HISTORY AND CURRENT STATUS OF SPENT FUEL MANAGEMENT AT DUKOVANY NPP

International Conference on Management of Spent Fuel from Nuclear Power Reactors, IAEA, Vienna

15 – 19 June 2015

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NPP DUKOVANY
INTRODUCTION

NPP Dukovany

- 4 reactor units VVER 440/213
- Original electric power: $4 \times 440 = 1760$ MW
- Present electric power: $4 \times 500 = 2000$ MW
Milestones:

- 1985: Unit 1
- 1986: Unit 2 + Unit 3
- 1987: Unit 4
- 1995: Dry Interim Spent Fuel Storage Facility
- 2005: Efficiency enhancement (460 MWe)
- 2009-12: Power uprate to 1444 MWt ~ 500 MWe
Historical overview:

- 1989 – SF shipment to Slovakia
- 1991 – call for tenders for storage
- Dry storage system of Castor DPC (GNS Germany) was chosen
- 1993 – Re-racking of SF ponds
- 1994 – start of dry storage construction – limited capacity
- 5.12.1995 – first cask placed
- 1996 – 97: return of fuel from Slovakia
- 7.3.2006 – last cask placed
1997 – revocation of restrictive governmental decision
New decision: additional storage hall for plant operation lifetime
Capacity: 1340 tHM, 133 casks
2003 – start of construction
2006 – construction completed
22.12.2006 – first cask placed
10.9.2008 – final building approval
Actual situation of ISFS: 29 casks
Supplier: Škoda Nuclear Machinery – contract till 2021
FUTURE OF PLANT SF MANAGEMENT

- **LTO:** Effort to operate NPP beyond design lifetime
- ISFS full round 2040, not enough for NPP operation after 2030
- Tender for casks after 2022 for advanced fuel
- Plan to build new unit
COUNTRY’S BACK-END STRATEGY

- Fuel is not waste until declared as waste
- Operator saves money on state’s account
- Waste will be handed over to RAWRA
- RAWRA is looking for place to build final deep geological disposal for SF and HLW
- Final disposal facility should be launched in 2065
- Other options to close fuel cycle still open
CONCLUSION

- Long-term SF storage in casks needed
- Limited design lifetime of current casks
- Ability of long-term storage shall be proved
- International cooperation is desirable
THANK YOU FOR YOUR ATTENTION

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