

## ASSET INTEGRITY MANAGEMENT IN GEOTHERMAL POWER PLANT

*August 2017, Jakarta*

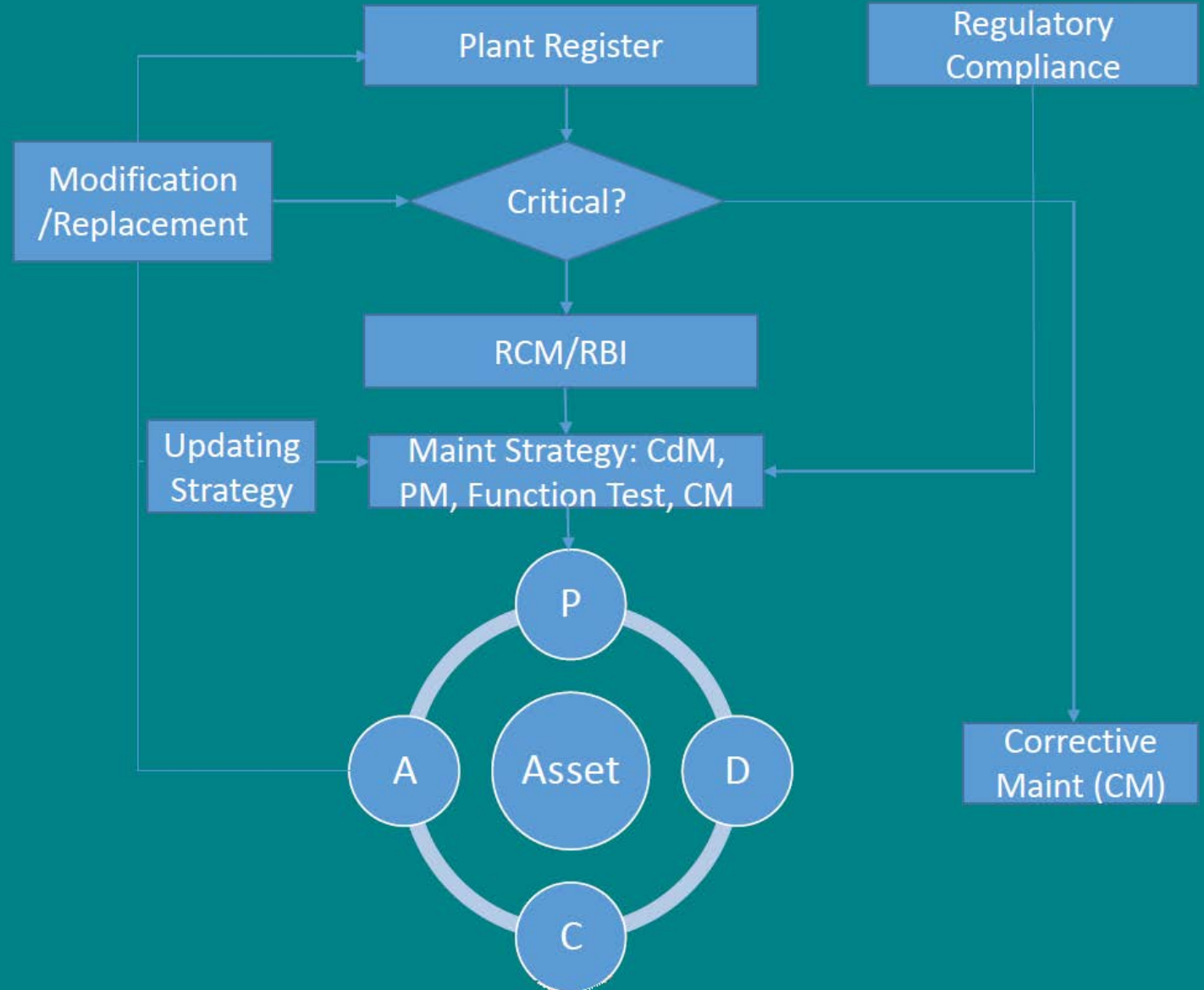
Course: Operators of Geothermal Power Plant  
Hosting by: PPSDM EBTKE, Jakarta

