

Future of deliveries for nuclear energy

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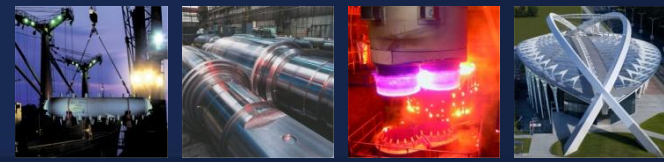




NUCLEAR POWER DELIVERIES

VPE company never stopped with deliveries of nuclear technologies

- **1980 till 1990 – greatest prosperity of nuclear program in Vítkovice**
- **1990 till 2000 – finishing of big deliveries, cooperation with Framatome**
- **2000 till 2010 – cooperation on commissioning of NPP Temelín**
- **TODAY**
 - **Deliveries for Russian market**
 - **Deliveries to India**
 - **Finishing of building of NPP Mochovce**



NUCLEAR POWER DELIVERIES - TODAY

Replaceable parts of low pressure heater 3000

- Manufactured 7 pcs
- Deliveries for Yuzhno-Ukrajinska NPP (Ukraine), Kalininska NPP (Russia) and Rostovska NPP (Russia)
- Used material – austenitic steel 018X18H10T.

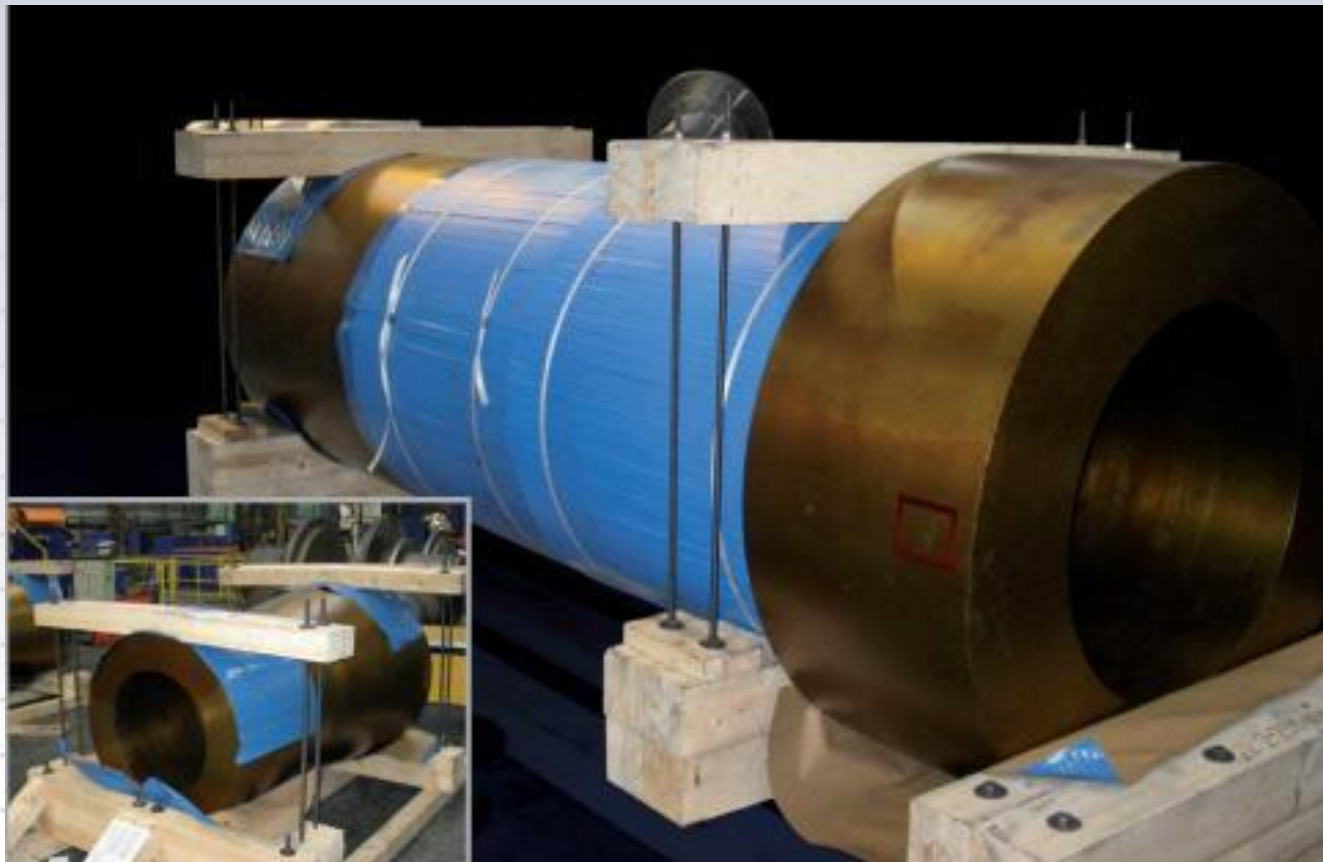




NUCLEAR POWER DELIVERIES - TODAY

Collector body and collector flange

- Manufactured and delivered by VÍTKOVICE HEAVY MACHINERY a. s.
- Delivery for AEM Technology, Russia

