

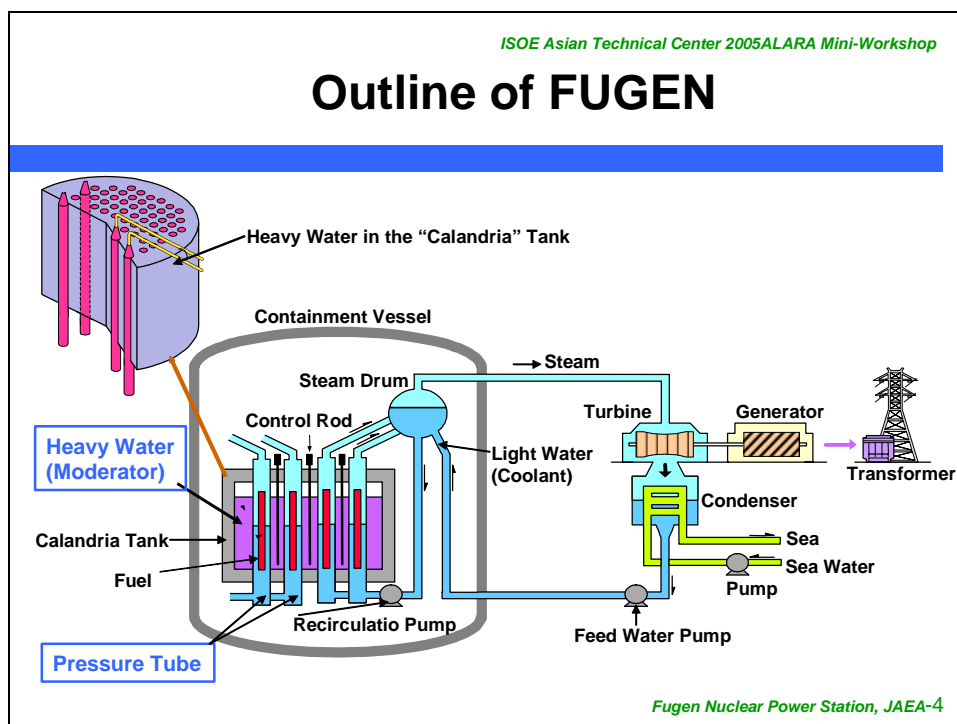
The current challenges and good practices in Japan

“Demonstration of Zinc Injection Technique in Fugen Nuclear Power Station”

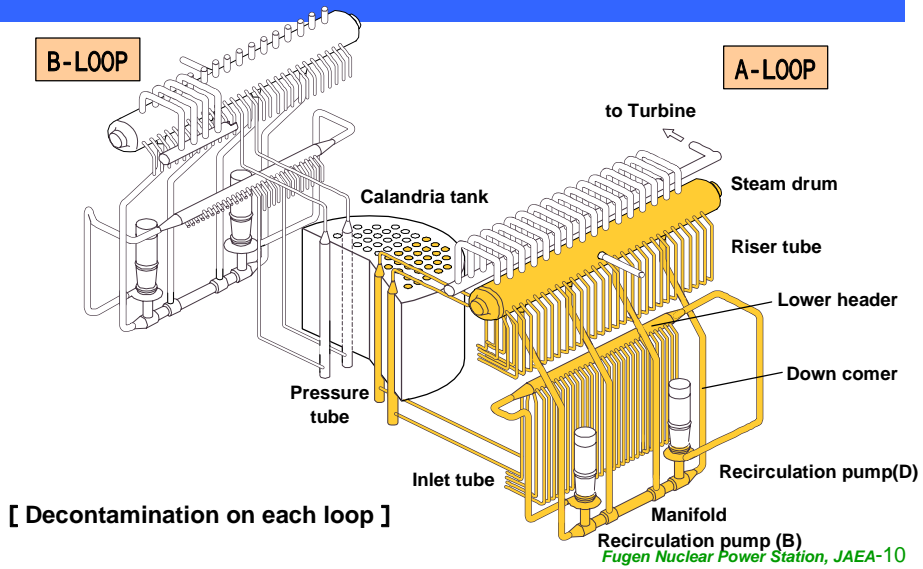
Satoshi Morita, Japan Atomic Energy Agency



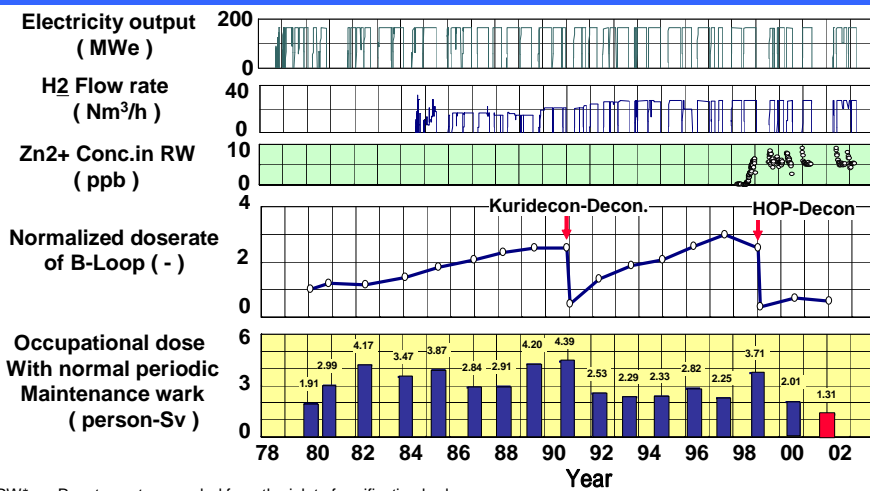
Mr. Morita explained history of the water chemistry management of Fugen, prototype advanced thermal reactor, and achievements of the exposure reduction measure by combination of a system chemical decontamination and zinc injection technology, after he introduced the outline of Fugen which ended 25 years experimental operation in May of this year and were in a stage of preparation for decommissioning. Hydrogen injection (HWC) and zinc injection have been executed as water chemistry management, and in addition, piping chemical decontamination has been executed as a source term reduction measures. He explained about effect of Zinc for the exposure reduction presenting graphs which showed change of the concentration and deposition of Co-60 by Zinc injection time and its concentration. Finally, as a summary, he explained that the re-adhesion of Co-60 on the surface of piping was effectively suppressed and then radiation sources was maintained as low level by zinc injection after decontamination, and that the exposure dose of the final and 17th periodical inspection period was 1.31 person·Sv and reached the lowest record through Fugen’s operational period, and that these dose management was achieved by developing the water chemistry control.



Area of Decontamination



Long-term Occupational Dose Related Issues



RW* : Reactor water sampled from the inlet of purification bed
 Normalized doserate** = $\frac{\text{Averaged doserate in a periodic maintenance period}}{\text{Averaged doserate in the 1st periodic maintenance period}}$ Fugen Nuclear Power Station, JAEA-18