Reliability Improvement Works of Contaminated Water Processing Facilities

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Tokyo Electric Power Company
(1) Contaminated Water Processing Facilities

- Installation of additional pumps to transfer oil-separated water
  (Improvement of maintenance and reliability)
  Install two transfer pumps in the low-radiation area, because one of two existing
  pumps is out of operation due to a fault and they are also installed in the high-radiation area.

- Installation of an additional transfer line for the second cesium adsorption apparatus
  (SARRY) (Operation improvement)
  Install an additional transfer line enable SARRY to process accumulated water in the Process
  Main Building (PMB) without going through the cesium adsorption apparatus (KURION).

(2) Second Cesium adsorption Apparatus (SARRY)

- Make valves electrical and pumps/valves remote controlled (Operation improvement)
  Make valves electrical and install remote controlled switch in Central Control Room (CCR)
  so as to be able to remotely control accumulated water transfer pumps in the Miscellaneous
  Solid Waste Volume Reduction Treatment Building (High Temperature Incinerator Building, HTI) and pump outlet valves from the CCR.

- Partial pipe modification (Processing performance improvement)
  Replace small-bore pipes at SARRY outlet line and metallic flexible tubes with large-bore
  pipes in order to improve margin of processing volume.

- Install additional IA compressor (Reliability improvement)
  Install one additional stand-by IA compressor which enables SARRY to quickly restart
  in case of an IA compressor fault.
System Outline (1)

- Additional pumps (two pumps)
- New line (modification)
- Second cesium adsorption apparatus (SARRY)
- Cesium adsorption apparatus (KURION)
- Decontamination apparatus (AREVA) (stand-by)

- Process Main Building
  - Oil separator
- Oil separated water tank
- Oil separated water transfer pump

- Incineration Workshop Building
  - Pressure floating separator
  - Coagulation settling facility
  - Receiving tank for waste water
  - Processed waste water tank
  - Processed water transfer tank (KURION)
  - Booster pump
  - Accumulated water transfer pump

- Miscellaneous Solid Waste Volume Reduction Treatment Building
  - Cesium adsorption apparatus (KURION)
  - Decontamination apparatus (AREVA) (stand-by)
  - Additional pumps (two pumps)

- Site banker building
System Outline (2)

- **Booster pump inlet valve**
  - (Automatic shutting during a booster pump suspension)

- **SPT(B) tank**
  - From KURION (processed water)
  - To AREVA

- **Accumulated water transfer pump**
  - Oil-separated water from transfer pump (accumulated water)
  - Miscellaneous Solid Waste Volume Reduction Treatment Building

- **Valve unit**

- **Booster pump**

- **SARRY**

- **Pipe modification (Work outline  économie)**

- **Work outline**

- **Work outline**
Media Filter (adsorbent escape prevention)
Future Plan

- Possible to keep water level of each building within the limit during processing facility suspension.
- During connecting pipes, possible to close isolation valve in case of emergency and to quickly start operation of KURION.