Advanced Recycling Center:
Benefits of sodium cooled reactors

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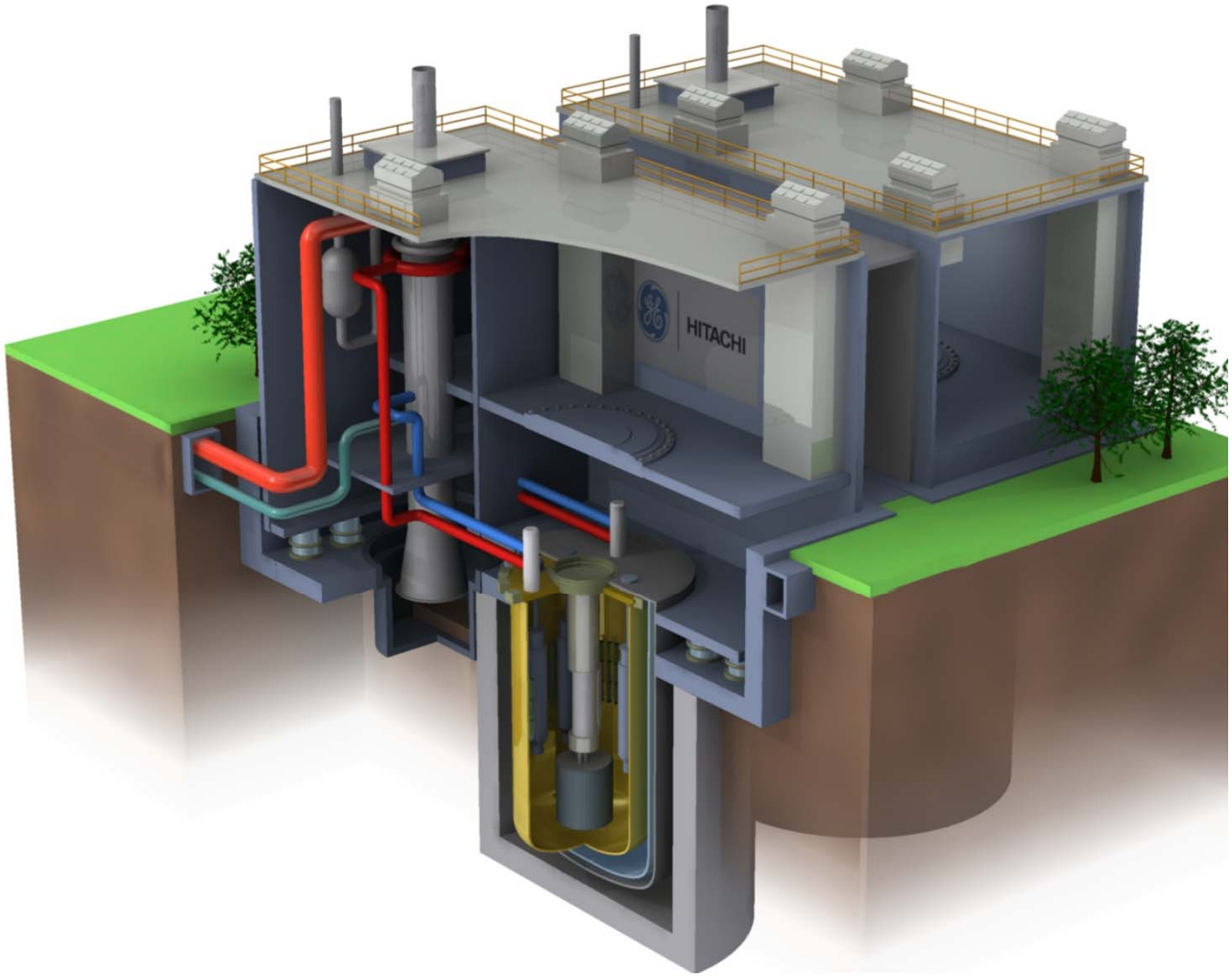
November 2010



