

NETS SQSS Review Panel



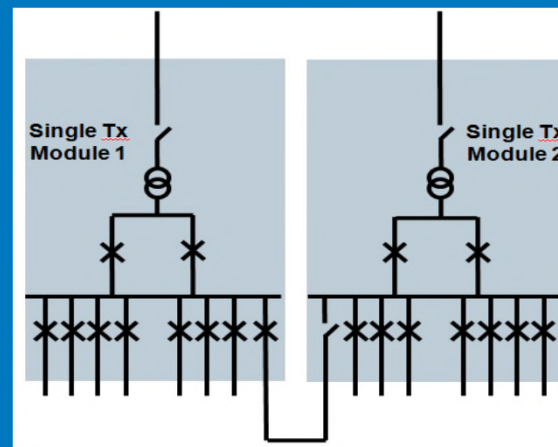
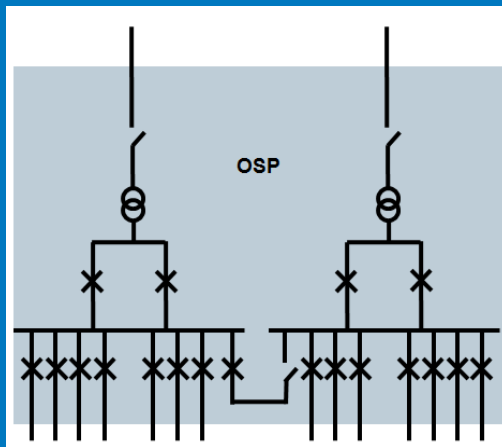
05 August 2015

John West, NETS SQSS Review Panel Chair

Agenda:

- Workgroup Updates: For Information Only:
 - GSR012: Interconnectors: SW Briefing Note
 - GSR016: Application of Scaling Factors and the Inclusion of Embedded Wind in GSR009 Chapter 4 Studies: JW Verbal Update
 - GSR020: Single Transformer Offshore Substations: DP Update Slides
 - Issue being addressed
 - Workgroup status, membership and approach
 - Guidance note
 - Proposed NETS SQSS modification
 - Next steps

GSR020 Update



Use of single transformer offshore platforms for offshore generation connections greater than 90MW

David Phillips, Workgroup Chair

GSR020: Purpose:

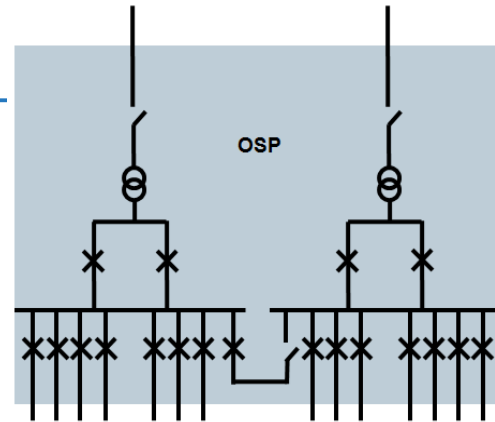
- Clarification of Clause 7.8.1.1 of the NETS SQSS
- Clarify definition of Offshore Grid Entry Point Capacity
- Clarify the use of single transformer platforms in configurations described

GSR020: Status:

- WG ToR agreed
- Two working group meetings held
- Cost benefit analysis prepared to compare capital cost and other savings vs. value of energy not delivered
- Cost benefit analysis presented and challenged
- Scale of expected savings on real projects discussed – real savings are above break even savings – see example
- Draft guidance note prepared and circulated
- Next meeting to confirm evaluation and agree guidance note

