

DECOMMISSIONING IN THE CZECH REPUBLIC

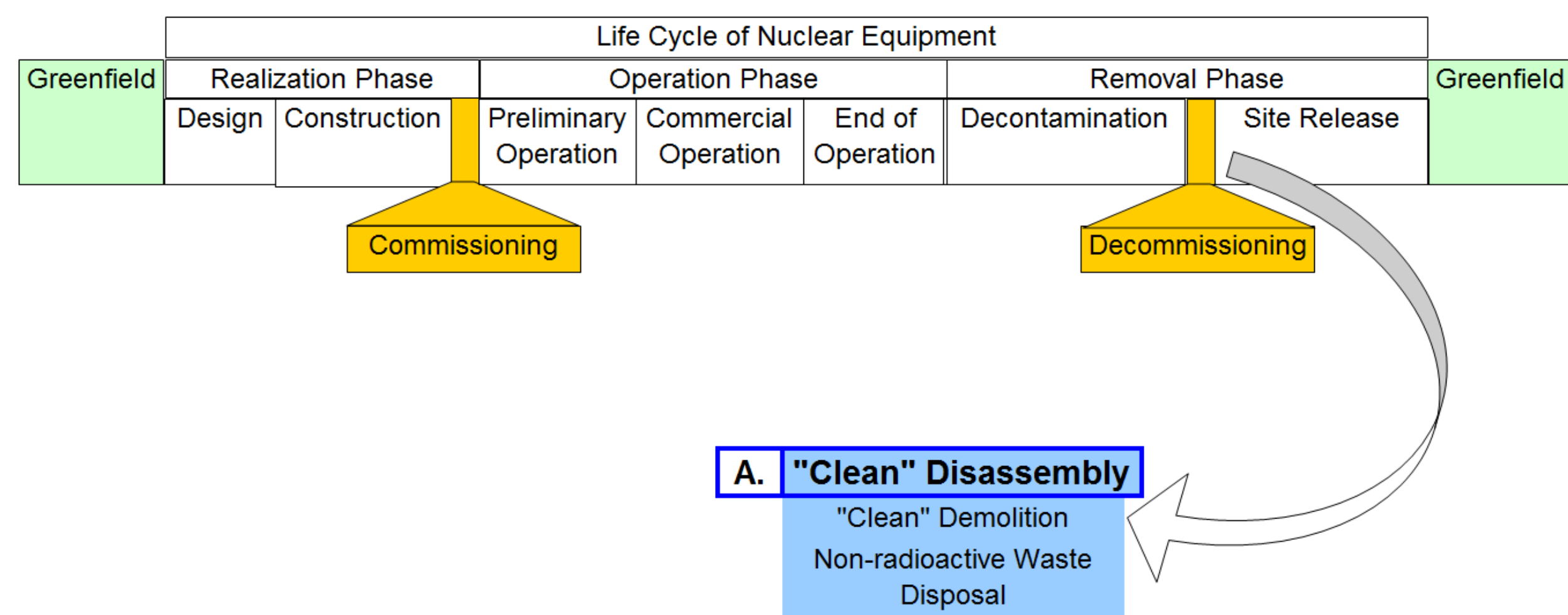
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INTRODUCTION

- Decommissioning in the Czech Republic is regulated by the Atomic Act and its implementing regulation issued by State office of Nuclear Safety (SONS).
- Decommissioning of a nuclear installation is one of activities associated to utilization of nuclear power, and decommissioning is defined as a set of activities aimed to clear nuclear installations or workplaces, where radiation activities were performed, to be utilized for other purposes.
- The preparation for decommissioning shall be included in each stage of lifecycle of a nuclear installation (starting with the Environmental Impact Assessment and the Initial Safety Report).
- The operating license documentation for a nuclear installation shall include the proposed method of decommissioning approved by SONS, as well as the estimated costs of decommissioning verified by Radioactive Waste Repository Agency (RAWRA).
- The decommissioning license documentation to be approved by SONS shall comprise the RAW management specifications for the process of decommissioning, the scope and method of measurement, and the evaluation of personal exposure and contamination of the workplace.