NANANG KURNIAWAN

# Overview

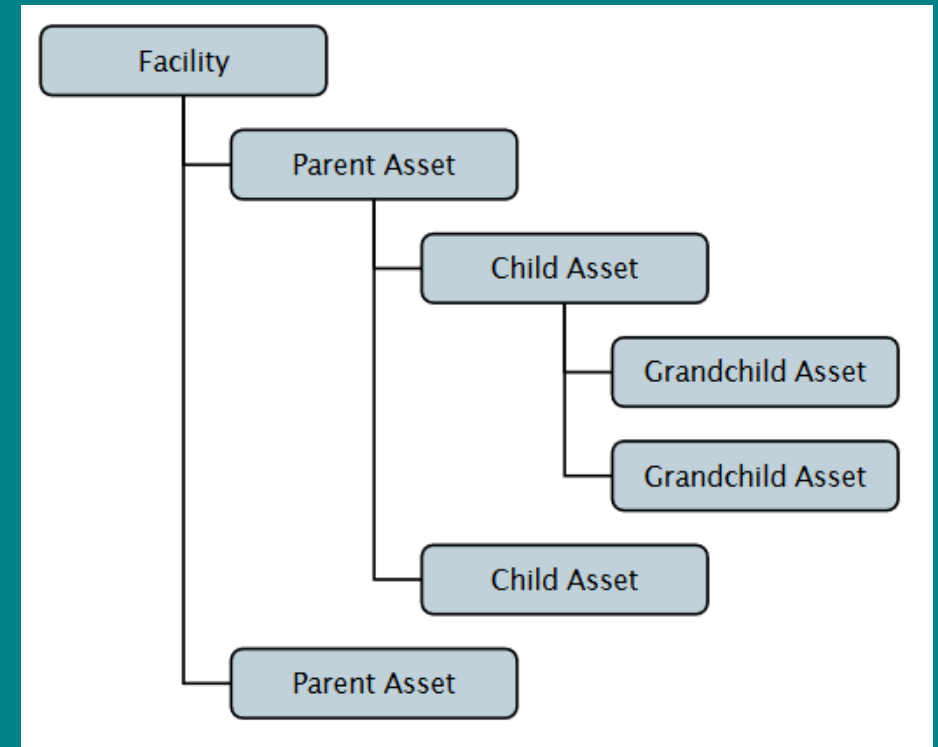
- Asset Integrity Management Concept
- Asset Registration
- Criticality Assessment
- Legal/Regulation Compliance
- Developing Maintenance Program
- Planning & Scheduling