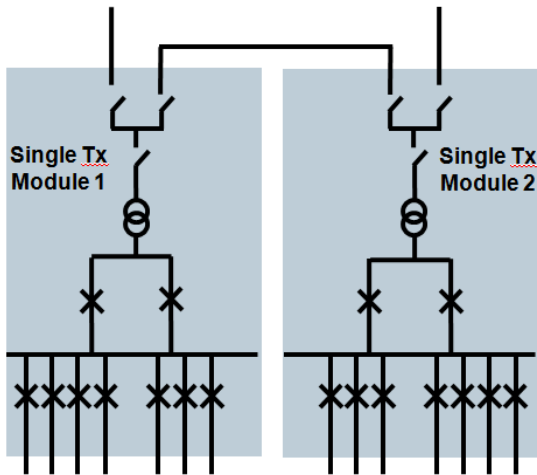
GSR020: Solutions Being Compared:

nationalgrid

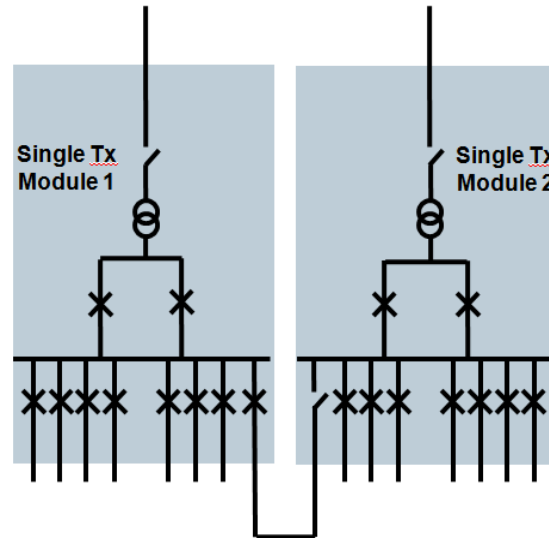


Traditional multi-transformer
Offshore Substation Platform

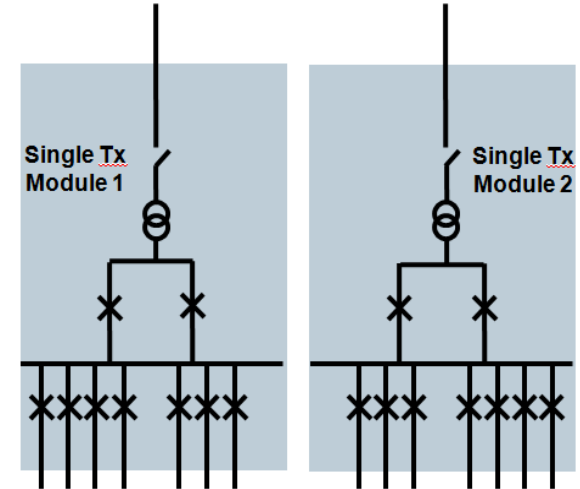
VS.