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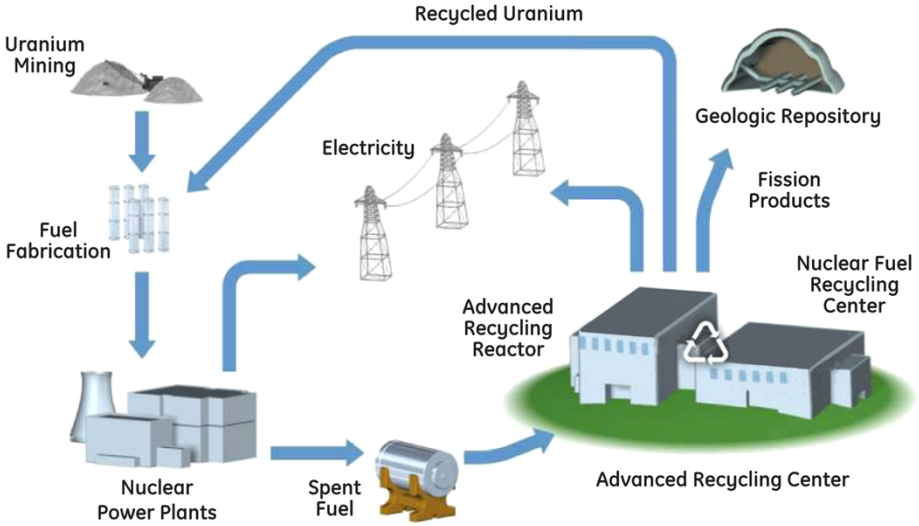
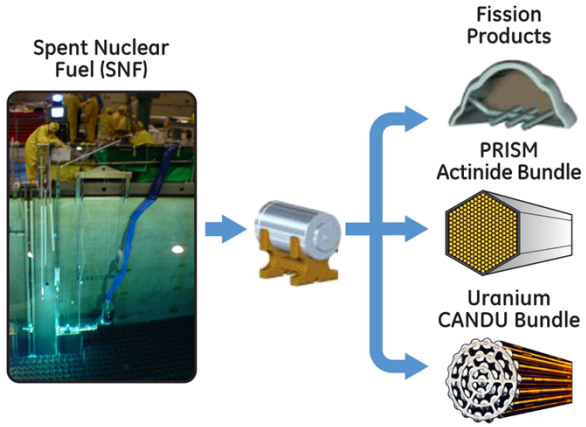
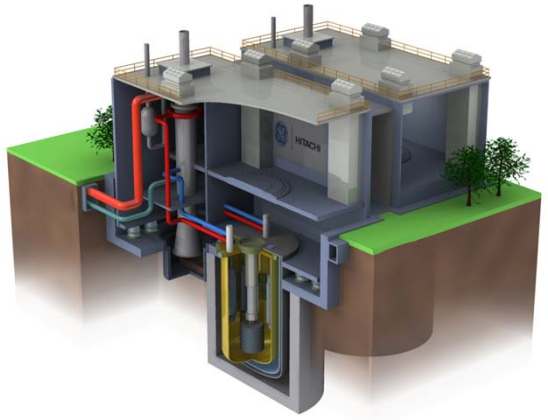
Advanced Recycling Center closes the nuclear fuel cycle





