



**WNA**

# NEW BUILD LICENSING CONFERENCE

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# CONTENT

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- **Introductory Remarks**
- Status of New Builds developed by CEZ
- International Cooperation in Licensing
- Design of Licensing Process
- Design Development
- Procurement, Documentation, Supply Chain and Manufacturing Oversight
- Conclusion

# NEW BUILD LICENSING CONFERENCE

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- **Conference basic framework : WNA Report „Licensing and Project Development of New Nuclear Plants” by Licensing & Permitting Task Force published in 2013**
  - Based on CORDEL survey done by experts in certain time and certain conditions
  - **EXPECTATION: discussion of report topics in broad international forum and share of experience gained meanwhile**
- **Conference brings together representatives of regulators and industry including particular associations, working groups, etc.**
  - **EXPECTATION: balanced discussion, fruitful opinion exchange**

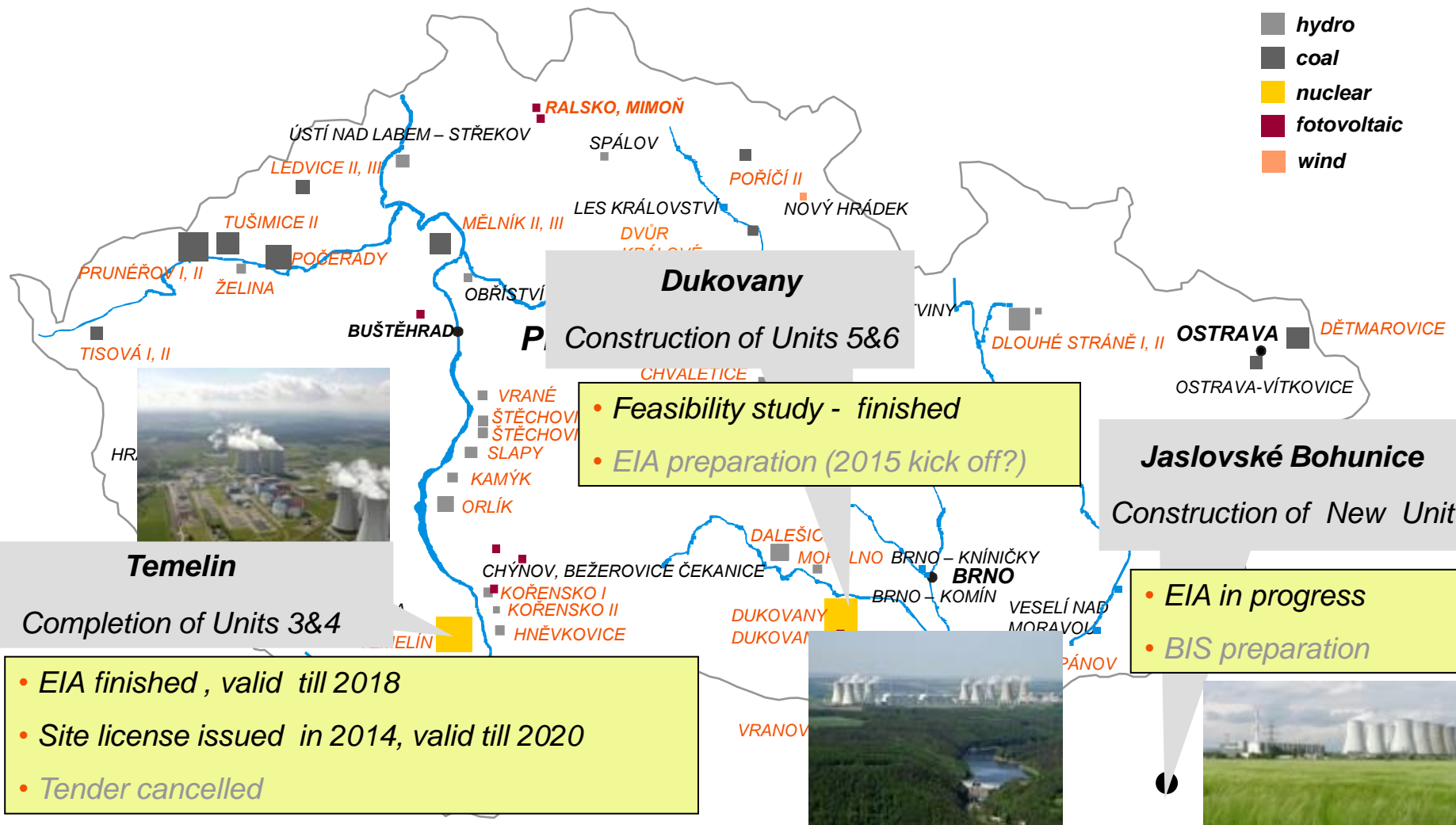
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# STATUS OF NEW BUILDS DEVELOPED BY CEZ



