

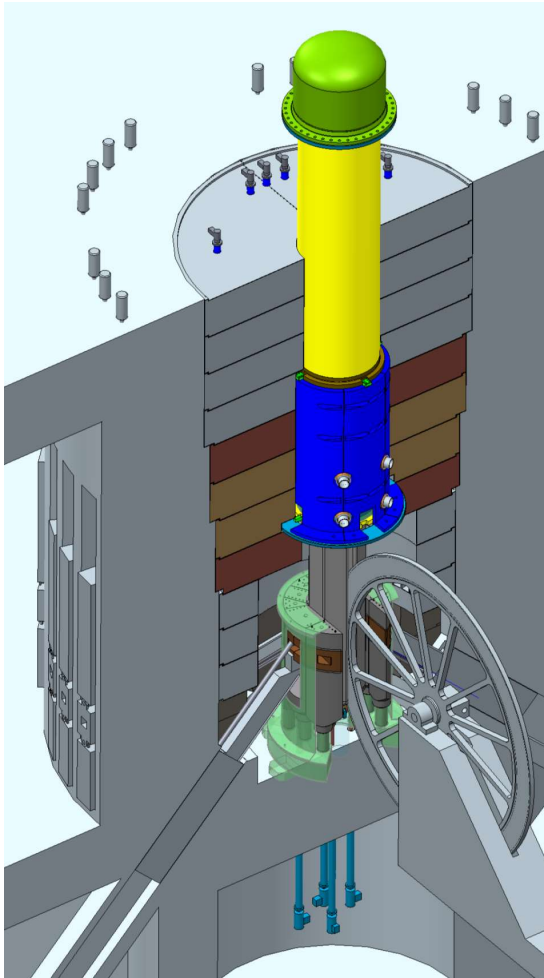
V. Shvetsov

52nd meeting of the PAC for Condensed Matter Physics

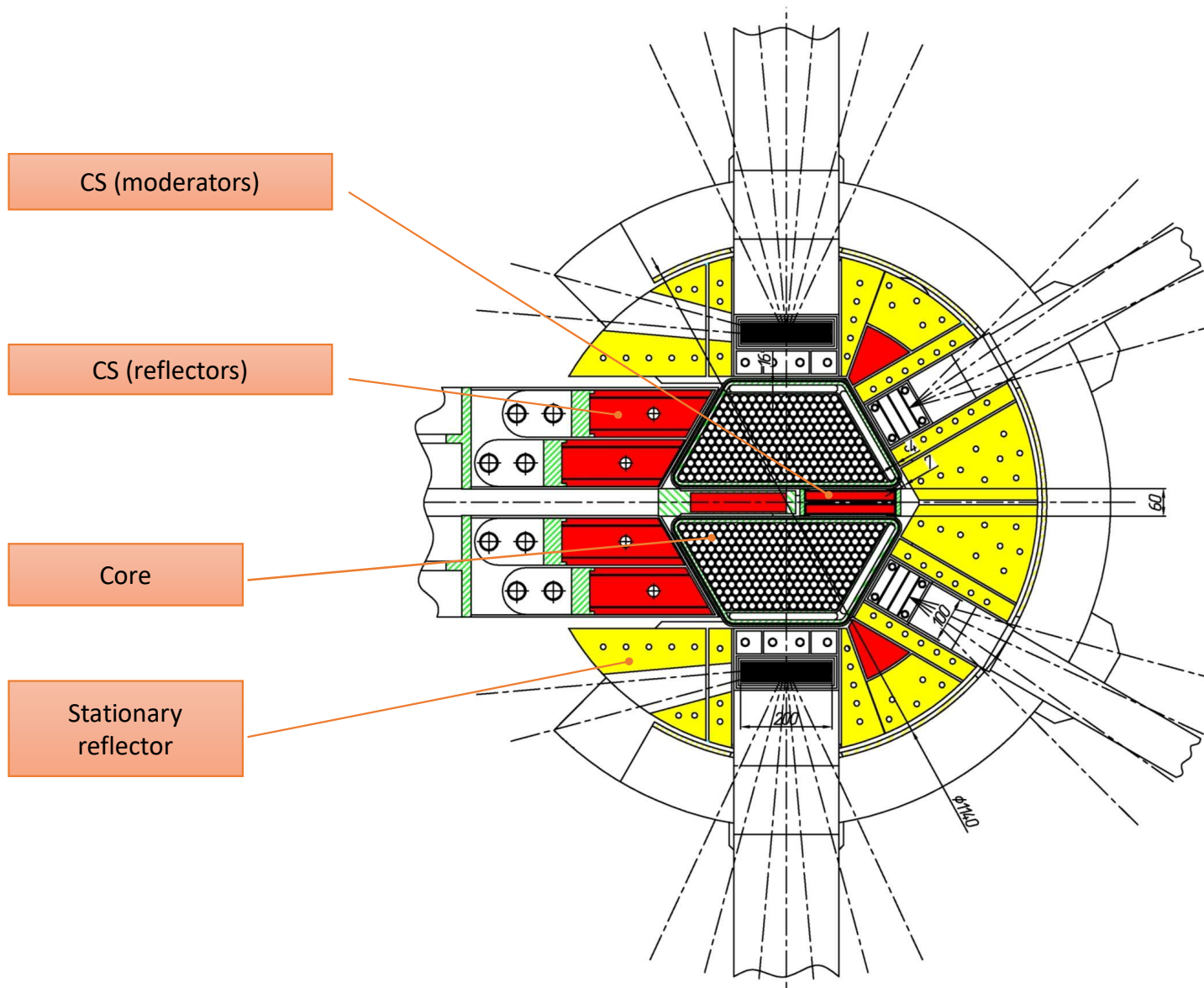
July 2, 2020, Web

## Progress report on the development of a new neutron source at FLNP JINR

# Basic parameters of the reactor



Parameter	Value
1 Average thermal power, MW	15
2 Operational mode	pulsed
3 Repetition rate, Hz	10
4 Fuel	NpN
5 Coolant	Na
6 Inlet temperature of the coolant, °C	290
7 Outlet temperature of the coolant, °C	391
8 Coolant flow through ½ of the core, kg/s	58
9 Pressure drop across the core, Pa	$0,33 \cdot 10^5$
10 Fast neutrons flux density on the reactor vessel, $10^{14} \text{ n/cm}^2 \cdot \text{s}^{-1}$	5,7
11 Fluence on the reactor vessel for 20 000 hours, $\text{n/cm}^2$	$4,1 \cdot 10^{22}$

