



ÚJV Řež, a. s.

**VVER 2016**

**ÚJV experiences with support  
services for NPP planning and  
development abroad**

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- **Technical support services for the Turkey nuclear licensing authority (TAEK)**
- **Basic frame of ÚJV support services for NPP planning and development, actual UJV interest in nuclear energy**

# NPP AKKUYU 4x 1200 MW, Turkey

## - TSO services for TAEK



Technical support services for TAEK (Turkey nuclear licensing authority)  
Evaluation of the Construction License doc. (CL)



### 1. Structure of CL doc. For review and assessment:

- **PSAR** – NP-006-98 – Requirements to Contents of Safety Analysis Report of NPP with VVER Reactors (US RG 1.70 or RG 1.206)
- **Other CL documentation:**
  - Configuration mng. system,
  - Construction programme,
  - Environmental monitoring prog.,
  - List and safety evaluation of differences from the reference plant,
  - Personnel training and qualification prog.,
  - Probabilistic Safety Analysis Level I and II,
  - Quality mng. system doc.,
  - Site parameters monitoring prog.

**2. Licensing Basis (LB) doc.** = set of regulations, laws, guides and other kind of documents relevant to the reviewed and assessed PSAR of the particular NPP

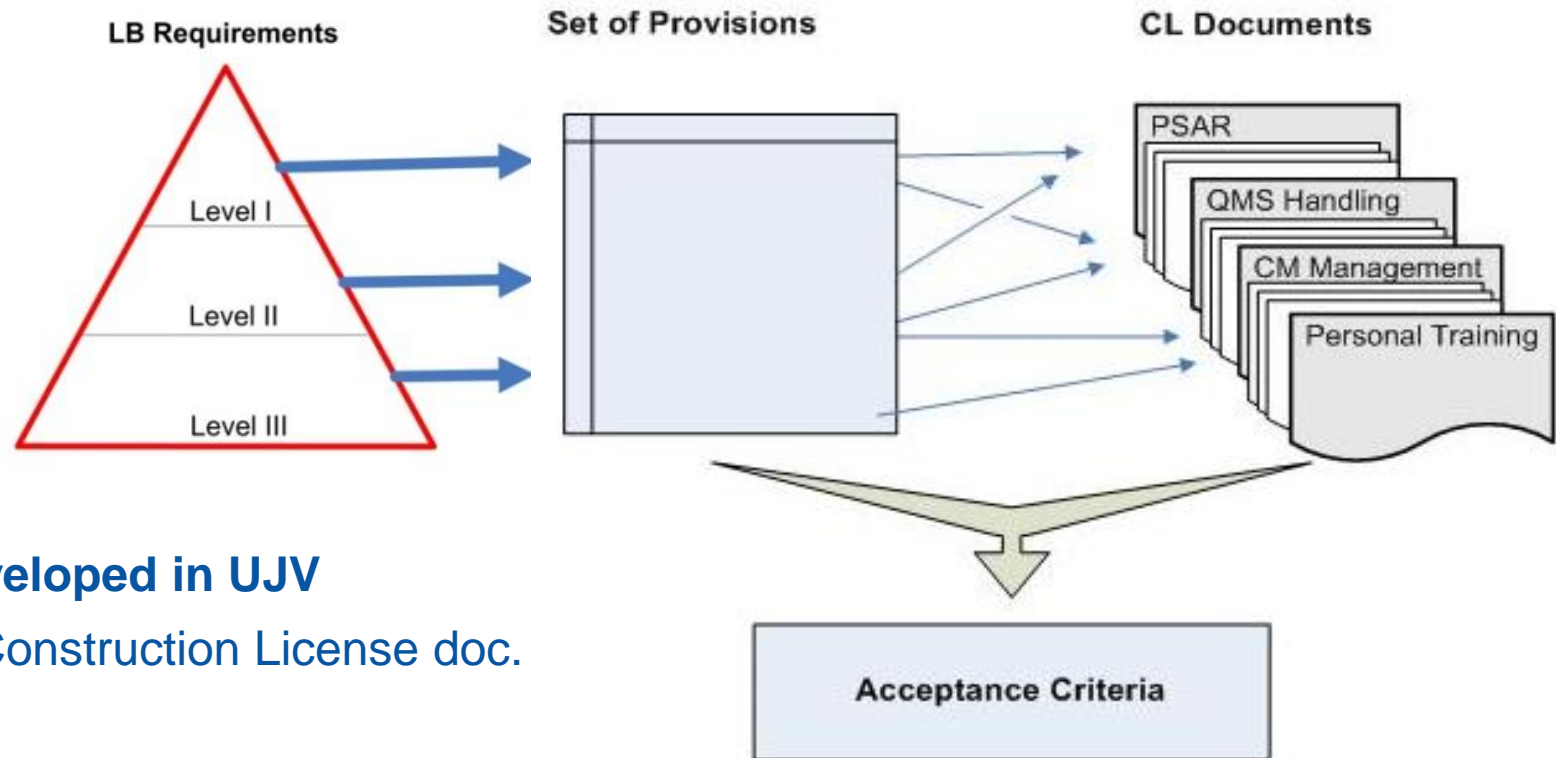
**Licensing Basis documentation was processed from point of view:**

- **Priorities** – grading of LB doc. - setting of levels (mandatory, recommended, important)
- **Applicability of particular LB doc.** to the current and future licensing process of NPP  
– sorting of doc. to defined groups
- **Scope** (completeness)
  - Adequacy of LB doc. at different priority levels
  - Suggestion to complete LB by other doc. or requirements (eg. related to Fukushima accident)
  - Elimination of the duplicate documents

## Basic approach to the implementation of the TSO services:

- Preparation of **Licensing Basis Doc.**, incl. implementation of **post Fukushima measures**
- **Licensing Matrix:** Provisions and Criteria X items of CL doc.  
(criteria for evaluation of compliance of CL doc. with LB requirements to nuclear safety and radiation protect.)
- Criteria are evaluated in context of particular chapter(s) of PSAR and other CL doc.
- Independent safety analyses of accidents scenarios included Severe Accidents
- Preparation of **Guidelines** – recommended way for R&A of the compliance of CL with LB requirements
- The result of R&A is the **Evaluation Report** of PSAR and other CL doc.

# Licensing Basis Assessment Tool (LBAT)



## LBAT – SW tool developed in UJV

- For R&A of the Construction License doc.
- SQL database
- Control of work progress and responsibilities

## LBAT is designed mainly for:

- Creation of the Licensing Matrix: Provisions and Criteria X items of CL doc.
- R&A providing, preparation of R&A Guidelines
- Further development for the R&A purposes



- **Pre-project activities** /Pre-feasibility study, Feasibility study, site selection, additional analysis – grid connection, water mng., ...)/
- **Project preparation phase** /site survey plan, Licensing basis, EIA, Conceptual Design, „localization of the NPP“, Bid invitation spec., permit doc., review of safety and design doc., ..../
- **NPP construction and preparation of operation**  
/review and assesment of doc. prepared by supplier, review of design changes, services of GD, training of operational personel, ..../
- **NPP operation** /measures for increasing of NPP safety and reliability, Stress test, reactor power uprate, NPP efficiency increasing, periodic safety review, .../
- **NPP decommissioning**



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**THANK YOU FOR YOUR ATTENTION**

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