# NEW BUILDS CHALLENGES



## Political support

- political support is crucial, nuclear project compliance with national long-term energy concept necessary
- energy market in Europe is not functional, investment support mechanisms can have decision-making character (**absence of them was a reason why CEZ cancelled Temelin tender process**)
- international environment complicated

## Legal aspects

- legal requirements (nuclear safety etc.) are being developed / changing continuously, licensing base is „moving target“

Sample

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# CZECH REPUBLIC – COUNTRY WITH SMALL NUCLEAR PROGRAM WITH TRADITION



# STANDARD DESIGN AND REFERENCE PLANT CONCEPT

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## Standard design and its independent review

- repeated generic solution exists
- safety standard is established
- unproven features are minimal
- somebody already did design review or prelicensing

## PLUS

- certain guarantee that design is prepared
- experience can be shared within licensees and regulators

## MINUS

- cannot be exclusion criterion only preference (otherwise potential vendors are minimized)

# STANDARD DESIGN AND REFERENCE PLANT CONCEPT

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## Reference plant and its license

- one of standard design applications for specific site and licensee exists (in CEZ case at least construction licence was required)
- detailed architecture of plant is more or less prepared

## PLUS

- solution was already bought by licensee and licensed by nuclear regulator
- not first of the kind solution

## MINUS

- cannot be exclusion criterion only preference (otherwise potential vendors are minimized)
- licensing base is not fully comparable in different states
- construction license cannot be sufficient guarantee of successful commissioning and operation

# FUTURE POSSIBLE TENDER



Several designs can be in competition

AP1000	Westinghouse Electric Company LLC (USA)
EU-APWR	Mitsubishi Heavy Industries (Japan)
MIR1200 (Czech	consorcium Škoda JS/JSC Atomstroyexport/JSC OKB Hidropress Republic/Russia)
EPR	AREVA NP (France)
ATMEA1	AREVA NP/Mitsubishi Heavy Industries (France/Japan)
APR1400	Korea Hydro&Nuclear Power (South Korea)

and possibly

APR1000+	KEPCO (South Korea)
ACC1000	CGN (China)

**Concept of standard design and reference plant can be followed again, preference strategy must be defined**

- **EXPECTATION: conference can bring new ideas and inspiration**

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# LICENSING PROCESS & COMMERCIAL MODEL INTERFERENCE



## Temelin licensing scheme

EIA process for plant parameters envelope

Tender process (standard design concept); regulator is not fully involved; contract (potentially) signed with licensing risks which are not fully known

Site license – licensing base finalized

Construction license for selected design (risk : standard design has gaps against license base in more detailed evaluation)

Potential modification of design (too late)

## Alternative licensing scheme

Design(s) is (are) prelicensed by regulator(s); potential modification need of design is identified

Contract signed with resolved or known licensing risks

EIA process, site and construction license for particular design

**More resources are needed in initial project stage; long-term strategy must exist**  
**Enhanced international cooperation can help**

**EXPECTATION: this conference can bring useful small steps forward**

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# NEW BUILDS CHALLENGES



## Designing

- **legal nuclear safety requirements are being developed / changing continuously, licensing base is „moving target“ especially after such accident as Fukushima Daichi also requirements differ in particular countries although they have similar base**
- **design process is demanding and executed in „waves“, it is not continuous (standard design versions)**
- **requirements for new reactors are applied to planned reactors design of which was finished many years ago, so need of design change is probable**
- **but: there is technical and especially commercial pressure not to do robust changes of standard design after contract signature**
- **EXPECTATION: conference can bring discussion on similar topics and ideas for resolution of the mentioned controversies**



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# NEW BUILDS CHALLENGES



## Procurement, Documentation, Supply Chain and Manufacturing Oversight

- **concept of intelligent customer requires active role and participation of investor (licensee)**
- **ultimate responsibility for nuclear safety versus turn key model of supply (EPC)**
- **strong oversight mechanisms expected from regulator**
- **oversight mechanisms subject of tough commercial negotiations with vendors**
- **EXPECTATION: conference can bring better understanding between licensees, vendors and regulators**

Sample



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**thanks for your attention**

**let us start fruitful work**