WHAT WE DO? WE SOLVE FOLLOWING ISSUES:

- strategy for the decommissioning process,
- descriptions and selection of variants, descriptions of the various stages of decommissioning,
- specification of technological equipment and buildings, site description, prognosis of operational data,
- database design data and documents relevant for the processing of other stages of documentation of decommissioning,
- postulate of input data (radioactivity and hazardous substances, liquid and solid radioactive waste, etc.),
- contamination of surfaces technology equipment, building parts and the atmosphere, radionuclide composition of the radioactive waste,
- evaluation of period of decommissioning,
- balance, methodology and evaluation of activities during the decommissioning (pre-decontamination, dismantling, post-decontamination, demolition, processing and treatment of RAW, inactive waste disposal, waste release into the environment),
- solution the radiating control during the decommissioning - program monitoring,
- evaluation of radiological protection of workers and the impact on the environment, analysis of radiological events,
- physical protection assurance during the decommissioning,
- organization the decommissioning project - schedule, staffing works, ensure emergency planning during the decommissioning,
- the economic evaluation of all the above activities,
- safety assessment for decommissioning.

REFERENCES

- NPP Jaslovské Bohunice A1 (heavy water reactor KS-150 type) - Study of Decommissioning,
- NPP Jaslovské Bohunice V1 (2 reactors of WWER 440/V230 type) - Study of Decommissioning,
- NPP Dukovany (4 reactors of WWER 440/V213 type) – Decommissioning Concept including cost estimate,
- NPP Temelín (2 reactors of WWER 1000/V320 type) - Decommissioning Concept including cost estimate,
- Temelín and Dukovany Spent fuel storages (dry storage) - Decommissioning Concept including cost estimate,
- Research reactor LVR-15 (light-water moderated and cooled tank nuclear reactor with forced cooling) - Decommissioning Concept including cost estimate,
- Research reactor LVR-0 (same design as the WWER type power reactor, 5kW thermal power) - Decommissioning Concept including cost estimate,
- Remediation of Old Environmental Liabilities in ÚJV Řež, a. s. - characterization of environmental liabilities, preparation of project of decommissioning including cost estimate,
- Safety Assessment for decommissioning of China research reactor HWRR (heavy water research reactor, 15 MW thermal power),
- Safety Assessment for decommissioning of NPP Dukovany.

