NUCLEAR SOLUTIONS TO MEET SPECIFIC TERRITORIAL DEMANDS

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ARCTICA

THE NEW NUCLEAR ICEBREAKER
IN DECEMBER 2018 THE PRESIDENT OF RUSSIA SIGNED A DECREE ENTRUSTING ROSATOM THE LEADING ROLE IN THE NORTHERN SEA ROUTE (NSR) DEVELOPMENT.

IN 2018, ABOUT 18 MILLION TONS OF GOODS WERE TRANSPORTED ON THE SEA ROUTE, AN INCREASE OF ALMOST 70 PERCENT FROM 2017.

“Taymir” and “Vaygach” constructed in 1989-1990 for USSR in Finland by Wärtsilä Helsinki Shipyard.
SEVMORPUT

THE WORLD’S ONLY NUCLEAR CONTAINER SHIP
LNG CARRIER
FNPP: optimized mobile solution for coastal areas power supply

**TECHNICAL PARAMETERS**

- Electric capacity: 100 MW
- Refueling cycle: up to 10 years
- Design life: 60 years
- Displacement: 12,000 tons
- Length: 112 m
- Beam: 25 m
- Draught: 4.5 m

**2×RITM-200M**

OPTIMIZATION RESULTS COMPARED WITH FNPP AKADEMIK LOMONOSOV

- by **28 m** – length reduction
- by **5 m** – beam reduction
- by **9,000 t** – displacement reduction
- **30%** – capacity increase

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Onshore NPP based on RITM Series SMR

2 × 57 MW(e) – 114 MW(e)

2 RITM-200 Reactors

Modularity available

TECHNICAL PARAMETERS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical capacity</td>
<td>114 MW (2 × 57 MW)</td>
</tr>
<tr>
<td>Thermal capacity</td>
<td>330 MW (2 × 165 MW)</td>
</tr>
<tr>
<td>Refueling cycle</td>
<td>up to 6 years</td>
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<tr>
<td>Design life</td>
<td>60 years</td>
</tr>
<tr>
<td>Availability factor</td>
<td>90%</td>
</tr>
<tr>
<td>Plant area</td>
<td>15 acres (0.06 km²)</td>
</tr>
<tr>
<td>Construction period</td>
<td>3 - 4 years</td>
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</tbody>
</table>

FLEXIBLE, TAILOR-MADE SMALL NPP SOLUTION BASED ON **RITM SMR** IS DESIGNED TO ADDRESS A WIDE RANGE OF CUSTOMER DEMANDS

- **ELECTRICITY**
- **HEAT**
- **DESALINATION**
- **H₂ HYDROGEN**

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Status of FOAK onshore NPP based on RITM-200 reactors

- ONSHORE SMR NPP: IN-DEPTH CONCEPTUAL DESIGN DEVELOPED
- R&D WORK ON FUEL WITH UNDER 20% ENRICHMENT LEVEL FOR RITM-200 REACTORS IS UNDERWAY
- ROSATOM IS CONSIDERING SEVERAL LOCATIONS FOR THE DEPLOYMENT OF THE FIRST LAND-BASED SMR NPP IN RUSSIA
- 2027 – COMMERCIAL DEPLOYMENT OF FOAK LAND-BASED SMR NPP

Sites in Yakutia

The Baim deposit

The Suroyam deposit
Nuclear to contribute to all key pillars of the sustainable development

SUSTAINABLE DEVELOPMENT
3 KEY PILLARS:

- **ECONOMIC GROWTH**
  Incorporating nuclear energy and research results in NATIONAL ECONOMY BOOST and GDP GROWTH

- **SOCIAL INCLUSION**
  Nuclear projects boost innovation development and PROMOTES EDUCATION AND R&D ACTIVITIES

- **ENVIRONMENTAL PROTECTION**
  Nuclear energy and non-energy applications contribute to climate change mitigation and ecosystem protection

NUCLEAR TECHNOLOGY IS AN EFFICIENT SOLUTION FOR COUNTRIES TO BOOST ALL THE SECTORS

NUCLEAR IS A DOORWAY TO ACHIEVE SUSTAINABLE DEVELOPMENT GOALS SET BY THE UNITED NATIONS

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