

2005 Paper 11 Question 11

Software Engineering and Design

Imagine that you are the software designer responsible for a system that manages the shutdown of a nuclear power station. In normal shutdown mode fuel rods are withdrawn immediately, but steam generation is stopped only after turbine speed has dropped to one quarter. However, in emergency shutdown mode steam generation must be stopped immediately.

- (a) Sketch initial UML diagrams showing important aspects of your design, including a use case diagram, a class diagram, a sequence diagram and a statechart diagram. [4 marks each]
- (b) What international quality standards should be applied in managing these and subsequent design documents? What procedures would result? [4 marks]