NFRC - Electrometallurgical



Advanced Recycle Reactor - PRISM

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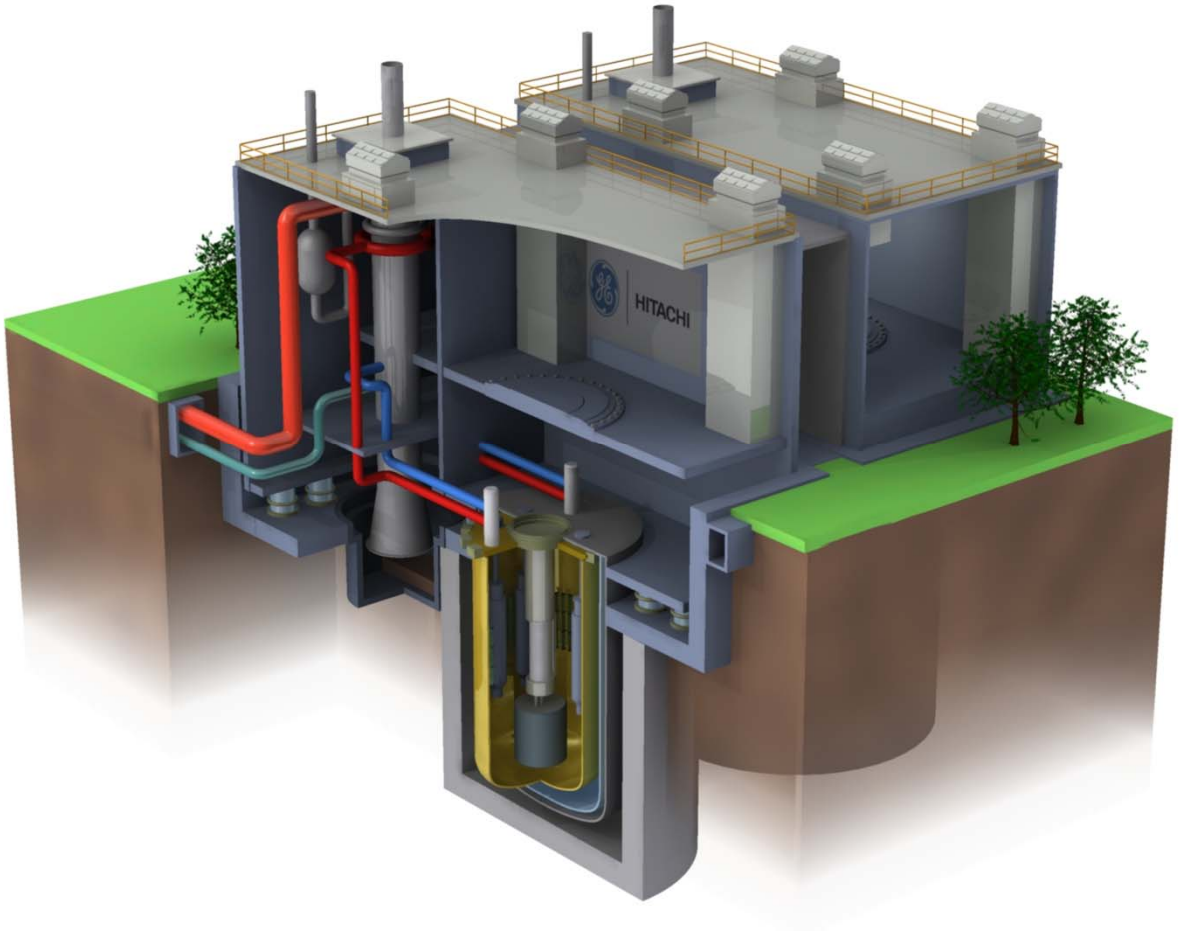
Passive cooling and pool design provide safety margins



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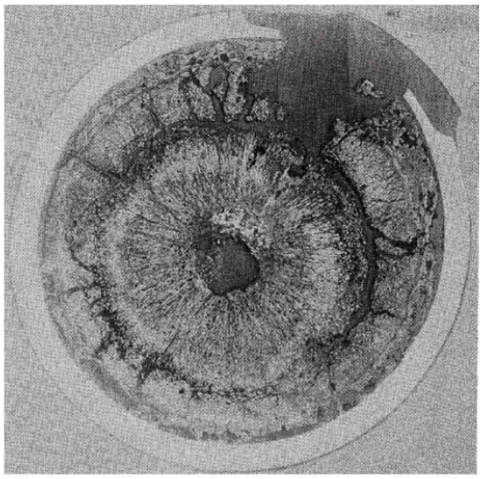
Metal fuel safety performance

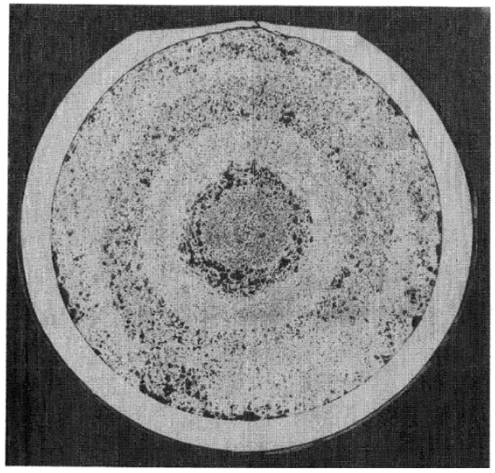
- Shutdown Heat Removal Tests (SHRT) and Inherent Safety Tests (IST) at EBR-II (1984-1986)
  - Natural Convection Decay Cooling
  - Loss of Flow without SCRAM
  - Loss of Heat Sink without SCRAM
- No fuel failures resulted from tests
- Reactor reached safe condition without active safety systems
  - Low energy content of metal fuel
  - Negative feedbacks
  - Large sodium pool for heat dissipation
- PRISM transient analysis shows similar performance for unprotected loss of flow and heat sink
- Superior performance with cladding breach in metal fuel

