Paris Session 2022

Method of dynamic ampacity calculations

SC B1 Insulated Cables — PS1 - Q4

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Different dynamic rating requirement for offshore windfarm farm project

- Cable conductor temperature modelling with a one-year load profile

  Criterion: Whether the conductor temperature after one-year simulation < 90 °C
- Cable conductor temperature modelling with one processed load profile, e.g. Step1: infinite duration @ 45% of max. load, Step2: 40d @ 67% of max. load, Step3: 20d @ 75% of max. load, Step4: 12d @ 90% of max. load, Step5: 8d @ 100% of max. load. (Ref. Cigre TB610)

  Criterion: Whether the final conductor temperature < 90 °C
- Cable conductor temperature modelling with a full load current. (Ref. Cigre 2018 B1-118)

  Criterion: Whether the time that the conductor temperature reaches 90 °C is longer than 4380 hours (half year equivalent).

Method of dynamic ampacity calculation

- What are the limits of current analytical applications and technical guidance documents?

  The different dynamic rating criterion.

- Which are possible areas that need to be enhanced to support the expanding industry for insulated power cables?

  To develop or confirm a generally accepted criterion for dynamic ampacity calculation judgment.