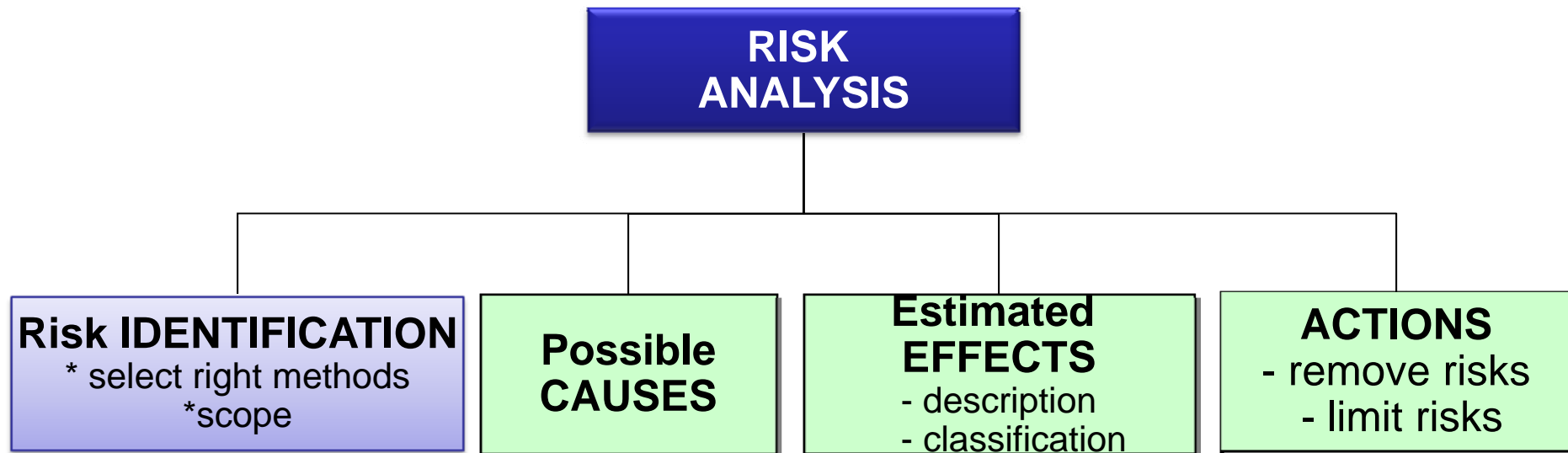


Risk Analysis

‘Risk Identification Methods’



Risk Analysis – Scope

Risk Identification

Define Scope and Select the Right Methods - Unidentified Risks cannot be Analyzed!

5. Plant Area

- departments, layout
- utilities, traffic, storage



3. Operation, Maintenance, Risks (people)

- 1) Action errors connected to system states
- 2) Exposure (in duty):
 - Maintenance, service, repair,
 - Operator actions, errors



2. System or Process Risks

- 1) System structure: subsys + equipm,
- 2) System operational states: startup, operation, shutdown, emerg shutdown..



1. Machine or Equipment Risks

- 1) Component failures
- 2) Functional failures



4. Automation Risks

- process control, protection, interlocks, sequences – in different system states -> Hazards

