

In these exercises you may use the “Structured semantics for the CORAS security risk modelling language”, in your syllabus, for reference.

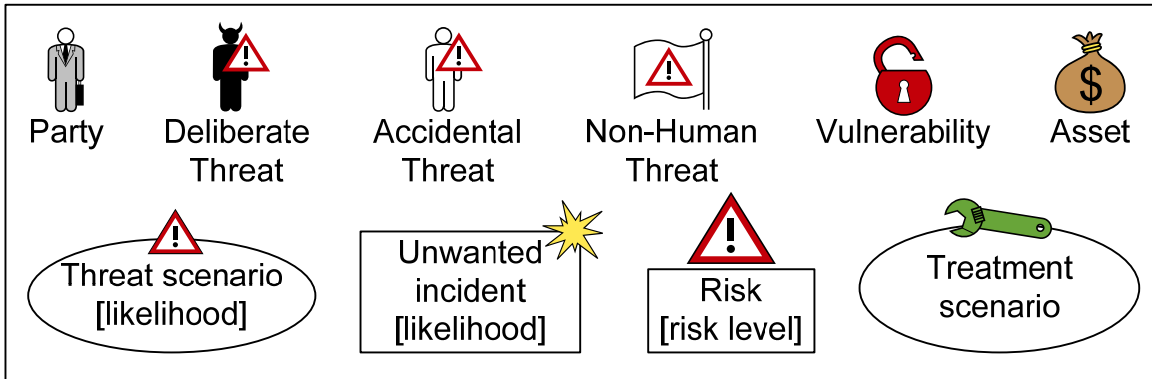


Figure 1: Basic building blocks of the CORAS diagram

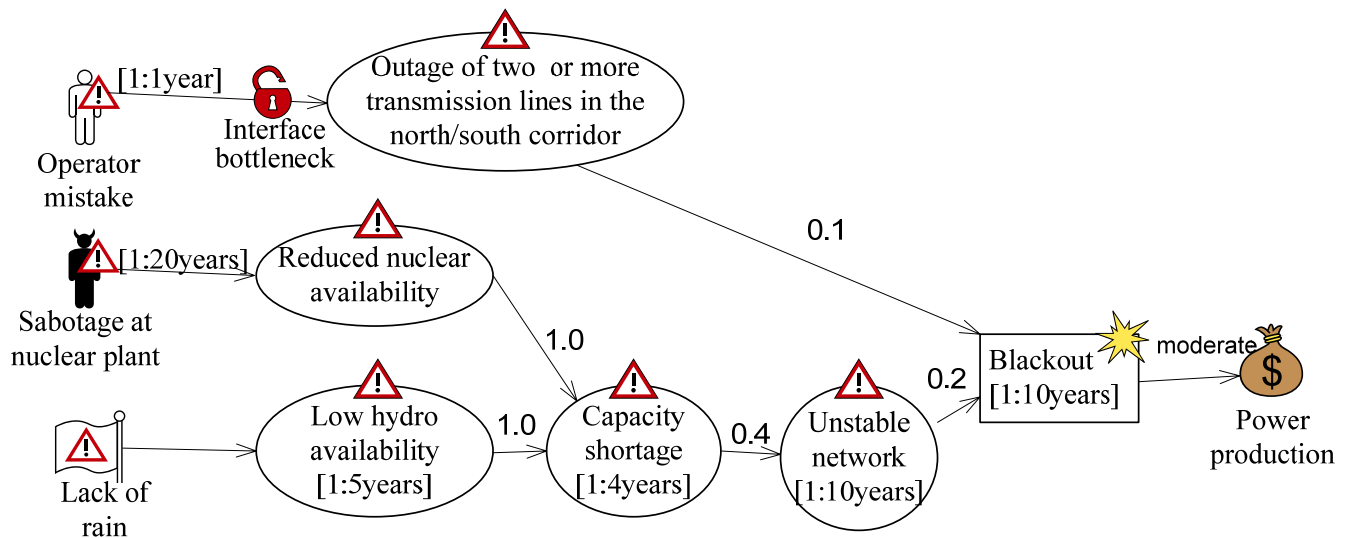


Figure 2: Threat scenarios leading to blackout

- 1)
  - a. How many threats are explicitly modelled in Figure 2?
  - b. How many threat scenarios are explicitly modelled in Figure 2?
  - c. How many unwanted incidents are explicitly modelled in Figure 2?
  - d. How many assets are explicitly modelled in Figure 2?
  - e. How many risks are explicitly modelled in Figure 2?
  - f. How many treatments are explicitly modelled in Figure 2?

- 2)
- a. How many initiate relations are there in the diagram in Figure 2?
  - b. How many leads-to relations are there in the diagram in Figure 2?
  - c. How many of the leads-to relations are annotated with probability values?
- 3) Use the structured CORAS semantics to translate the threat diagram in Figure 2 into English.
- 4) Draw a threat diagram to model the following threat scenarios towards a chat service running on a cell phone:

A thief steals the phone. After stealing the phone he manages to guess the user name and password of the user. He uses the username and password to perform an unauthorised login to the chat service.

There is one identified asset: `User identity`.

- a. In which way may an unauthorised login harm the asset `User identity`?