

# **New Nuclear Power Plants in Europe - legislation impact to engineering and commissioning phase costs**

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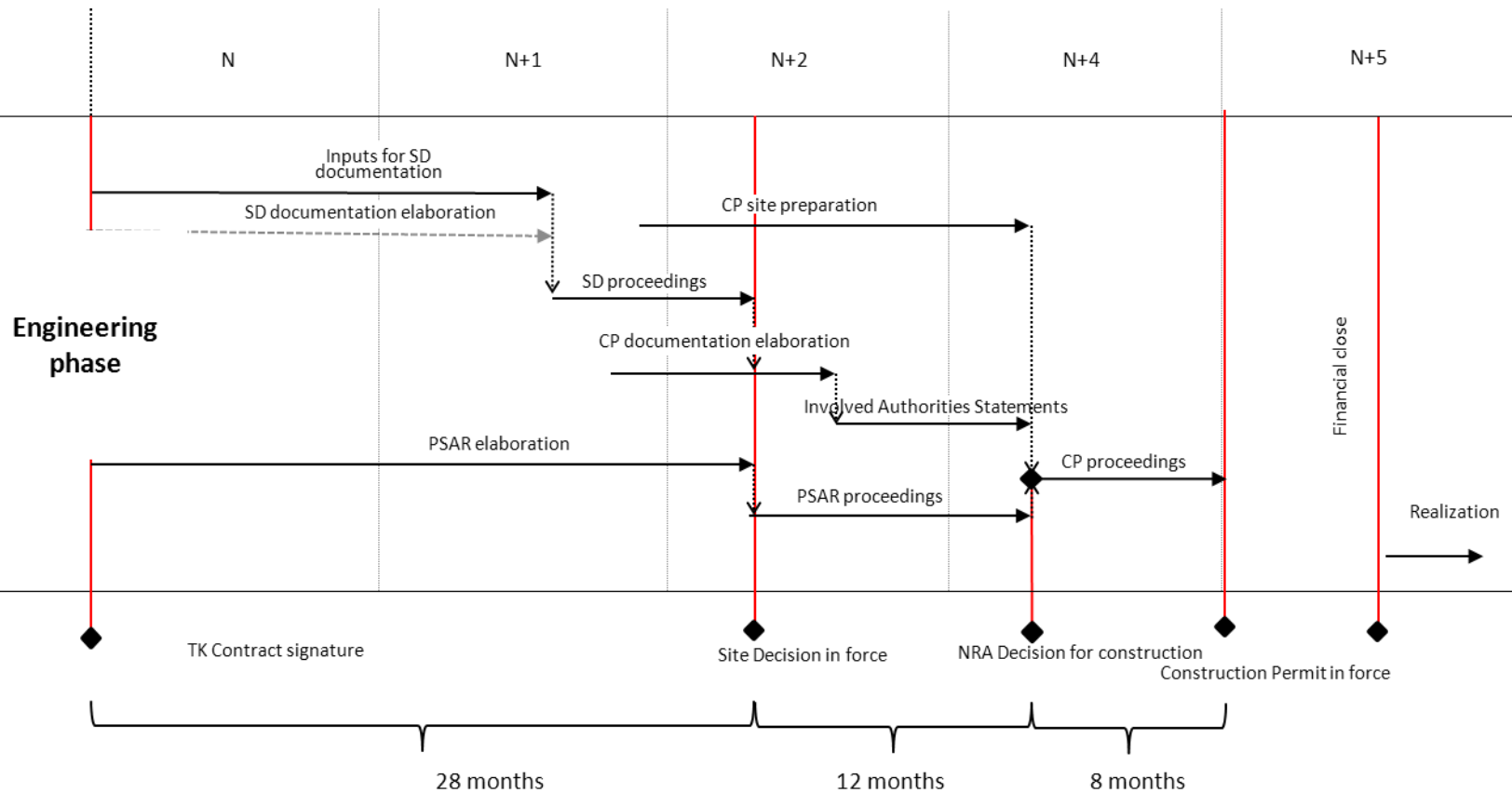
# Legislative issues – prolongation of the process