Oxide



9 at% burnup

Metal



12 at% burnup

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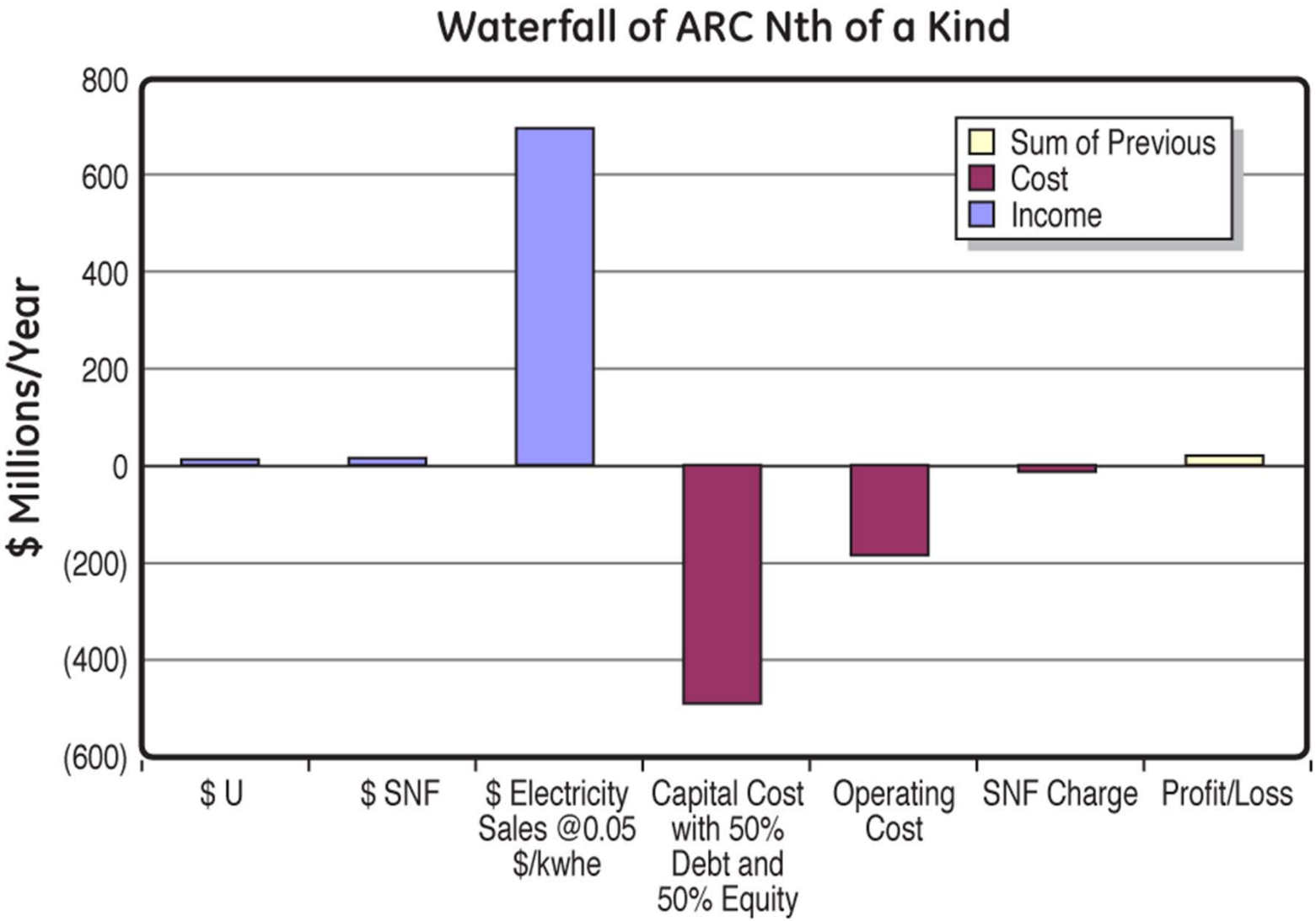
Revenue From ARC – Electricity Sales Dominate