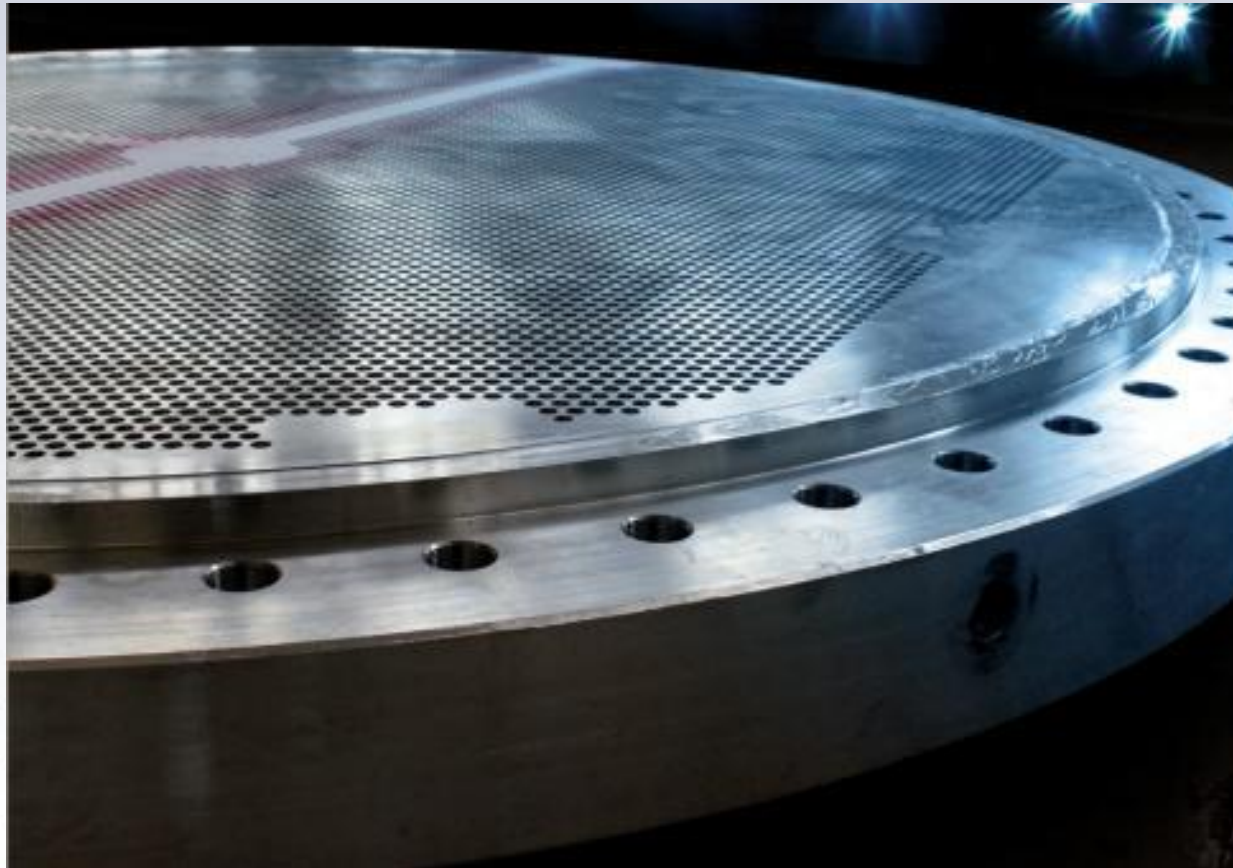




NUCLEAR POWER DELIVERIES - TODAY

Precise drilled holes in tube sheet

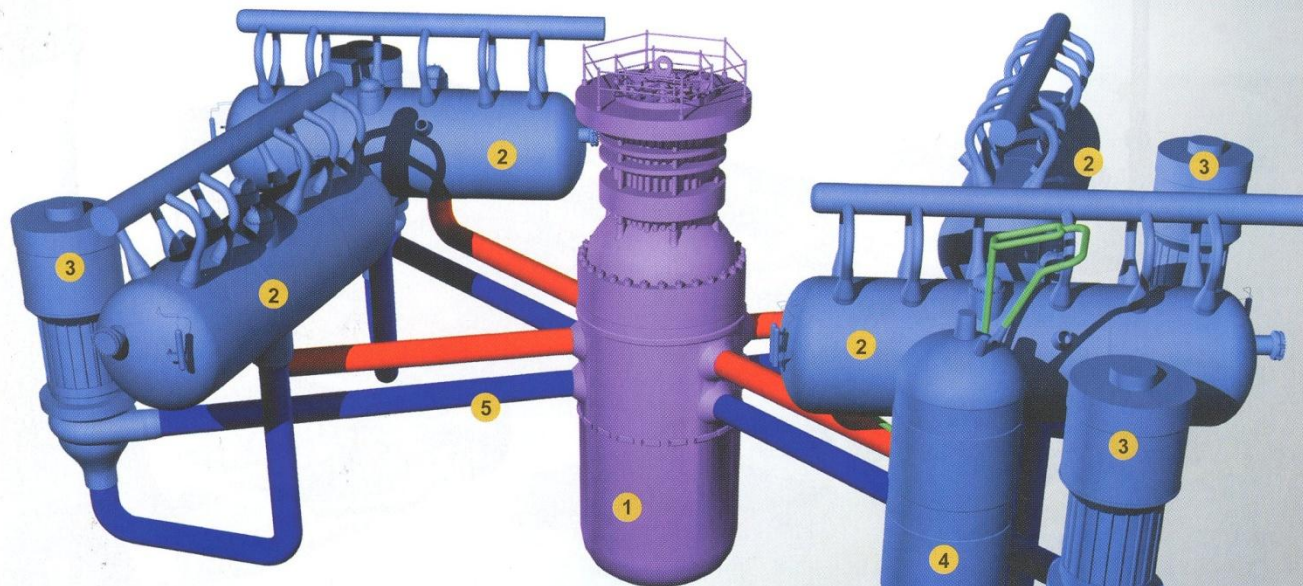
- Manufactured and delivered by VÍTKOVICE HEAVY MACHINERY a. s.
- Delivery for ZIOMAR, Russia



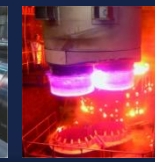


WHAT WE WOULD LIKE TO DO IN FUTURE

Scheme of 1st circuit of Nuclear Power Station VVER 1000



- 1 Reactor
- 2 Steam generator
- 3 Main circulation pump
- 4 Volume compensator
- 5 Primary piping



WHAT WE WOULD LIKE TO DO IN FUTURE **I.PHASE**

First phase of deliveries have been already started!!!

- Deliveries of replaceable parts for LPH 3000
- Deliveries of replaceable parts for LPH 1200
- Works on commissioning of NPP Mochovce

These works take place in real, they don't require any actual investments, modernizations nor dramatic extension of team of experts!!!