# ASSET INTEGRITY MANAGEMENT CONCEPT

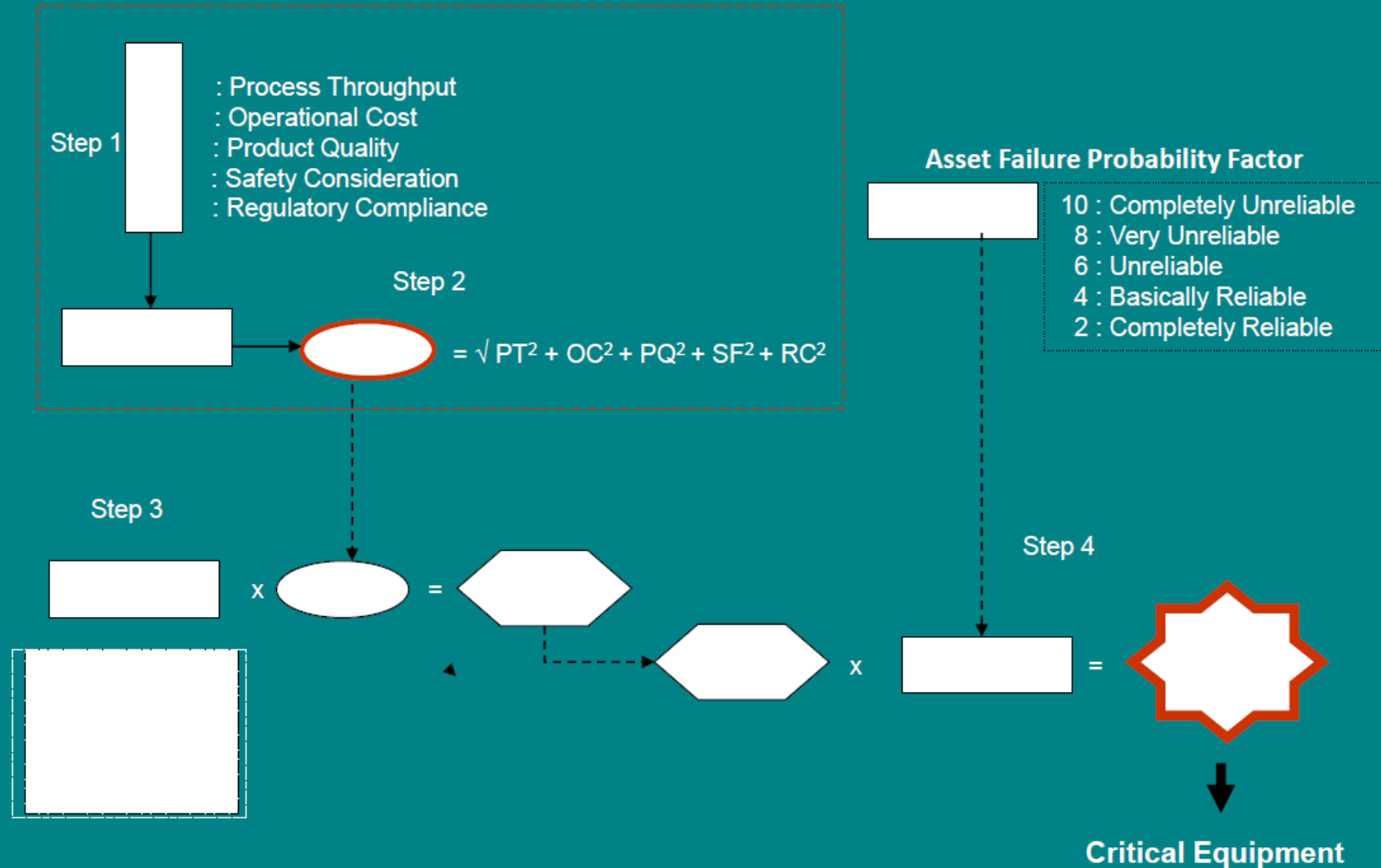


# ASSET REGISTRATION

- Defined as a systematic recording/register of all assets owned by the organization.
- Uses a specific plant numbering system to which attribute information can be linked.
- Could be hierarchical based until the lowest level of asset could be maintained.
- Consist of the overall data of the assets such as:
  - Functional Location
  - Equipment Data
    - Tag Number
    - Equipment Description
    - Planning Plant
    - Drawing Number
    - Manufacturer
    - Model Number
    - Part Number
    - Serial Number
    - Size/Dimension
  - Bill of Material



# CRITICALITY ASSESSMENT



# REGULATORY COMPLIANCE

- ✓SKPI (Facility Worthiness Certification)
- ✓SKPP (Individual Equipment Certification)
  - ✓Pressure Vessel, Heat Exchanger, Cooler
  - ✓Pressure Safety Valve (PSV)
  - ✓Lifting equipment
  - ✓Electrical equipment (Power Generator Unit, Power Transformer Unit, Switchgear, and Motor Control Centre Unit)
  - ✓Rotating Equipment (Pump & Compressor Unit)
  - ✓Pipeline
  - ✓Tank

# DEVELOPING MAINTENANCE PROGRAM -RCM

**RCM:** A process which is used to define what should be done to ensure any physical assets could continuously operate as user needed in their operating context(Moubray, 1997)

