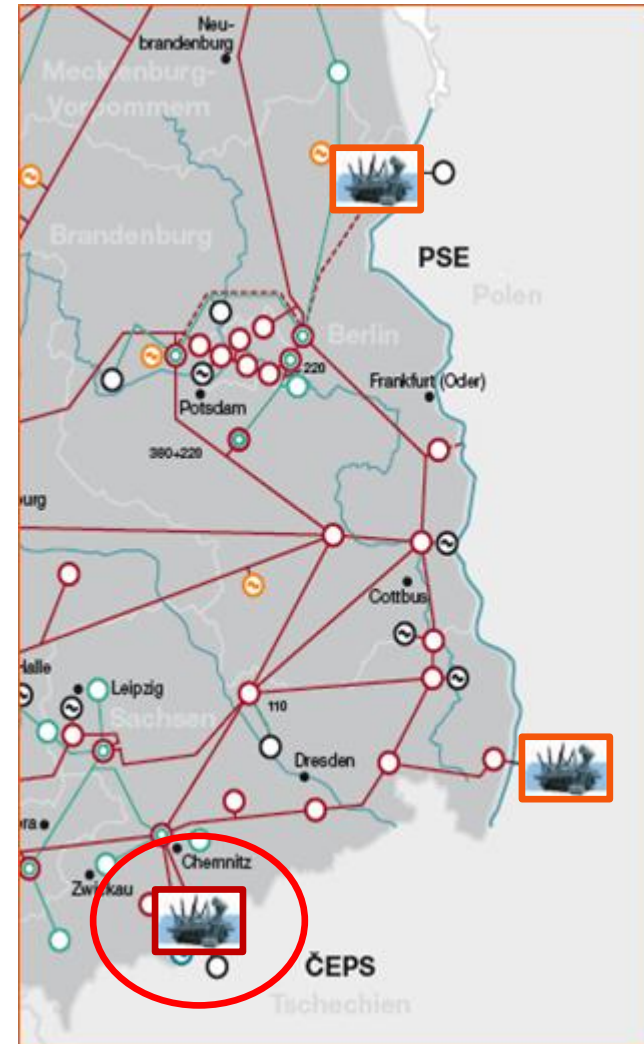


Common solution on Phase Shift Transformers on ČEPS-50Hertz interconnector

5. Czech-German High-Level Meeting on Unplanned Flows
Prague, 16th December 2013

Status of Phase Shift Transformers (PST) project

- After the 4th CZ-DE High-Level Meeting on 11th June ČEPS and 50Hertz continued in their efforts to reach agreement on PST installation project on CZ-DE border. In a High-Level Meeting between ČEPS and 50Hertz on 25th November both parties agreed on a **joint solution** in order to handle unplanned flows.
- The joint solution consists of **two separate projects** by installing of PSTs in the substations Hradec (by ČEPS) and Roehrsdorf (by 50Hertz) until 2016 (common target).
- PSTs in Roehrsdorf are used for flexible **controlling of load flows on inner-German overhead lines** in the southern part of the grid. PSTs in Hradec are needed to **protect the Czech grid** and to control the load flow on the interconnector.
- A contractual agreement on a **coordinated PST operation** will be prepared on a bilateral basis, later including other parties.



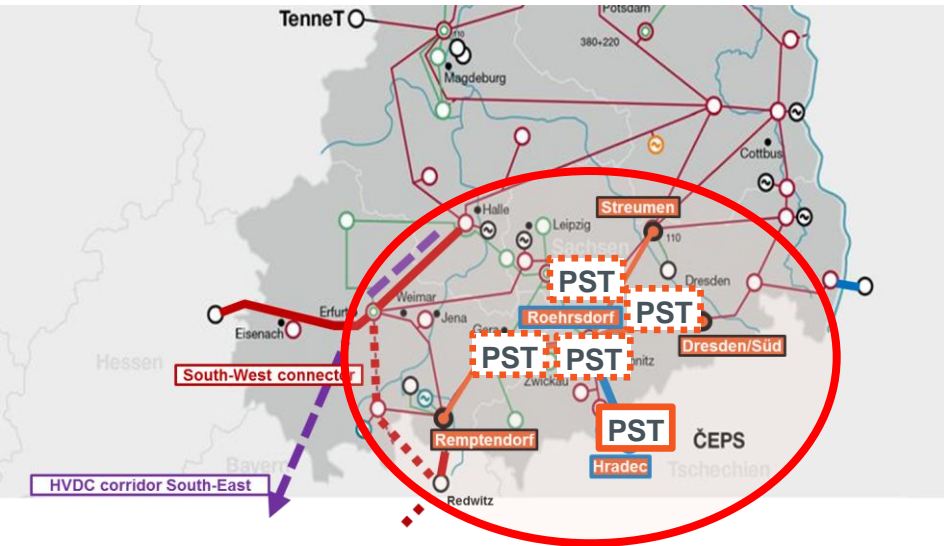
Joint Solution - Two Separate Projects in Roehrsdorf and Hradec

Combination of

4 PSTs on ČEPS' side and 2 PSTs on 50Hertz' side

Advantages

- High flexibility in phase angle settings and flow steering
- Minimization of necessary additional redispatch
- Balanced common solution
- Facilitates trust and control
- Coordinated operation



PST Roehrsdorf

2 x 1200 MVA
20°

Possibility of bypass and switching into other overhead lines

PST Hradec

4 x 850 MVA
(2 x 2 parallel)
30°

Next steps

- Common **external communication** on the joint solution directly after the 5th CZ-DE High-Level Meeting.
- **Order of Phase Shifters** from supplier contracts (50Hertz in December 2013, ČEPS early 2014).
- **Information exchange** between the projects and co-ordination with the installment of PSTs on PL-DE border.
- Preparation / negotiation of an **Agreement on co-ordinated operation** of PSTs between ČEPS and 50Hertz in a first step based on existing drafts. Other parties (PSE, TenneT, ...) will be involved in a multilateral agreement on PST operation.