WHAT WE WOULD LIKE TO DO IN FUTURE **I.PHASE**

What we would like to do in frame of first phase of cooperation during construction of new blocks VVER 1200 starting year 2012

- Delivery of complete set of Low Pressure Heaters for one block (2 + 5 pieces) per year
- Delivery of one set of High Pressure Heaters for one block (4 pieces) per year
- Delivery of one piece of cooler of drainage per year
- Start of manufacturing of volume compensator with aim to produce 1 piece per year

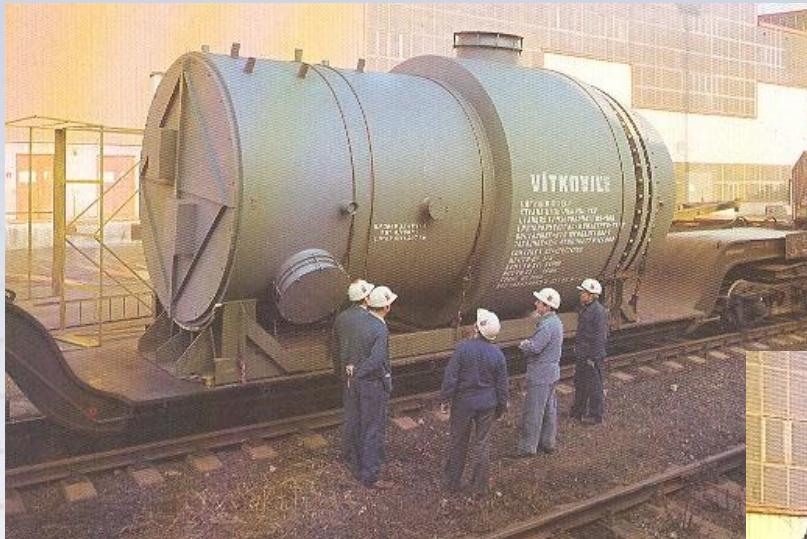
These extent of works requires investments in assumed value of 200 millions crowns and extension of Nuclear power team by 50 persons, including their training.

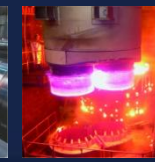


WHAT WE WOULD LIKE TO DO IN FUTURE **I.PHASE**

Low pressure heaters LPH 1200 and LPH 3000

- Manufactured 10 sets (5 pcs LPH 1200 and 2 pcs LPH 3000), i.e. totally 70 pcs of LPH





