Concept on Securing Mid-Term Safety  
(Outline of Basic Targets)

- Mitigate/control release of radioactive materials (RMs)
- Properly remove decay heat
- Prevent criticality
- Prevent hydrogen explosion

- Borated Water Injection for Pressure Vessel/Containment Vessel:
  - Prevented dropping of fuel assemblies
  - Take actions against dropping

- Primary Containment Vessel:
  - Mitigate/control release of gaseous RMs
  - Monitor/mitigate concentrations of hydrogen or oxygen
  - Monitor concentrations of gas RMs in vessel
  - Detect abnormal release of gaseous RMs

- Water Injection System for Pressure Vessel/Containment Vessel:
  - Properly remove decay heat (under 100°C)
  - Monitor temperature
  - Redundancy or diversity, & independency
  - Measures against abnormal conditions
  - Alternative cooling when functions are lost in permanent facilities

- Circulating Cooling System in Spent Fuel Pools:
  - Properly remove decay heat. Purify cooling water
  - Monitor the retained water and temperature. Refill cooling water.
  - Measures against leaking
  - Alternative cooling in case of function loss of circulating cooling facility

- Building with Accumulated High-Level Contaminated Water:
  - Monitor state of HL contam. water
  - Prevent leaking outside
  - Control water level to prevent leaking outside
  - Mitigate/control release of gas RMs
  - Monitor underground water near the building

- Liquid Waste Storage:
  - Reduce RM concentration/quantity
  - Prevent/monitor leakages
  - Monitor condition of wastes
  - Prevent spread of contamin.
  - Manage combustible gas generated

- Primary Containment Vessel:
  - Mitigate/control release of gaseous RMs
  - Monitor/mitigate concentrations of hydrogen or oxygen
  - Monitor concentrations of gas RMs in vessel
  - Detect abnormal release of gaseous RMs

- Water Processing Facility:
  - Capacity to process excessive quantity
  - Reduce concentration & quantity of RMs
  - Redundant systems
  - Prevent leaking, prevent dispersion when leaked
  - Manage gaseous RMs and combustible gases

- Building with Accumulated High-Level Contaminated Water:
  - Monitor state of HL contam. water
  - Prevent leaking outside
  - Control water level to prevent leaking outside
  - Mitigate/control release of gas RMs
  - Monitor underground water near the building

- Reduction of Radiation Risks:
  - Reduce doses attributed to reactor facilities
  - Prevent leaking and treat accumulated HL contaminate water
  - Remove fuels from pool in reactor building
  - Decontaminate RMs scattering in the site
  - Reduce concentration/quantity of RMs in pond

- Electrical System:
  - Redundant off-site powers connected to different transmission systems
  - Emergency on-site power systems

- Common spent fuel pool:
  - Redundant cask storage system
  - Radiation prevent/management
  - Radiation monitoring
  - Shield/Prohibit access

- Management of Solid Waste such as Rubble:
  - Prevent scattering/dispersion
  - Shield/Prohibit access

- Nuclear & Industrial Safety Agency

For facilities associated with circulating water cooling system, one of the requirements for cold shutdown in targets of Step 2, reports will be collected by October 17.