

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 115/MP/2021**

**Coram:**

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

**Date of Order: 9<sup>th</sup> June 2021**

**In the matter of**

Petition seeking permission to allow interchange of infirm power including drawl of start-up power from the grid under Deviation Settlement Mechanism (DSM) beyond the prescribed period of six months from the date of first synchronization i.e beyond 9.7.2021 till declaration of commercial operation date of KAPP-3 or upto 9.1.2022, whichever is earlier.

**And**

**In the matter of**

Nuclear Power Corporation of India Limited (NPCIL)  
NabhikiyaUrjaBhavan/ 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 Limiter, 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 the prescribed period of six months from the date of first synchronization i.e. beyond 9.7.2021 till declaration of Commission Operation Date of KAPP-3 or 9.1.2022, whichever is earlier.*

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

2. Kakrapar Atomic Power Project 3 and 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). The Petitioner has submitted that Kakrapar Atomic Power Project 3 (in short '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.

(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. Power could not be raised further due to abnormal increase in pump room temperature. 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 for a period of one month and testing activities were delayed.

(c) Due to covid-19 pandemic, various restrictions were imposed on employees and the contractors at workplace. During the lockdown period, large number of employees were asked to work from home and only essential services were continued. This has caused delay in construction and

commissioning activities. All attempts are being made to fast-track the project commissioning.

3. 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. Criticality is the process of commencement of sustained nuclear chain reaction for generating nuclear power in a controlled way. This is achieved by removal of certain neutron absorbing chemicals (Gadolinium and Boron) and fine adjustment of neutron absorbing rods in a safe and controlled manner. This is one of the most important and major milestones in the lifecycle of a nuclear power plant.

(b) Mass & alkaline flushing of secondary cycle system and load test of major equipment main boiler feed pumps, etc. were completed in the last week of November 2020.

(c) After completion of commissioning of secondary cycle system and reactor low power physics experiments, trial operation of turbine generator system was carried out. Accordingly, the first synchronization of KAPP-3 with the grid was achieved on 10.1.2021.

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

5. The Petition is admitted by circulation.

6. We have considered the submissions of the Petitioner. The fourth, fifth and sixth provisos to Regulation 8(7) of the Connectivity Regulations provides 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 reenactment thereof.”*

7. The Petitioner has submitted that reactor power would be raised after obtaining statutory clearances from Atomic Energy Regulatory Board and the balance testing including full load testing would be carried out after raising reactor power. It has been further stated 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 9.1.2022 or actual date of commercial operation of KAPP-3, whichever is earlier.

8. We are of the view that non-availability of infirm power including start-up power may hamper the progress of commissioning work which would jeopardize the commissioning activities and 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 9.1.2022 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.

9. With the above, the Petition No. 115/MP/2021 is disposed of in terms of paragraph 8 of this order.

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

**Sd/  
(Arun Goyal)  
Member**

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

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