- Complicated EU legislation has a direct impact on the engineering phase and therefore on costs
- Construction Act, Atomic Act, related legislation regarding permitting and licensing activities, EIA, statements and approvals from the Involved Authorities based on specific Acts etc. - a substantial hindrance
- The Public Procurement Act – transposition of numerous EU directives
- The risks are increasing and the resulting financial costs can become unbearable

# Legislative issues – prolongation of the process

- **The engineering phase costs**
  - From the permitting and licensing point of view the engineering phase includes the selected activities:
    - elaboration of Site Decision documentation;
    - Site Decision proceedings;
    - elaboration of Preliminary Safety Report;
    - Preliminary Safety Report proceedings;
    - elaboration of Construction Permit for temporary structures and on site facility areas;
    - Construction Permit for temporary structures and on site facility areas proceedings;
    - elaboration of Construction Permit (for the main site);
    - Construction Permit proceedings
  - Substantial capital requirements at this stage already

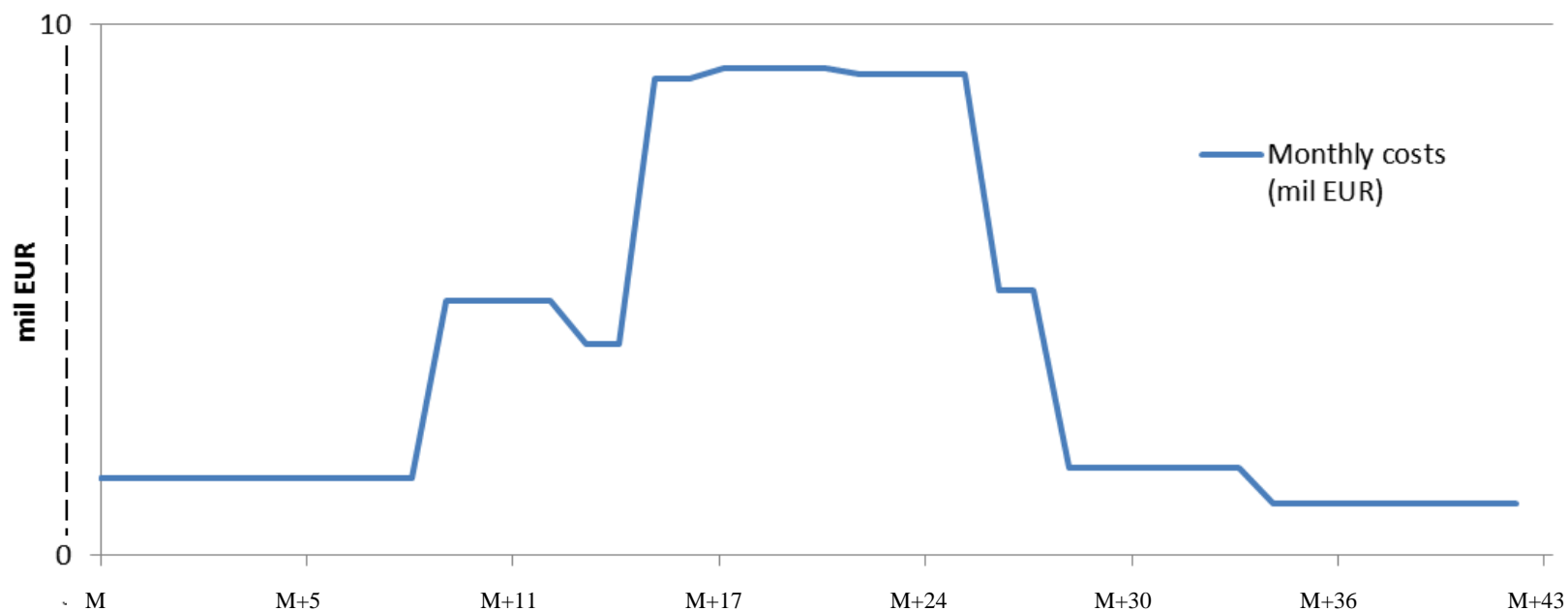
# An example - sequence and time schedule of listed activities