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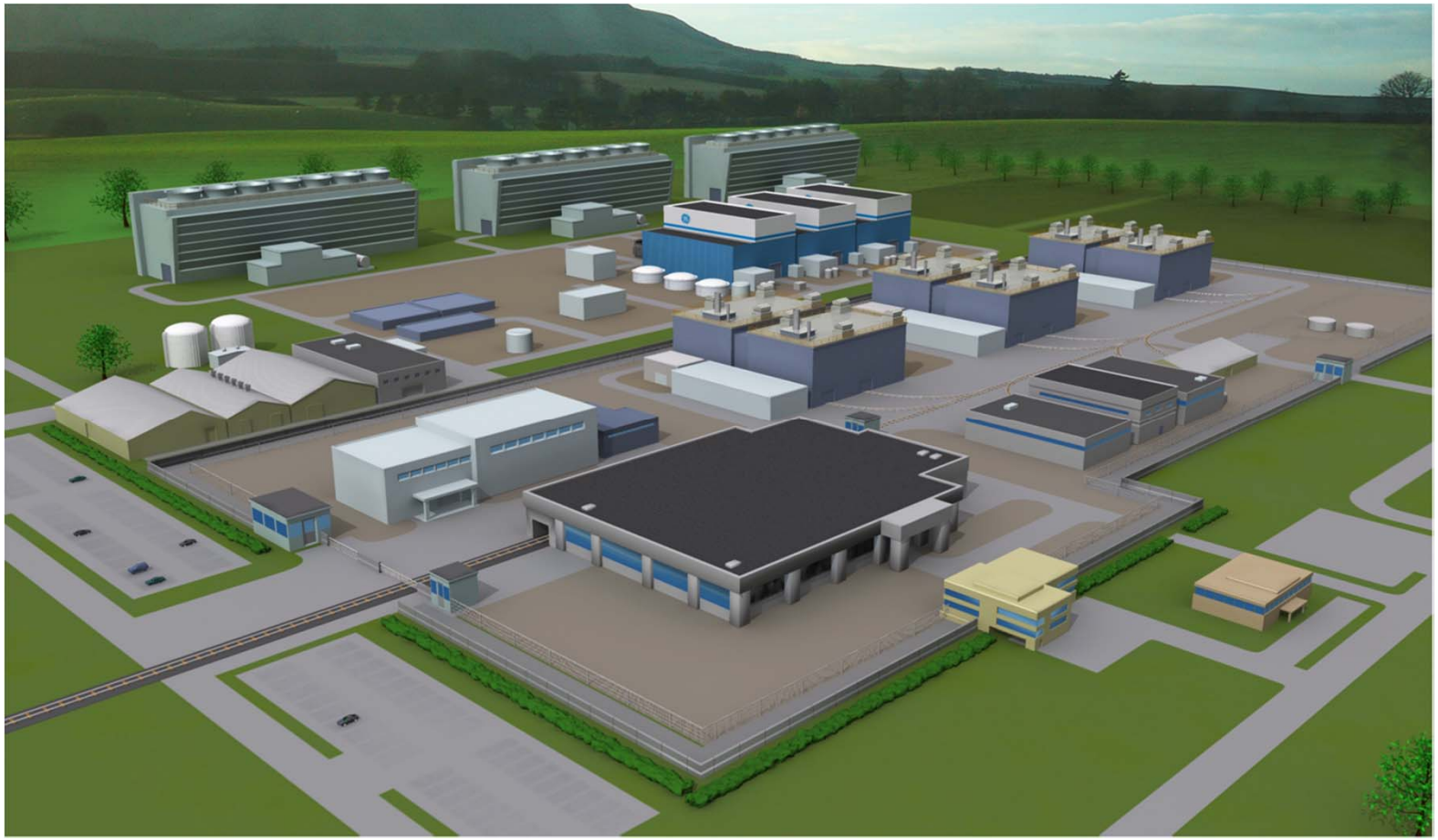
ARC has 6 PRISM reactors in 3 power blocks provides 1866 MWe



