

Setting the Scene – the WNA Licensing and Permitting Report



Christian Raetzke, Advisor to WNA CORDEL
WNA Workshop Licensing: Challenges and
Solutions

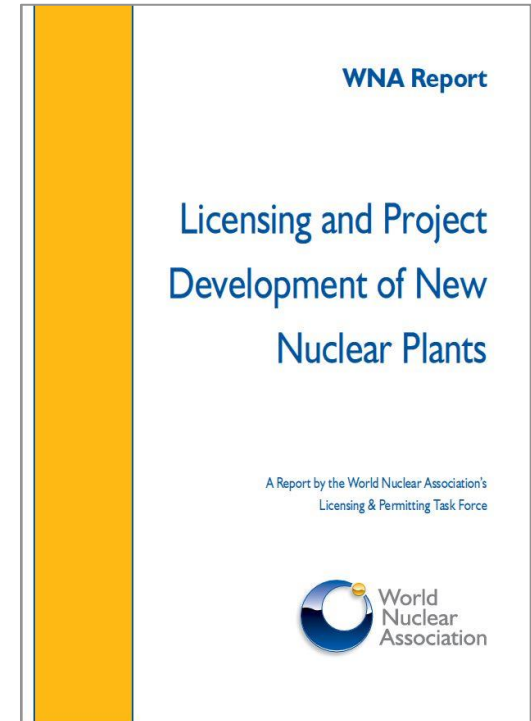
Prague, 20 April 2015

WNA Members

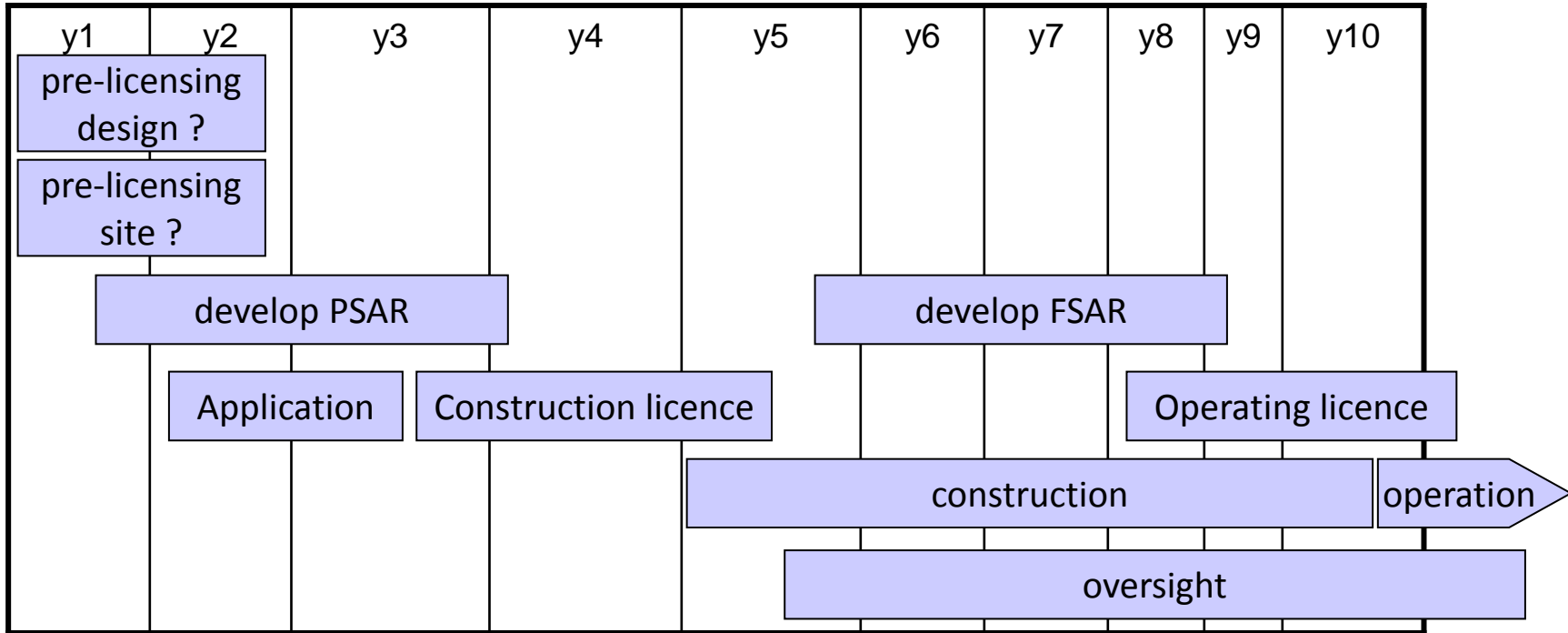


Survey and Report on Licensing

- WNA Report 'Licensing and Project Development of New Nuclear Plants' published in January 2013
 - Based on survey among WNA members
 - utilities, vendors and an architect engineer
 - from 4 continents
 - All industry stakeholders agree that safety and security is paramount in any licensing process
- ▶ The Survey focuses on the interaction of regulatory processes with the industry's commercial activities, such as procurement, contracting, and financing



Licensing and project development



Contracting: Early EPC or graded series of contracts?

