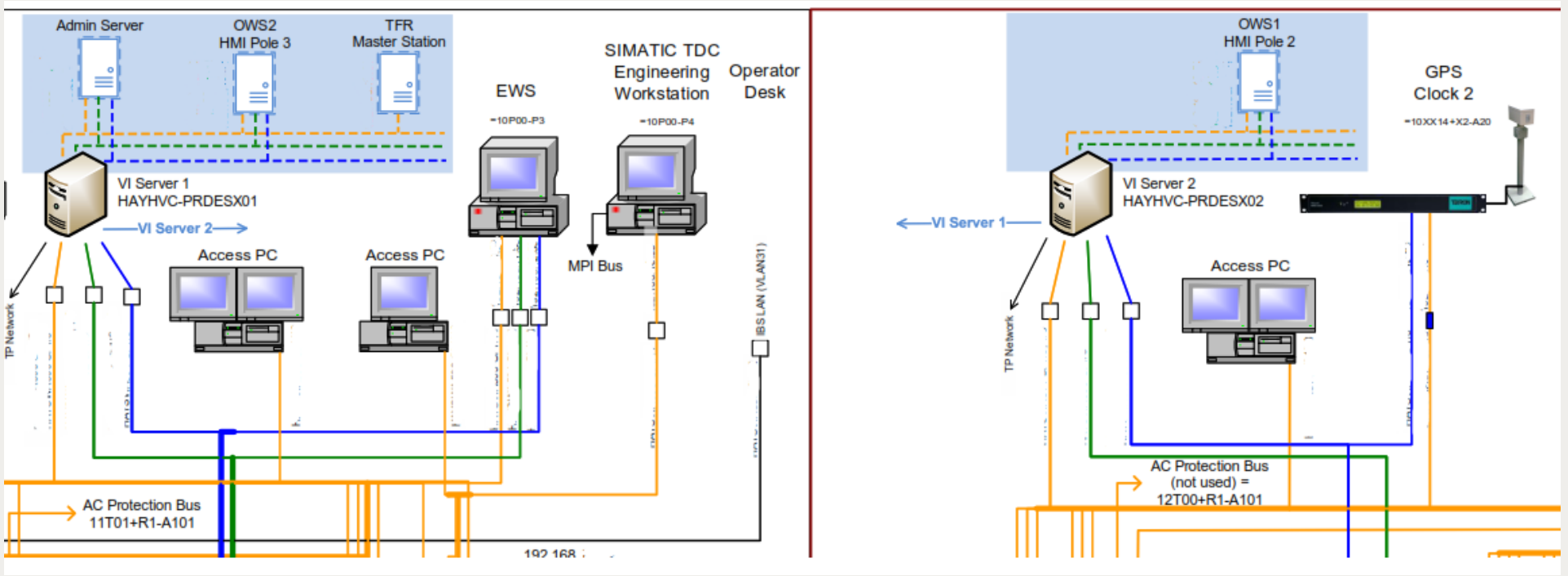
TRANSPOWER

SC B4 PS1 - HVDC Systems and their Applications

- Question 1.5: How should the existing HVDC installations manage the security issues and updates? How can the lifetime of control systems be extended?
  - In the case of having to operate computers with obsolete operating systems, virtualisation of these computers inside more secure operating systems running on modern hardware can be a good temporary solution. In some cases outage requirements will restrict implementation of a longer term solution, necessitating the use of temporary interventions such as this.



SC B4 PS1 - HVDC Systems and their Applications

- Question 1.5 continued:
  - Extensive investigations into operational threats and addressing identified vulnerabilities is important. Taking all reasonable steps to minimise the impact of a breach is also important as already discussed in many CIGRE documents. Having in-house expertise is valuable in managing technical risks.
  - Responding to end-of-life notices published by the vendors and purchasing additional spares while hardware is still available will minimise the risk of obsolescence.