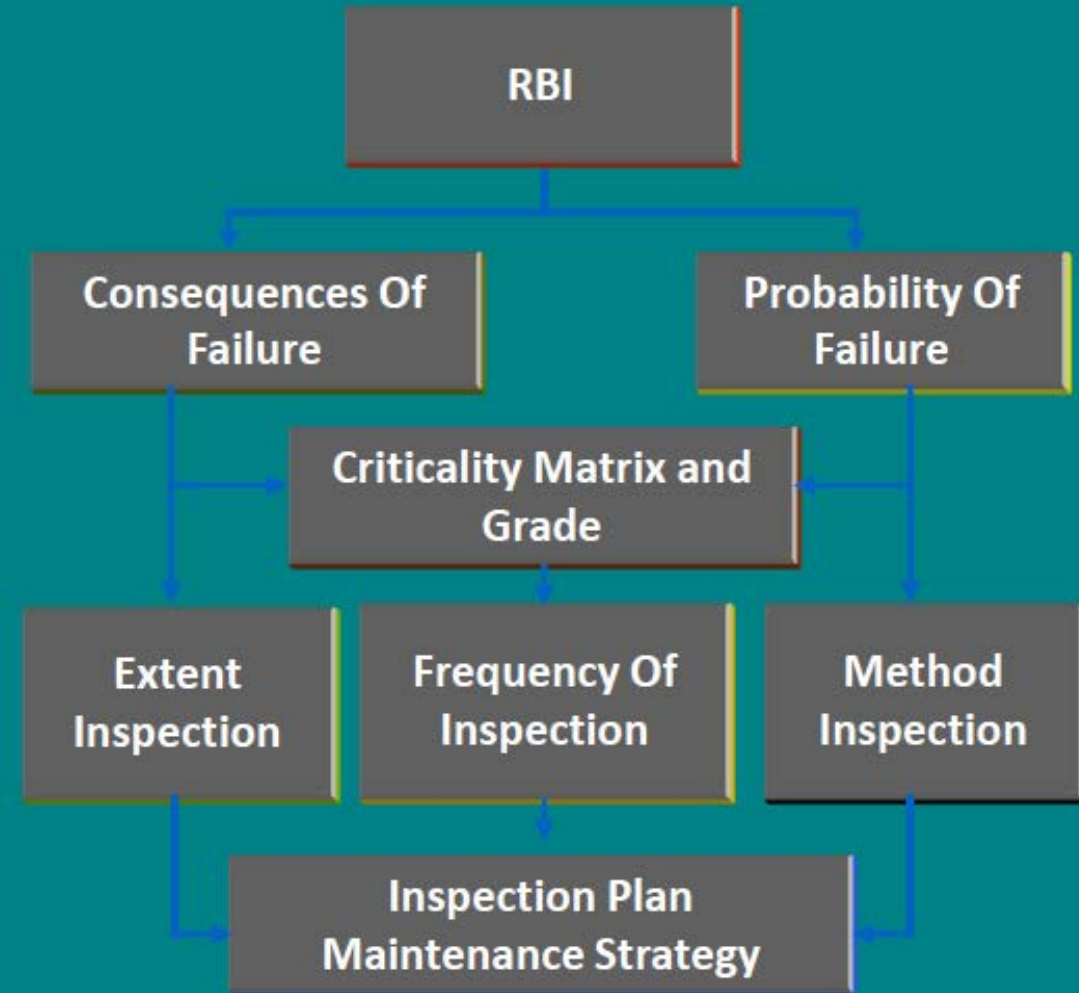
In Geothermal Application, RCM Analysis is performed for defining maintenance program for rotating equipment such as Turbine, Generator, Pump, etc.