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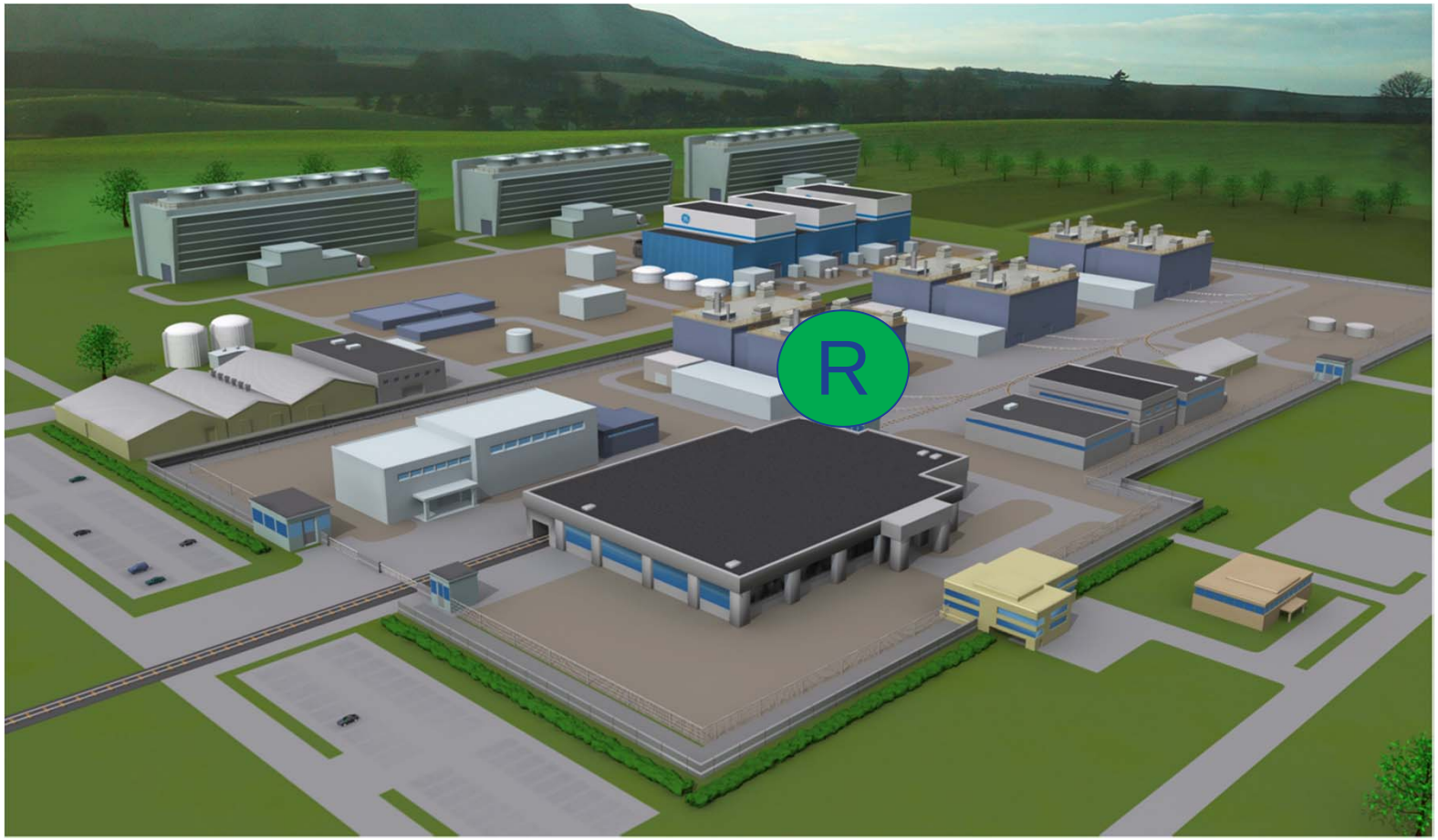
During refueling 5 PRISM reactors in 3 power blocks provides 1555 MWe