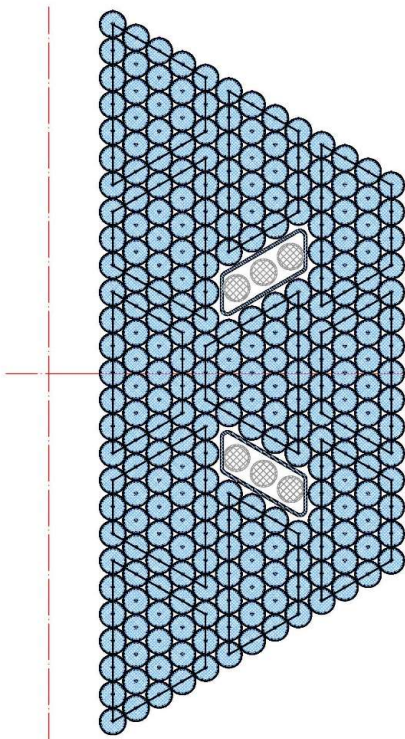


## Bearing fuel element

514 FE

FA 22 FE – 12 pc

FA 25 FE – 10 pc

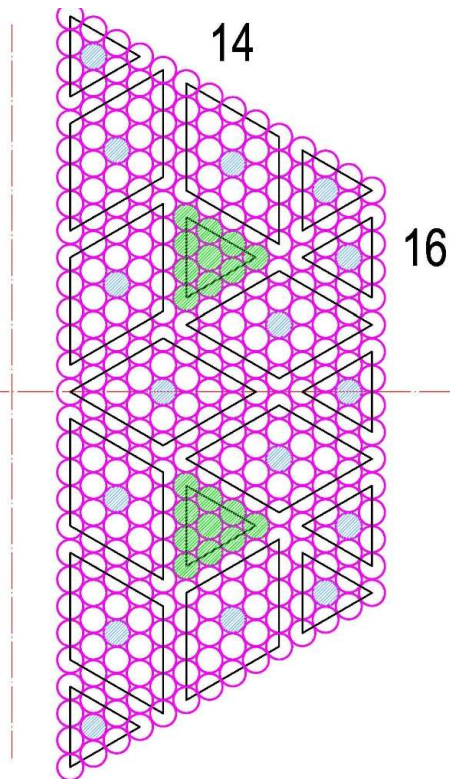


## Bearing pipe

558 FE

FA 9 FE – 14 pc

FA 24 FE – 18 pc

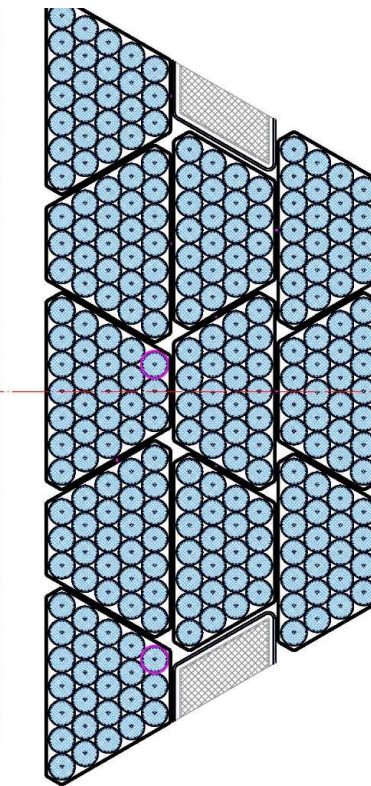