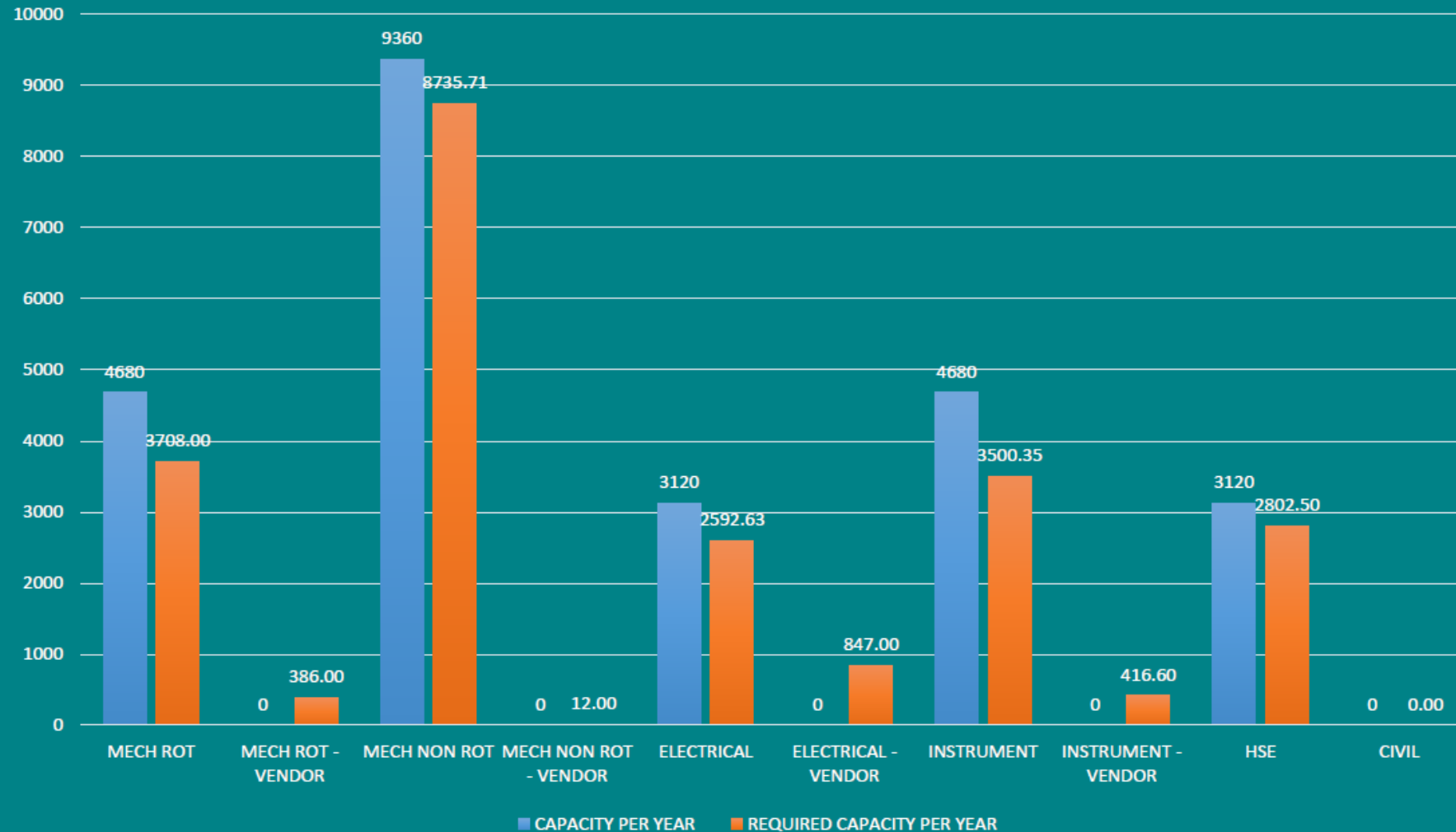
# DEVELOPING MAINTENANCE PROGRAM -RBI

**RBI**: A risk assessment and management process that is focused on loss of containment of pressurized equipment in processing facilities, due to damage mechanisms. These risks are managed primarily through equipment inspection (API 581, 2016)

