9.   Summary

- **Fuel management in CANDU has both design and operations aspects.**

- **The design component consists of establishing:**
    - the desired time-average power distribution for the equilibrium core, which will be used as the target power shape by the site fuelling engineer, and
    - the configuration of depleted fuel in the initial core.

- **The time-average calculation is the source of important other information, such as:**
    - expected discharge burnup by channel,
    - expected intervals between channel refuellings,
    - core reactivity-decay rate,
    - etc.

9.   Summary

- ♦ The design of the time-average distribution is facilitated

- ♦ by the flexibility in selecting region-specific (or, in the limit, channel-specific) target exit-irradiation values

- ♦ and axial refuelling schemes,

- ♦ allowed by the CANDU on-power-refuelling feature.

9.   *Summary*

♦ **The operations component is the responsibility of the site fuelling engineer or reactor physicist. It involves:**

♣ core-follow calculations, typically performed 2 or 3 times per week to keep close track of the in-core flux, power, and burnup distributions and of the discharge burnup of individual bundles,

♣ the selection of channels for refuelling, based on the current core state, power and burnup distributions and zone-control-compartment water fills, and

♣ the determination of the CPPF (channel-power-peaking factor) value, used in the calibration of the ROP detectors.

9.   Summary

- ♦ **The job of the site fuelling engineer or reactor physicist never gets boring.**
- ♦ **The daily tasks and responsibilities are meaningful and keep the job interesting and stimulating.**