WHAT WE WOULD LIKE TO DO IN FUTURE **I.PHASE**

High pressure heater HPH 1000, header type

- Manufactured 4 pcs





WHAT WE WOULD LIKE TO DO IN FUTURE **I.PHASE**

Cooler of drainage VVER 1000

- Manufactured 1 pc

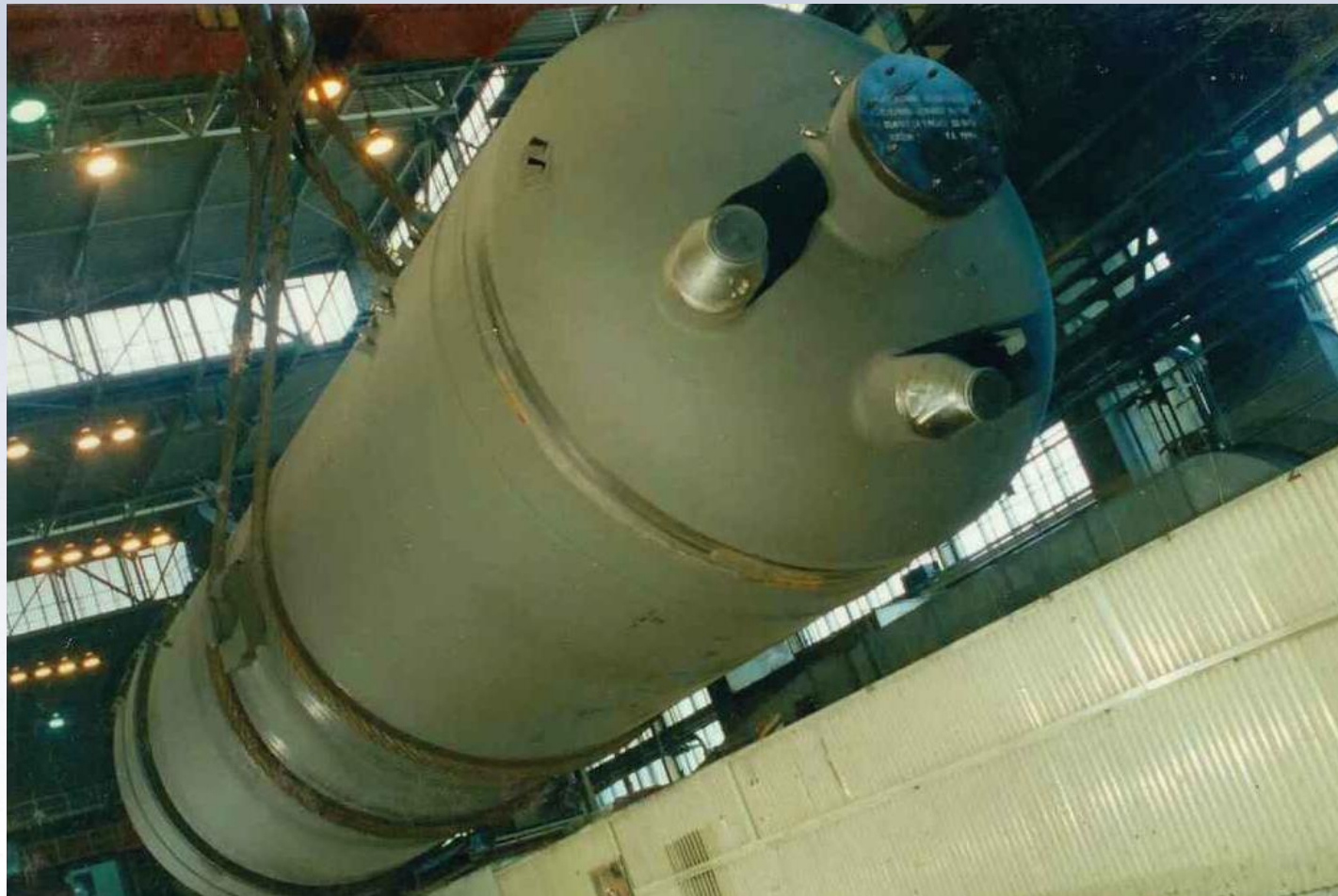




WHAT WE WOULD LIKE TO DO IN FUTURE **I.PHASE**

Pressurizer VVER 1000

- Manufactured 3 pcs



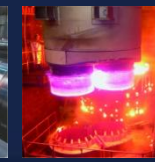


WHAT WE WOULD LIKE TO DO IN FUTURE **II.PHASE**

What we would like to deliver in frame of long term cooperation during construction of new blocks VVER 1200 starting year 2013

- Deliveries in range of first phase (set of LPH, HPH, cooler of drainage and volume compensator of one block per year)
- Start of manufacturing of steam generators shells in range of 4 pcs per year with starting of manufacturing of first piece in year 2013. Since 2017 regular shipment of 4 pieces of steam generators VVER 1200 per year
- All deliveries will include project and engineering works

This extent of works will require investment in assumed value of 600 millions crowns and extension of Nuclear power team by other 250 persons, including their training

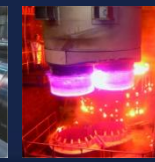


WHAT WE WOULD LIKE TO DO IN FUTURE **II.PHASE**

Steam generator VVER 1000

- Manufactured 8 pcs





WHAT WE WOULD LIKE TO DO IN FUTURE II.PHASE

Steam generator VVER 1000
Delivery for NPP JE Temelín (Czech Republic)





PRINCIPLES OF COOPERATION WITH ROSATOM COMPANY

- **Key is immediate start of cooperation.** Involving of company into comprehensive deliveries as soon as possible will lead to big efficiency of the whole process
- **Gradual production start.** It is necessary to extent capacities quickly but continuously and permanently. This is related especially to human potential, its preparation and training including preparation in Russia.
- **Cooperation not only on project NPP Temelín, but immediate cooperation on projects in Russia and in third countries.** Start of this cooperation is key for set up of cooperation for contract of NPP Temelín.

Thank you for your attention



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