Single transformer
Offshore Substation Modules
with Offshore HV Interlink

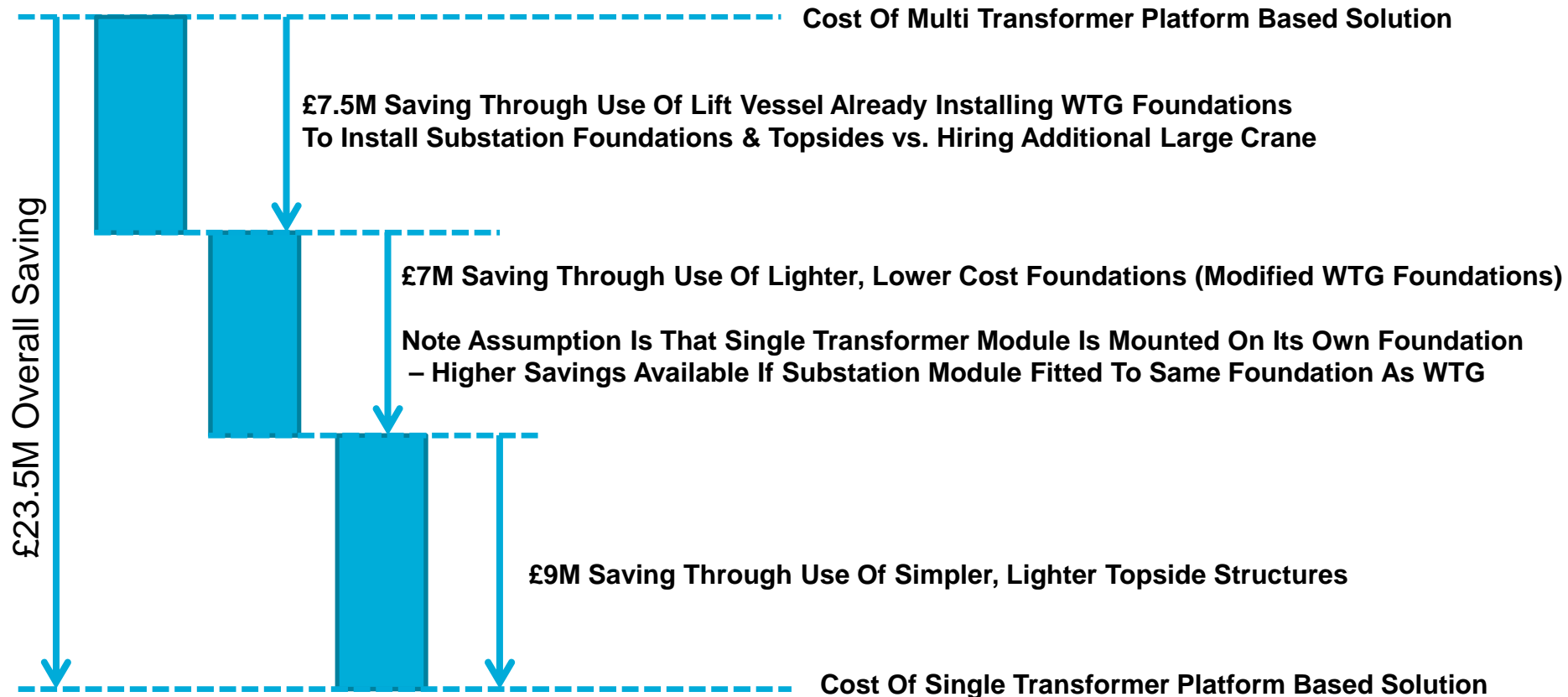


Single transformer
Offshore Substation Modules
with Offshore MV Interlink

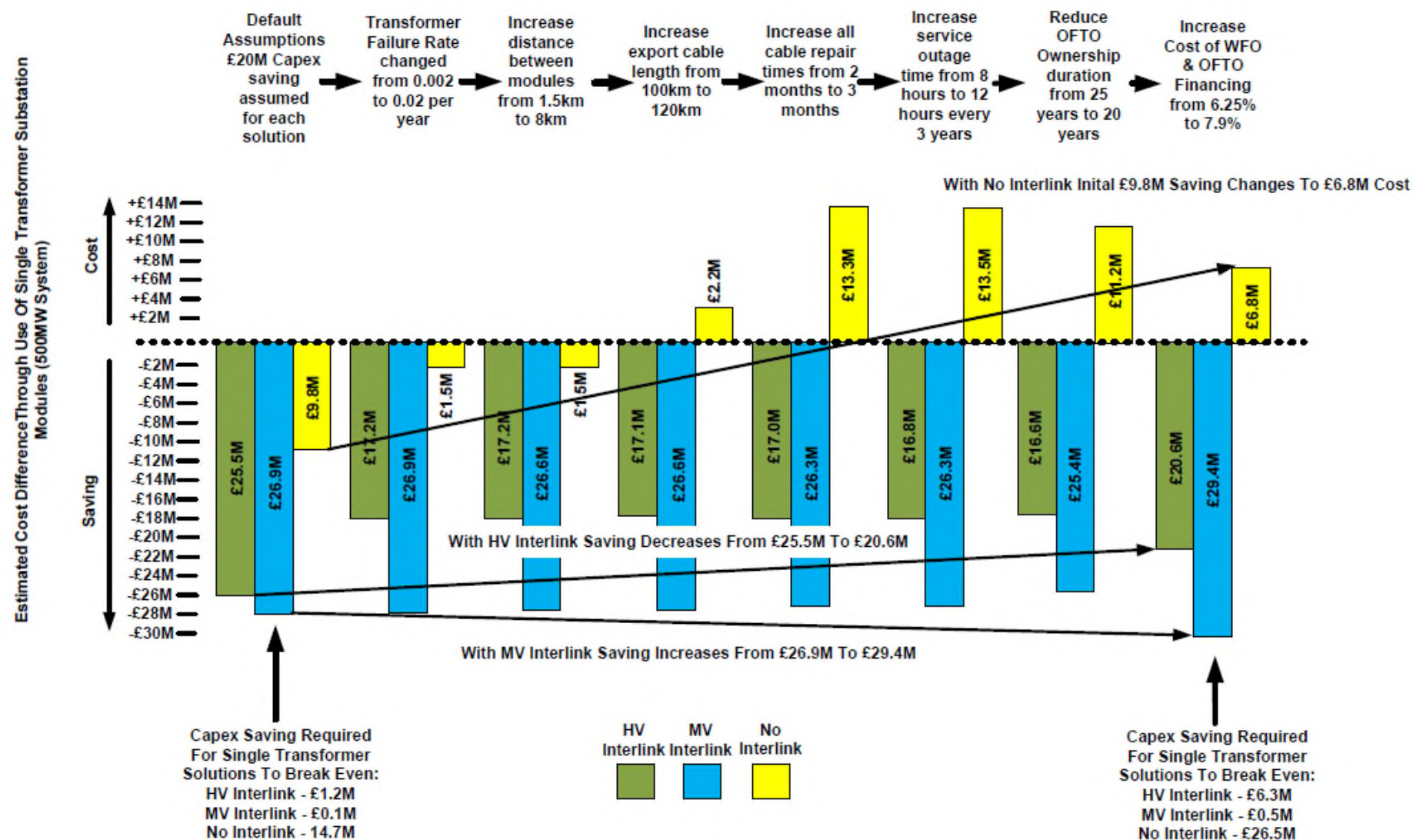


Single transformer
Offshore Substation Modules
with no Offshore Interlink

GSR020: Capital Cost Savings From Siemens – Actual 500MW Project:



Effect On Estimated Cost Saving Through Use Of Single Transformer Modules As Assumptions Are Changed From Default To Worst Case



Conclusion – single transformer modules provide a cost effective solution vs multi-transformer platforms*

* Above an export cable length of 93km an offshore interlink is required to break even on costs in model when all worst case assumptions are used

GSR020: Findings:

- Use of a single transformer platform can already be permitted but requires design variation proposal to Transmission Licensee
- This incurs risk, cost and time to the developers
- The cost benefit analysis confirms that the end consumer is not financially disadvantaged by the proposed design

GSR020: Proposal:

- Guidance note to be issued as soon as practical following workgroup evaluation
- Incorporate the guidance into the NETS SQSS at a later time

GSR020: NETS SQSS Review Panel Is Requested To:

- Note the progress of the workgroup
- Support the intention to publish a guidance note by end of August 2015

Agenda:

- Industry Consultations:
- GSR021: Operational and Planning Criteria for 220kV Transmission Assets:
 - Updated Panel Paper and Industry Consultation Document circulated
 - Need to capture individual Review Panel Members support / approval
 - Would like to issue for Industry Consultation as soon as possible
 - One small change already implemented:

“This proposal seeks to modify the NETS SQSS to include 220kV as a nominal voltage for the Onshore Transmission System and to adopt the same percentage voltage limits for planning and operating 220kV transmission assets as are used for the 275kV nominal voltage. In addition, this proposal seeks to modify the defined term “Supergrid” to include 220kV by aligning this with the Grid Code definition which considers any voltage above 200kV as a Supergrid voltage.”

Agenda:

- Modification Reports:
- GSR014: Review of Requirement of Onshore Connection Facilities for Offshore Wind Farm Connections:
 - Updated Modification Report circulated
 - BS (NGET SO Workgroup Member) is of the opinion that all comments have been addressed and appropriately responded to
 - The NETS SQSS Review Panel now needs to decide how best to proceed with GSR014:
 - i. Submit to the Authority as is...
 - ii. Re-work as instructed by the NETS SQSS Review Panel...
 - iii. Conclude as no change to the standards is desired at this time...