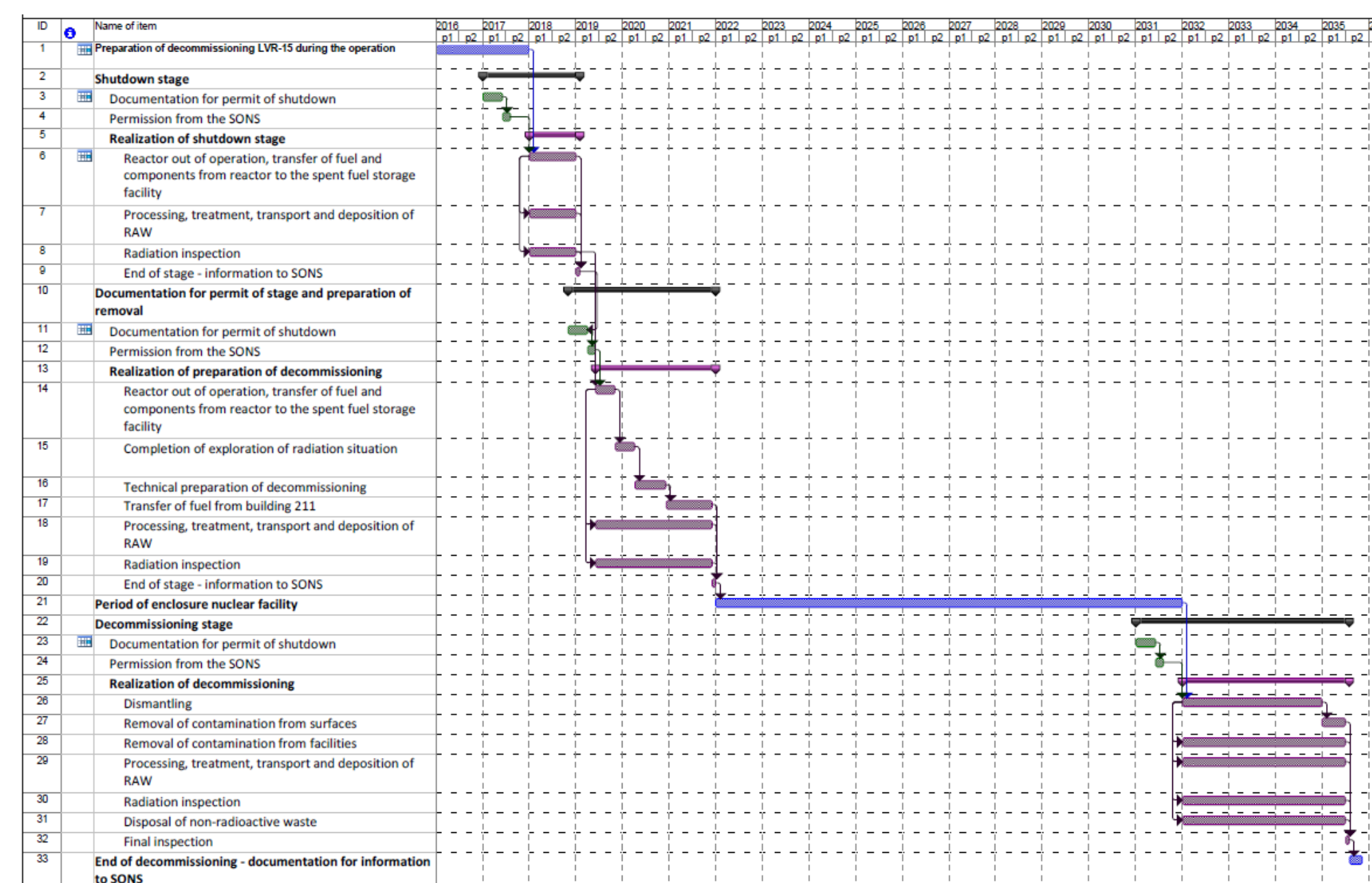
USED SW TOOL

Microsoft Excel, Access – work area display

The STANDARD International Structure for Decommissioning Costing (ISDC) of Nuclear Installations

Profession	Amount	Labour intensity	Dose	Note
Dělník	1	<<V>> * 0,55 * 0,523	0	Labourer
Dozor B&W	1	<<V>> * 0,55 * 0,0879	0	Operator
Kompressor píštělový 5,76m3	1	<<V>> * 0,55 * 0,0004	0	Piston kompressor
Křepička automobil	1	<<V>> * 0,55 * 0,104	0	Služební car
Technik	1	<<V>> * 0,55 * 0,205	0	skilled worker

Microsoft Project - work area display



KROS plus – tool for creating budgets, cost calculation of works with complete price system including demolition works.

Učtování	TC	CP	Kód	Právní	MJ	Měřičství	ceny	Index	Restorace	SČ	Průběh	TC	CP	Právní	MJ	Měřičství	ceny	Index	Restorace	SČ	Průběh
Zemní práce																					
h2	11151321				m2	10 500,000	2,79	1,000		29 373,32	0,000	0,000	0,000		31 524,44						
h3	1221000				m3	1 221,000	110,00	1,000		140 290,00	0,000	0,000	0,000		141 511,00						