Design development

Managing the supply chain

FID Financial Investment Decision

No one-fits-all licensing model...

Different types of new build countries

- **large, mature, market driven: US, UK, Canada...**
- **large (mature or emerging) state-driven: China, Russia, Korea, India...**
- **small-mature: Czech Republic, Slovak Republic...**
- **emergent: UAE, Turkey, Poland, Indonesia, Vietnam....**
- **SMR**

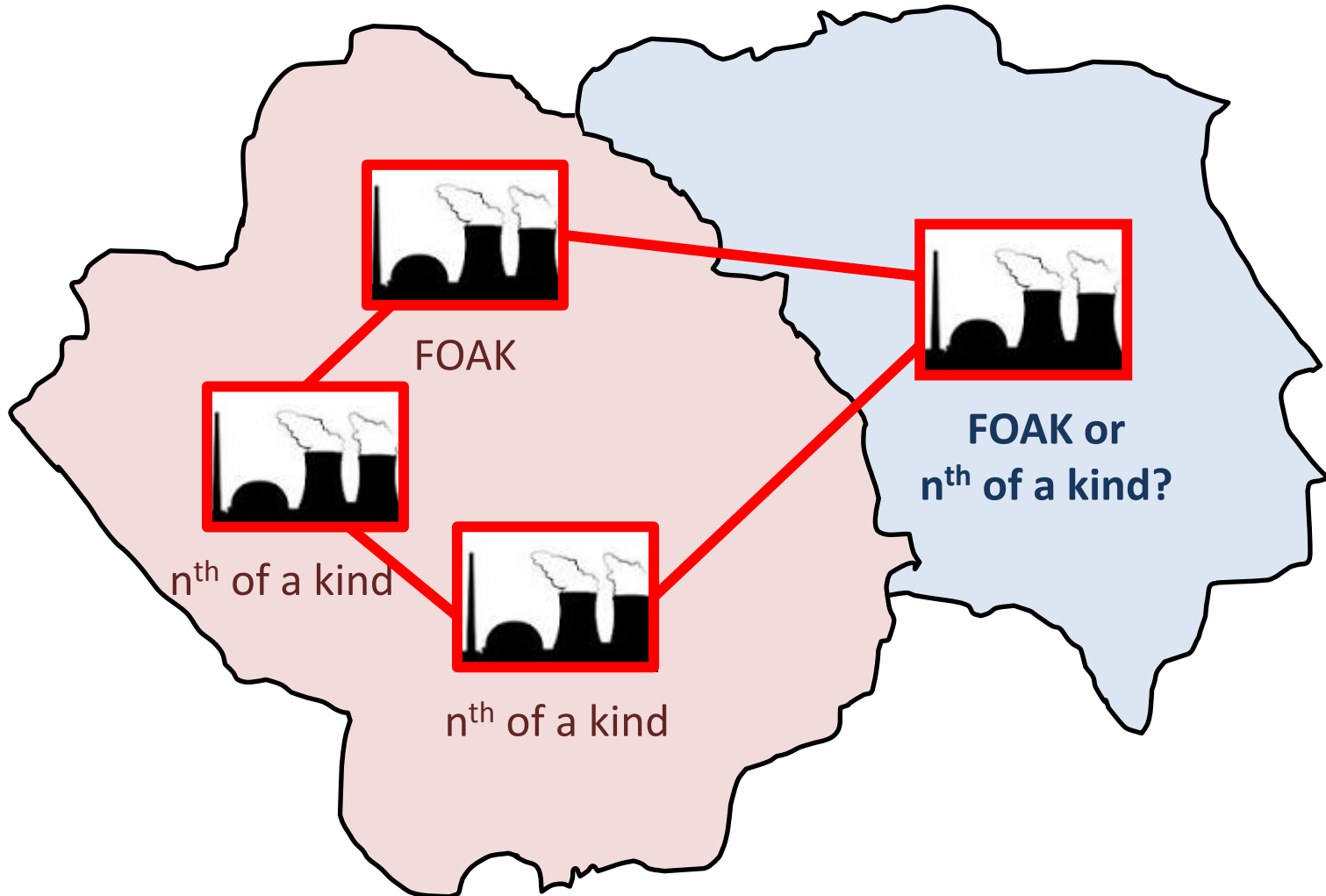
Different licensing processes

- **One-step (COL), two-step, multi-step**
- **Number of regulatory holdpoints**

FOAK, NOAK and FIAC

- **FOAK(first-of-a-kind): high risk and uncertainty**
- **NOAK (nth of a kind): benefit of standardisation**
- **FIAC (first-in-a-country): more like FOAK or more like NOAK?**

