

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 144/MP/2022

**Coram:
Shri P.K.Pujari, Chairperson
Shri I.S.Jha, Member
Shri Arun Goyal, Member
Shri P.K.Singh, Member**

Date of Order: 1st June, 2022

In the matter of

Petition seeking permission to continue interchange of infirm power including drawl of start-up power under Deviation Settlement Mechanism (DSM) beyond the prescribed period of six months from the date of first synchronization i.e beyond 9.7.2022 till declaration of commercial operation date of KAPP-3 or up to 9.1.2023, whichever is earlier.

**And
In the matter of**

Nuclear Power Corporation of India Limited (NPCIL),
Nabhikiya Urja Bhavan/ Vikram Sarabhai Bhavan,
Anushaktinagar,
Mumbai, Maharashtra – 400094

...Petitioner

Vs.

Western Regional Load Dispatch Centre,
F-3, MIDC Area, Andhri (East),
Mumbai-400 094

...Respondent

ORDER

This Petition has been filed by the Petitioner, Nuclear Power Corporation of India Limited, under Clause (7) of Regulation 8 of the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium term Open access in inter-State transmission and related matters) Regulations, 2009 (hereinafter referred to as “the Connectivity Regulations”) with the following prayers:

“(a) Permit inter-change of infirm power including drawl of start-up power under Deviation Settlement Mechanism (DSM) beyond 9.1.2022 till declaration of Commercial Operation Date of KAPP-3 or 9.7.2022, whichever is earlier.

(b) Pass such order(s) as deemed fit by the Commission.”

2. Kakrapar Atomic Power Project 3 and Project 4 of the Petitioner is located at Kakrapar, Surat District in the State of Gujarat and is being implemented in two stages consisting of Unit-I and Unit-II of 700 MW each. The project is first indigenous 700 MW Pressurised Heavy Water Reactor (PHWR).

3. The Commission in its order dated 19.11.2021 in Petition No. 241/MP/2021 had allowed to draw the start-up power and to inject infirm power into the grid for commissioning tests including full load test of Kakrapar Atomic Power Project 3 (in short 'KAPP-3') up to 9.7.2022. The Petitioner has submitted that KAPP-3 was first synchronized with the grid on 10.1.2021. However, it could not be declared under commercial operation due to the following reasons:

(a) In KAPP-3, various 'First of A Kind (FOAK) Systems' i.e. Passive Decay Heat Removal System and Containment Spray System, etc. have been provided for enhancement of safety features of the plant. As per the guidelines of Atomic Energy Regulatory Board (AERB), various experiments, namely, phase-C physics experiments, secondary cycle system performance tests and TG full load rejection, etc. are required to be demonstrated successfully at lower power before raising to full power. This has added to delay in completing full load testing. Since KAPP-3 employing partial boiling of Primary Heat Transport (PHT) system, stage-wise clearance will be given for full power operation after detailed review.

(b) KAPP-3 achieved the milestone of first synchronisation with the grid on 10.1.2021 and, thereafter, started injecting infirm power into the grid. Reactor power was raised in steps to 50% of full power. In order to ensure the effective cooling of pump room air, several modifications were carried out in pump room ventilation system. For implementation of this modification work, KAPP-3 was shut down from 28.4.2021 and start up activities would commence after implementation of modification works.

(c) As the Plant design contains many new design features, resolution of issues which were observed during power operation up to 50% FP have necessitated further analysis and in-depth review at several tiers of NPCIL and regulatory body AREB.

(d) Due to covid-19 pandemic, various restrictions were imposed on inter-State movement which affected contractor and vendor support for on-going activities at site.

4. The Petitioner has submitted the current status of works and milestones of KAPP-3 as under:

(a) After completion of commissioning activities and obtaining the regulatory clearance from AERB, the reactor was made critical on 22.7.2020 and started sustained fission chain reaction for generating nuclear power in a controlled way and is one of the most important and major milestones in the lifecycle of a nuclear power plant.

(b) After reactor criticality, low power Phase B experiments were carried out and completed in the last week of September, 2020.

(c) From 28.4.2021, unit has been shutdown to carry out various modification works in areas of reactor building which are not accessible during unit operation. These modifications, which are complex in nature, are being implemented after undergoing several stages of detailed review and require clearance from the regulatory body for implementation.

(d) KAPP-3 will re-start after implementing the modification. Further raising of reactor power will be done in steps and after obtaining stage-wise clearance from AREB. Balance testing including full load testing will be carried out after raising reactor power.

5. The Petitioner has submitted that due to reasons beyond its control, it could not declare commercial operation of KAPP-3.

6. The Petition is admitted by circulation.

7. The Petitioner has submitted that due to Covid-19 pandemic, commissioning and testing activities were delayed. Accordingly, the Petitioner has sought permission for injection of infirm power including drawl of start-up power up to 9.1.2023 or actual date of commercial operation of KAPP-3, whichever is earlier.

8. We have considered the submissions of the Petitioner. The fourth, fifth and sixth provisos to Regulation 8(7) of the Connectivity Regulations provide as under:

"Provided that the Commission may in exceptional circumstances, allow extension of the period for inter-change of power beyond the period as prescribed in this clause, on an application made by the generating station at least two months in advance of completion of the prescribed period:

Provided further that the concerned Regional Load Despatch Centre while granting such permission shall keep the grid security in view:

Provided also that the infirm power so interchanged by the unit(s) of the generating plant shall be treated as deviation and the generator shall be paid/charged for such injection/drawal of infirm power in accordance with the provisions of the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014, as amended from time to time or subsequent re-enactment thereof."

9. We are of the view that non-availability of infirm power including start-up power may hamper the progress of commissioning work which resulting in further delay in declaration of COD of KAPP-3. Accordingly, we hereby allow the Petitioner to draw the start-up power and to inject the infirm power into the grid for commissioning tests including full load test of KAPP-3 up to 9.1.2023 or actual date of commercial operation, whichever is earlier. We expect the Petitioner to make all sincere efforts to ensure the synchronization of KAPP-3 of the project by this date. It is reiterated that the petitioner shall approach RLDC for necessary permission which is to be granted after considering the grid security.

10. Accordingly, the Petition No.144/MP/2022 is disposed of in terms of paragraph 9 of this order. Let an extract copy of the order be provided to the RLDC for needful and compliance.

**Sd/-
(P.K.Singh)
Member**

**sd/-
(Arun Goyal)
Member**

**sd/-
(I.S.Jha)
Member**

**sd/-
(P.K. Pujari)
Chairperson**