## Case assembly

514 FE

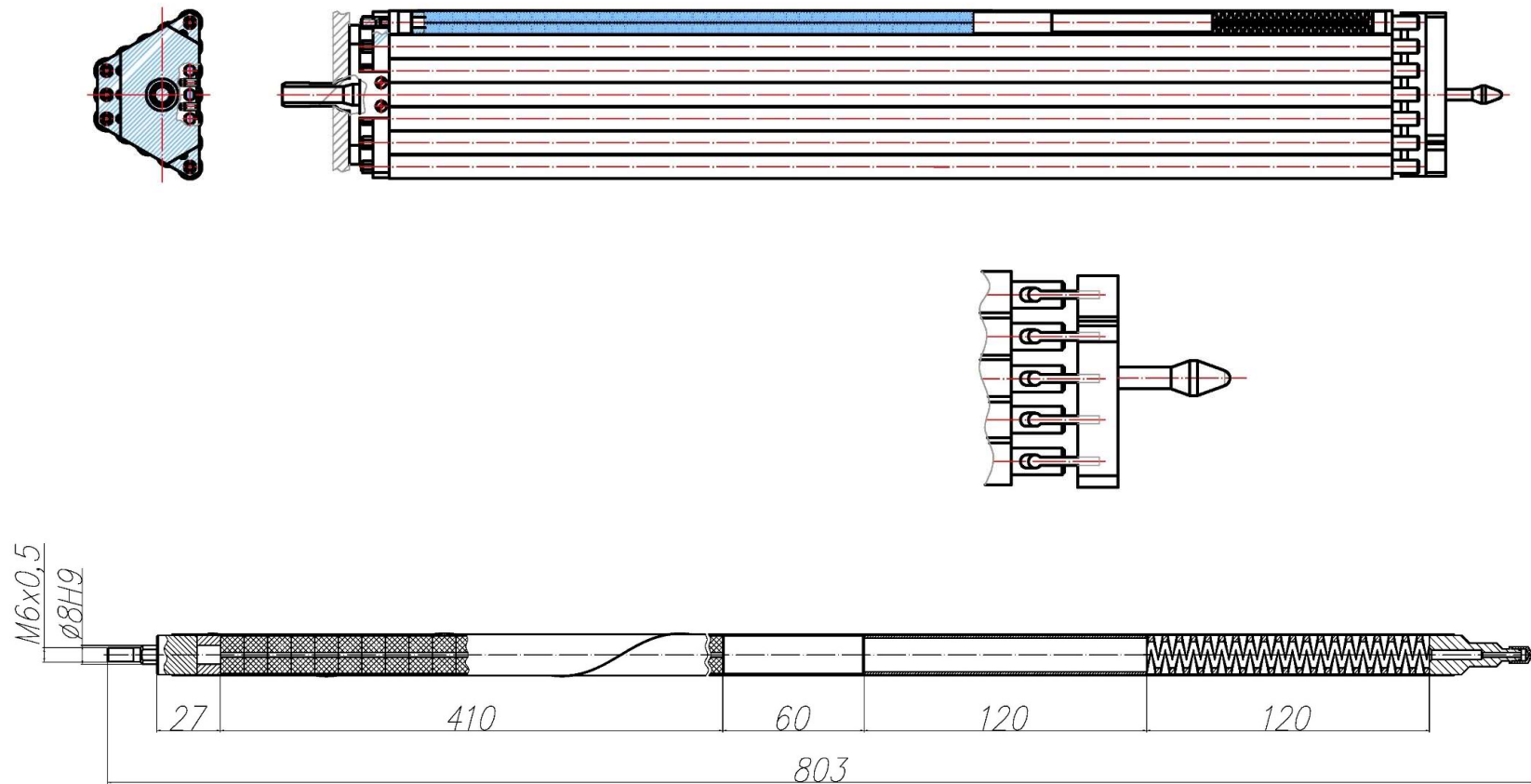
FA 22 FE – 6 pc

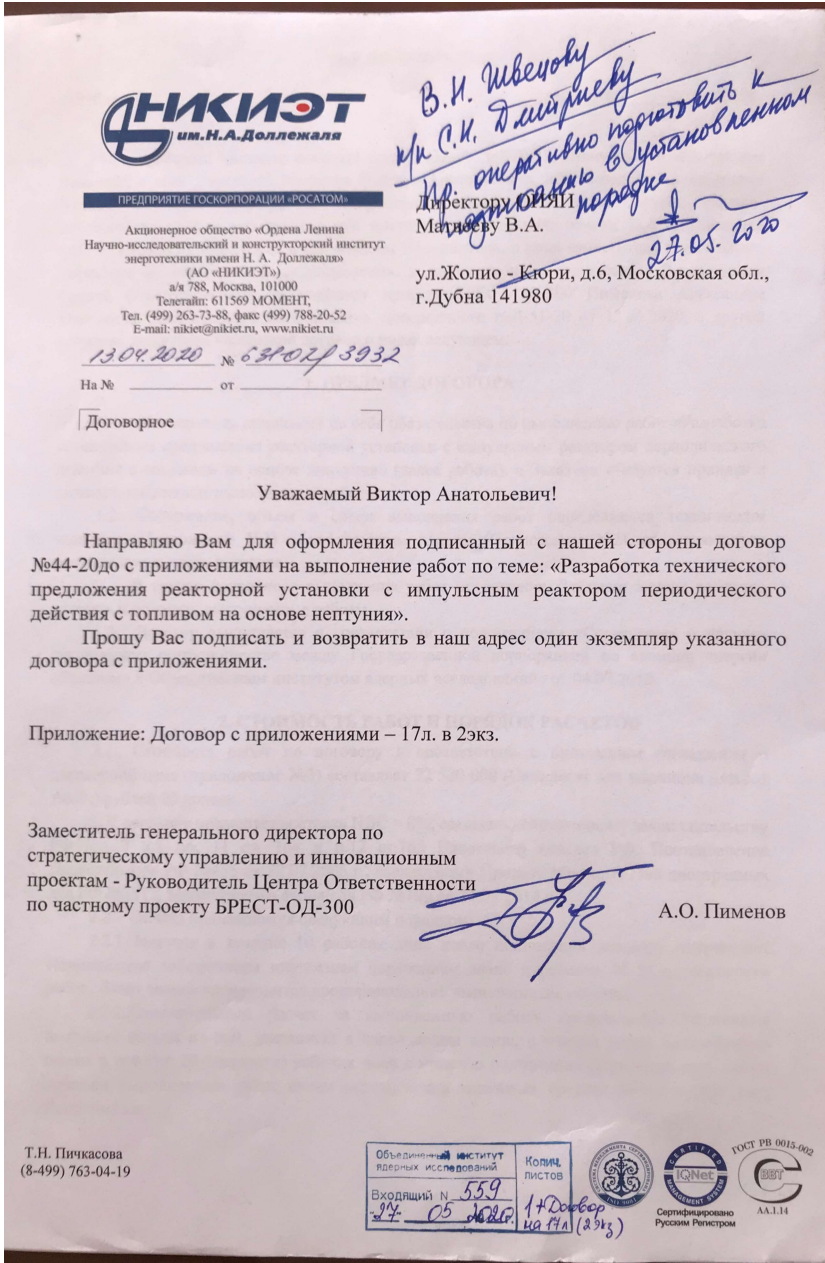
FA 25 FE – 5 pc





# ТВС 25 ТВЭЛОВ





**Contract with NIKIET is drawing up.**

**Subject – IBR-2 technical proposal, next step to the sketch design project.**

**Completion – end of 2021.**

**First contacts with Krasnoyarsk Mining and Chemical Combine – potential manufacturer of the fuel.**

**Thanks a lot for your attention!**