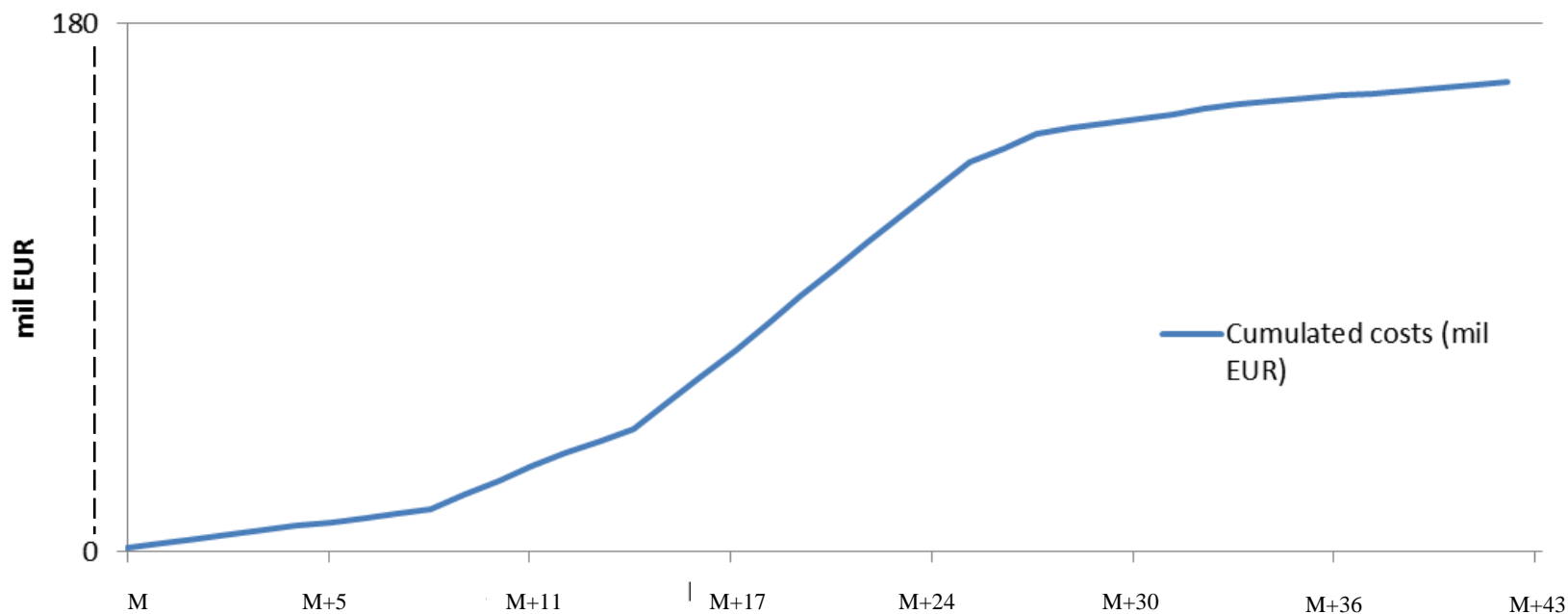
# An example - estimate of engineering activities costs for a EU based NPP project (% of a total)

⇒ <b>Site decision documentation – inputs</b>	<b>13%</b>
⇒ <b>Site decision proceedings</b>	<b>3%</b>
⇒ <b>Preliminary Safety Analysis Report – elaboration</b>	<b>38%</b>
⇒ <b>Preliminary Safety Analysis Report– proceedings</b>	<b>4%</b>
⇒ <b>Construction permit for site preparation and temporary facilities – proceedings</b>	<b>2%</b>
⇒ <b>Construction permit documentation – elaboration</b>	<b>31%</b>
⇒ <b>Construction permit – involved authorities statements</b>	<b>5%</b>
⇒ <b>Construction permit proceedings</b>	<b>5%</b>

# An example - the following two graphs represent the assumed supplier's engineering costs time schedule framework



# An example - the following two graphs represent the assumed supplier's engineering costs time schedule framework - continued