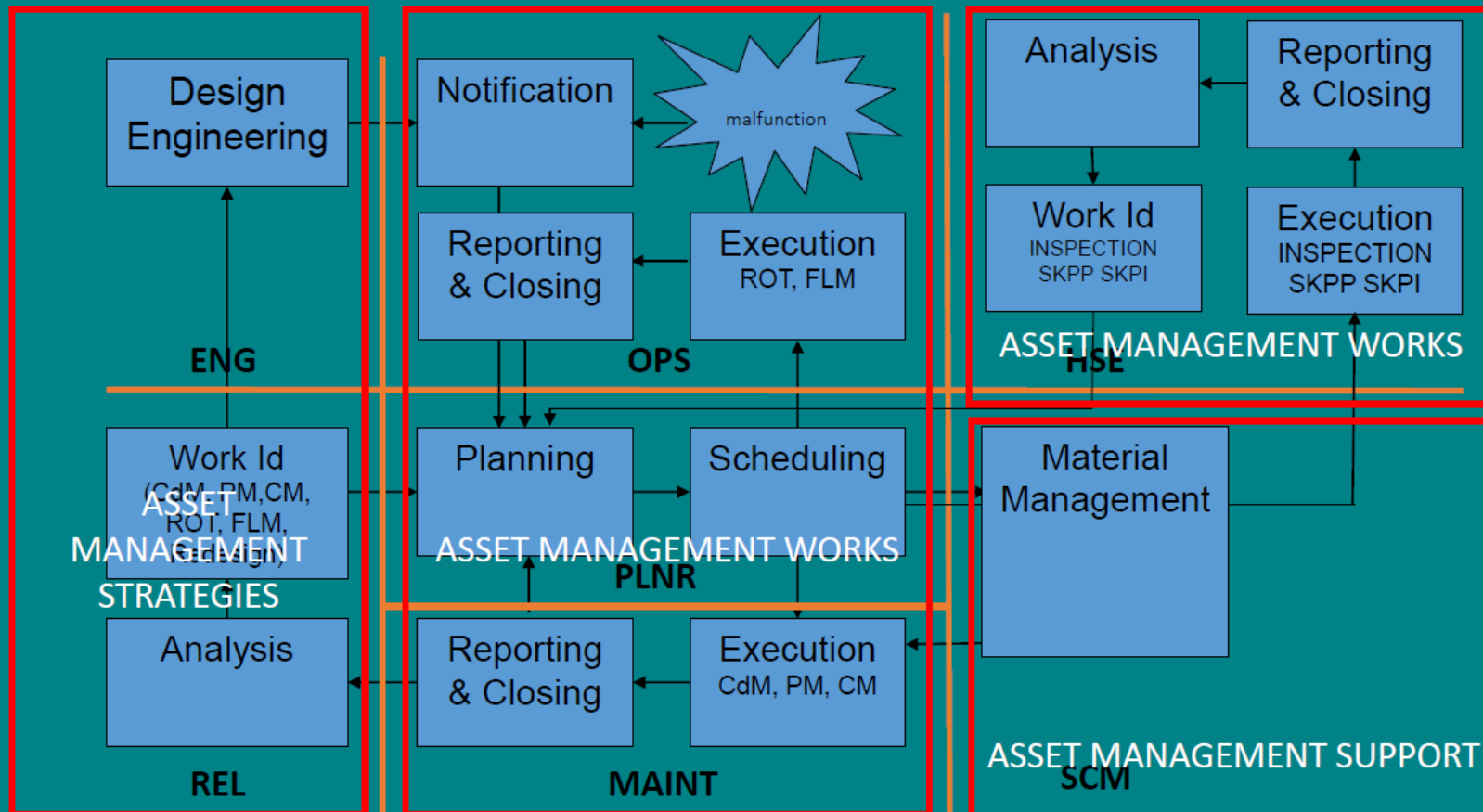
In Geothermal Application, RBI Analysis is performed for defining maintenance program for static equipment such as pipeline, tank & vessel.



# PLANNING & SCHEDULING



# Asset Management in Overall PM Process





THANK YOU