



NEW NUCLEAR UNIT IN DUKOVANY

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What I am going to say

- What happened in the last period
- View of the population
- What plan B do we have ?
- What can go wrong
- Conclusion and recommendations



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History of the new build in the Czech Republic 1.



- ČEZ started talking about a new nuclear unit in the year 2003
- The first step was the completion of ETE 3,4
- Team of approx. 150 people was set up
- 2008 – ČEZ appealed to the MINISTRY of the ENVIRONMENT for the assessment of environmental impact
- 2009 - MINISTRY of the ENVIRONMENT has ceased the investigation
- 2011 - ČEZ forward Temelin challenge to tender, including the tender dossier (AREVA, Westinghouse, a consortium FROM COMPANIES SKODA JS ASE)
- 2013 - MINISTRY of the ENVIRONMENT issued a favourable opinion on the EIA



History of the new build in the Czech Republic 2.

- 2012-CEZ has ruled out AREVA due to non-fulfillment of the requirements of the tender
- 2013-was proposed to make electricity generation based on guaranteed prices.
- April 10, 2014, it was announced the termination of the tender for the construction ETE 3,4. The reason for the cancellation of the tender was by ČEZ poor on the energy market and the reluctance of the Czech Government, the construction of new blocks of support financially.
- And it all begins again



History – and we get started again

- 2015-the Government approved the ASEK and NAPJE
- 2015-was founded the Alliance of industrial enterprises,
- 2016-Government Committee was established-
- 2016 – Governmental commissioner was selected by the Government
- Concept is – first new unit in Dukovany site – EDU 5
- Schedule of construction was introduced (starting EDU 5 in 2035)
- new block EDU 5 will replace the existing blocks EDU 1-4, which should be in operation till 2035



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View of population

- The population around the plant is now settled with EDU and supports it,
- EDU provides job opportunity
- Cooperation with municipalities of ČEZ is acceptable
- Population expects and supports the new construction
- the popularity of the new construction is at the level of 75% for

BUT



Unnecessary statements, which spoils the mood of the population

- **Čučice-dam** is necessary for sufficient cooling water for EDU.

It is nonsense. For overlapping EDU 5 with EDU 1-4 is plenty of cooling water. Besides EDU 5 is designed as a replacement for existing blocks.



Unnecessary statements, which spoils the mood of the population

- Low and medium level radioactive waste repository on the Dukovany site is for waste from existing EDU and ETE unit only.

The fact that the EIA for ETE 3 and 4 counts with saving waste in repository EDU has not been consulted and surroundings of the people reject this concept.

- A recent opinion SONS that the best solution for spent fuel back end is a deep underground repository on the sites ETE and EDU.

On EDU can't be done real geological survey and here is primarily unsuitable geology also. The population is against such deep repository in the area of the plant.



Useless venue, which spoils the mood of the population

- The issue of weld and other events on EDU are tracked very critically by the population.
- Has not yet been issued, a clear and unquestionable opinion and the decision on the construction of the EDU 5.



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Plan B is missing

- ČEZ about strategies pursued RENEWABLE ENERGY and distributed generation.
- Other power companies are going the way of RENEWABLE ENERGY – Innogy.
- Relying on finding a suitable energy accumulation is large.
- Talking about the new principles of batteries and electric cars for accumulation.
- Hydrogen energy.
- Germany political decision for face out.
- Maybe we are the participants of major changes in the energy sector.



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Adversity 1

- **The length of the permitting process** -the general idea that permitting process takes ten years is not understandable for people But at least we know it and that NAPJE has a task for the new legislation in the nuclear construction.
- **Where to put it** –spent fuel problem. Without final solution about siting for deep repository or other methodology for spent fuel back end , we can continue with new build process. People want to know "where,, deep repository will be.
- No accident/incident can appear on existing plants. Simply existing blocks must run safely and reliable as a steam railway



Adversity 2

- **Long term operation of existing units** by 20 years as minimum, Till 2035. ČEZ run excellent LTO – long term operation program. However the unit of 2nd generation has usually life time around 40 years.
- Last Shut down unit in the world is Fort Calhoun 1 owned by Oklahoma Power Production District in USA. Theirs unit PWR 450 Mwe commissioned in 1973 was shut down for decommissioning two weeks ago
- And I'm not talking about a situation where a problem is found during the inspection, such as cabling, cracks (as the French blocks recently).



Adversity 3

- **Transport** –current units considered 1200-1600 MWe are so large that transport the main part excluding the water path is difficult – if not impossible. But it is said to be a job for the vendor. Of course Yes, but no one it will do for free and the price for transport will be included
- Other variations, such as several smaller blocks, or even a system of small modular reactors are not considered, nor on the level of the feasibility study
- **Financing.** Still no idea on the financing of the new construction, but we know how much it will cost--probably just look to Hungary Paks II, 12 billion € for two blocks VVER 1200. The others will likewise



Adversity 4

- **Vendor selection.** According to the representative, it was asked ten producers, including China, Korea, Europe, America, Russia, etc.
- Six expressed an interest in.
- I remember how we were faced with Russian on Dukovany, when we collaborated with Russian experts and at that time we all graduated from Russian and even had an exam on the university.
- How are we to be Chinese or Korean cultures and language barrier? Have you ever talked with Korean of the technical details, when you'll need to understand perfectly the contents of the communication, it is not "small talk" at dinner. Not to mention about the Chinese. I was once on the OSART Mission in Korea, and I know what problem we're from the Koreans tried any facts.



Clear message

- Middle and upper management of ČEZ, talk to the inhabitants and shows what everything does. Does it well and often enough. Here, communication is done perfectly, and thank God for it.
- However, people want to hear a crucial message
- A clear, voiced, and the news report have to be added:
- "we will build a EDU 5 and commissioned it at the latest in the year 2035"
- Such message it must be a public announcement of the Director General, preferably together with the announcement of the Government – or the Prime Minister.



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Conclusion

- Yet runs filling of action plan (NAPJE) with a slight delay
- Commissioning of EDU 5 in the year 2035-2038 is very remote,
- it is necessary to shorten the construction and authorization procedures,
- It is necessary to find the appropriate funding model
- Let us seek the path to long-term political plans how to stabilize it to survive a few Governments (2017-2036)
- Population is waiting for a clear and binding its publication about the construction of the EDU 5



Thank you for your attention