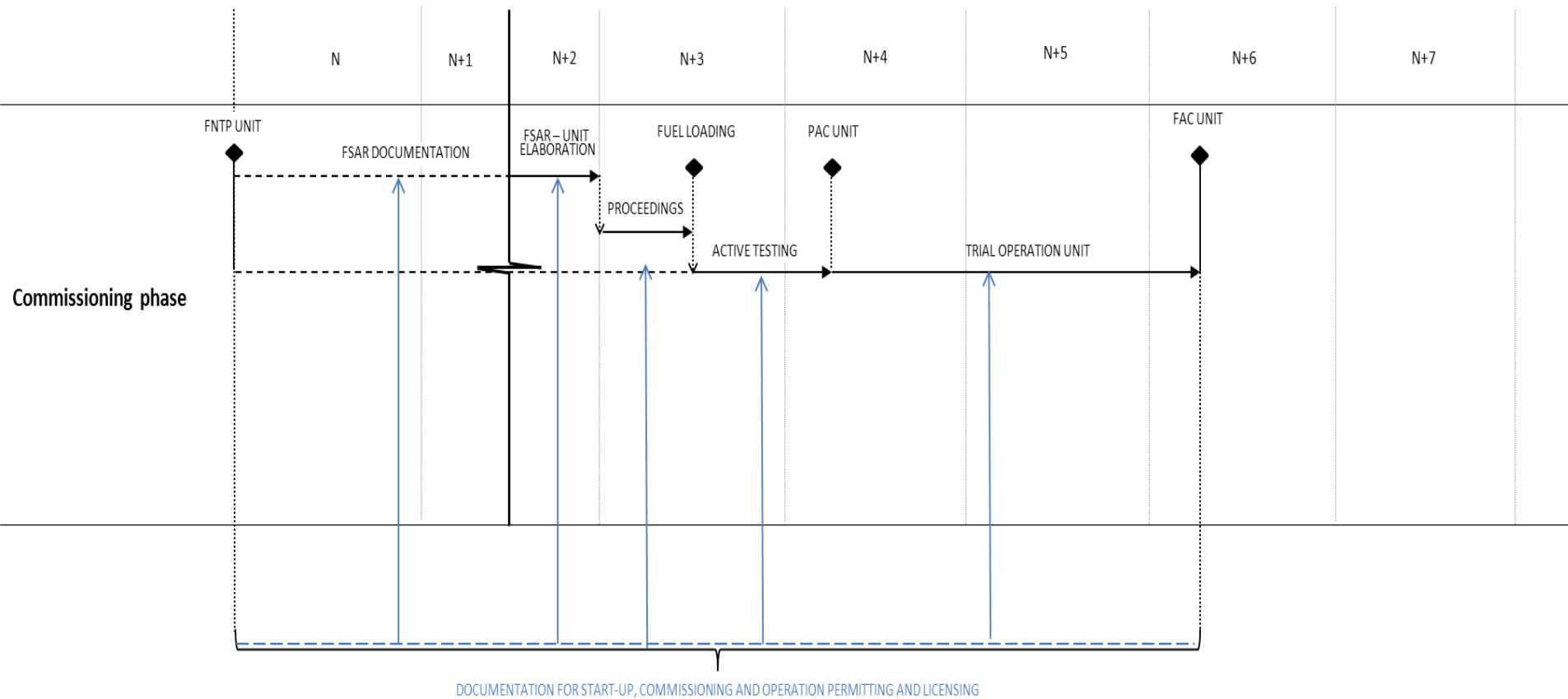
# Legislative issues – prolongation of the process

- **The commissioning phase costs**

- From the permitting and licensing point of view the commissioning phase includes the following activities:
  - elaboration of Pre-operational Safety Report
  - Pre-operational Safety Report proceedings
  - elaboration of license documentation for particular stages of nuclear installation commissioning
  - documentation for individual stages of nuclear installation proceedings
  - elaboration of license documentation for other licenses
  - license proceedings
  - elaboration of documentation for trial operation
  - Pre-operational Safety Report update
  - Pre-operational Safety Report update proceedings



# An example - sequence and time schedule of listed activities



# An example - estimate of commissioning activities costs for a EU based NPP project (% of a total)

- ⇒ **Pre-operational Safety Report elaboration (incl. update for operation approval) 67%**
  - ⇒ **Pre-operational Safety Report proceedings (incl. update for operation approval) 7%**
  - ⇒ **Permitting Documents, Licensing Documents to obtain the Licences for individual stages of the Nuclear Installation Commissioning and Operation, Other Licensing Documents (elaboration and proceedings) 26%**
- ⇒ **The sum of all these costs can reach approx. EUR 75 mil**

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**Thank you for your attention.**

**Questions?**