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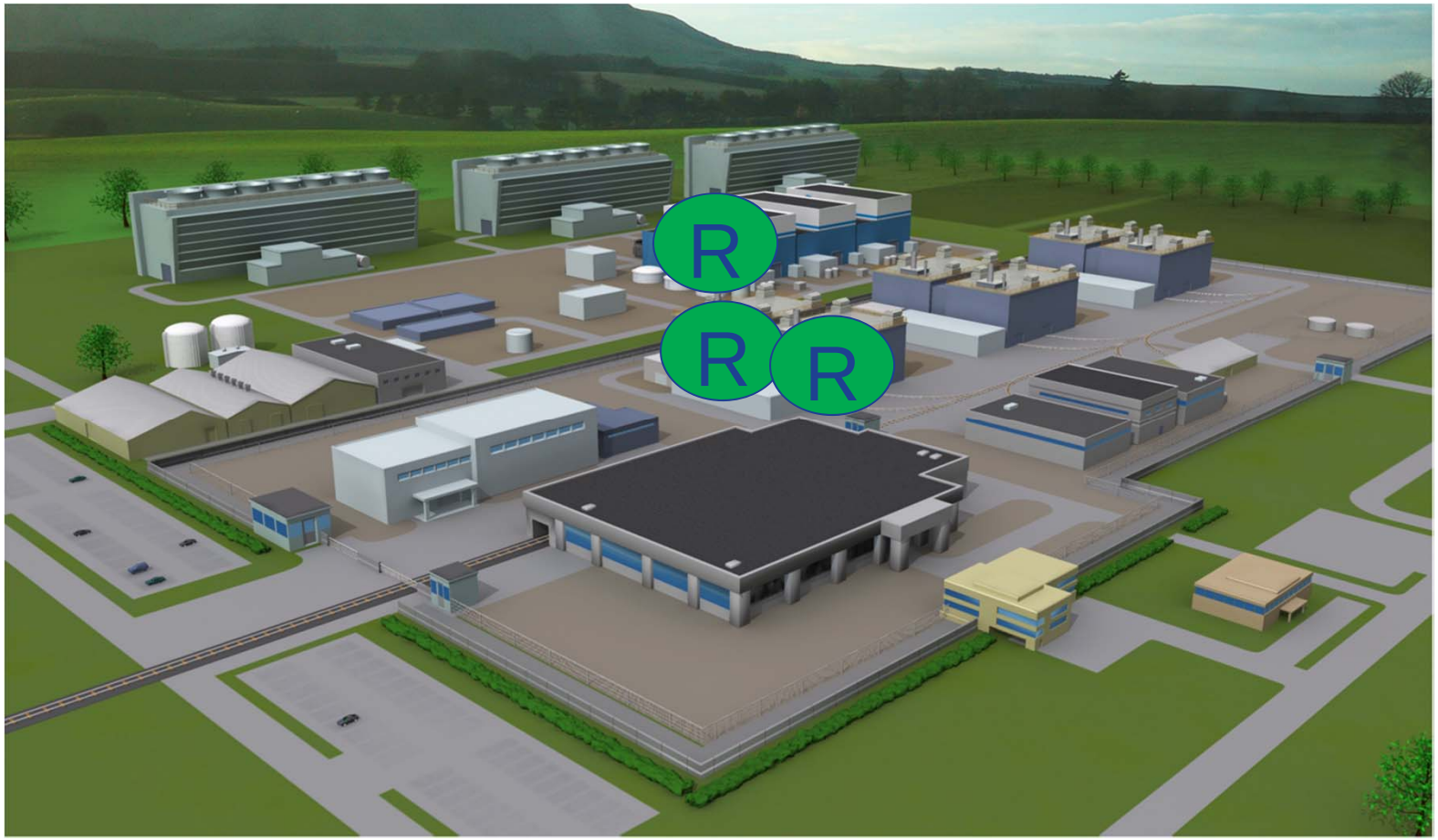
During turbine maintenance 4 PRISM reactors in 2 power blocks provides 1244 MWe



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