First-in-a-country (FIAC)



Session 1: Support for international standardization

- International **harmonisation** of safety requirements and **standardisation** of reactor designs would facilitate licensing
- Particularly in the case of a **First-in-a-country (FIAC)**, a standardised design and an acceptance of licensing results already obtained in another country would be much easier than re-doing the entire assessment
- The Survey Report investigates in which areas reactor design standardisation would have a substantial impact
 - **Rather not for: site qualification and selection stage**
 - **Definitely for: reactor design licensing, vendor selection and procurement**
- Vision: Can MDEP be developed into a treaty-based system of **joint reactor design certification** and/or mutual acceptance of design certifications?

Session 2/1: Licensing system

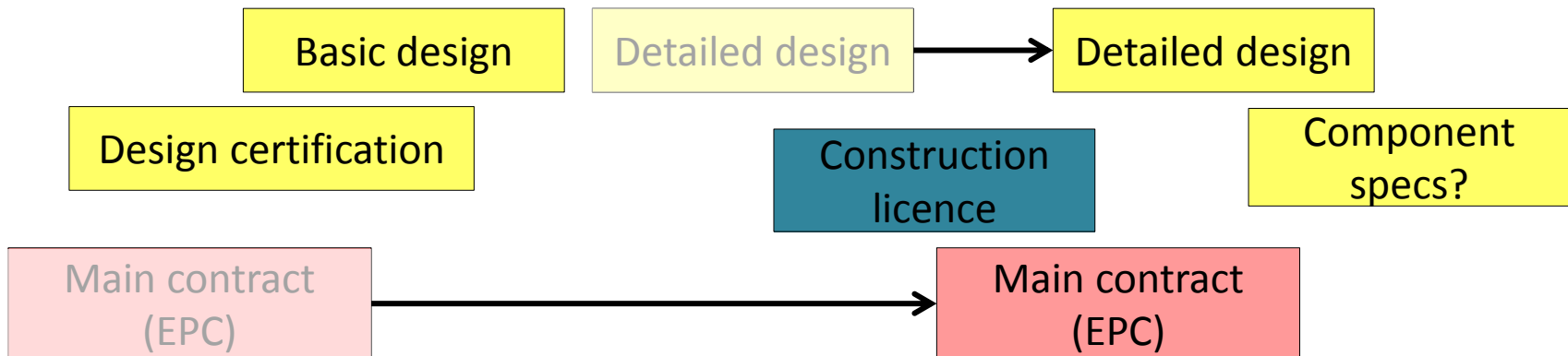
- **One-step licensing vs. two- or multi-step licensing:** commercial developers value predictability and certainty in any system rather than having a preference for a particular system
- **Pre-licensing** of a design or a site reduces risk of licensing and making the outcome of a licensing process more predictable
- **Formally binding decision** about the NPP project at the outset relieves licensing process of political considerations
- Meaningful **public involvement** to be balanced with the necessity to take basic decisions early in the project and to stick to them

Session 2/2: Contracting

- Development towards replacing a single contract with a **system of contractual steps**:
 - Pre-contracts for licensing
 - Main contract for construction after licence has been obtained
 - Separation of licensing and construction phase
- Link to **Financial Investment Decision (FID)**: late FID means late main contract
- In less market-driven environments, the “classic” approach of an **early upfront EPC contract** is still in use

Session 3: Design Development

- Main steps: **basic design - detailed design - procurement specifications**
- Depends on **FOAK, NOAK or FIAC**
- **Timing** of the design development steps varies



- A certain **design maturity** is necessary for licensing...
- ...but the percentages of design completion actually suggested are very different (from 10-15% to 100%)

Session 4: Procurement, supply chain, oversight

- There seem to be **different types of regulatory oversight**, e.g. concerning level of regulator's involvement to procurement, quality assurance and oversight
- **Design documentation and manufacturing documentation** needs to be efficiently and effectively reviewed between all parties involved
- In **manufacturing**, relevant qualifications, reviews and approvals should normally be fully completed prior to manufacturing. In some cases, more “flexible” solutions should be envisaged
- Enhanced **international standardisation** and **greater cooperation of regulators** may be a means to make component manufacturing more predictable

A personal summary

- Each country needs to achieve predictability and control of regulatory/licensing risk in its own system
- Report calls for international harmonisation and standardisation not indiscriminately, but only where it adds value; then, however, it establishes a very strong case
- Different political and economic settings (e.g. market-driven vs. state-driven) call for partly different solutions
- Regulators need to be aware of commercial decisions and their interaction with the licensing and oversight milestones
- Regulatory and commercial processes and their interaction seem to become ever more complicated
- More international cooperation and acceptance in design licensing would address many issues