

CONFIDENTIAL

**REPORT NO. 4
ASSESSMENT OF SITES
FOR LOCATING NUCLEAR POWER
PLANTS**

NORTHERN ELECTRICITY REGION

**SITE SELECTION COMMITTEE
GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
JUNE 2003**

FOREWORD

Reference is invited to Department of Atomic Energy (DAE) Office Memorandum No. 13/1(1)/98-Power/1122 dated 28th December 1998 constituting a Site Selection Committee (SSC) for setting up of future Atomic Power Stations. This Committee submitted its interim report in April 2000 covering various criteria for selection of sites, history of previous site investigations and schedule of the work to be done by SSC. Subsequently, the report titled "Report No. 1 - Additional Potential of Existing Sites for location of Nuclear Power Plants" was submitted to DAE vide letter dated 12th January 2001. Later report titled "Report No.2-Assessment of sites for locating Nuclear Power Plants in Southern Electricity Region" was submitted to DAE vide letter dated 28th February 2002. The report titled "Report No.3-Assessment of sites for locating Nuclear Power Plants in Western Electricity Region" was submitted to DAE vide letter dated 11th September 2002. The Committee also submitted the report titled "Interim Report on Overall Assessment of Sites for Locating Nuclear Power Plants" vide letter dated 9th December 2002.

This report titled "Report No.4-Assessment of sites for locating Nuclear Power Plants in Northern Electricity Region" has now been prepared and the same has been considered and approved for submission to DAE by the SSC in it's meeting held on 20th May 2003. This report covers sites in Northern Electricity Region.

Following sites have been recommended as per details and conditions indicated in the report:

<u>Location</u>	<u>District</u>	<u>State</u>
Kumharia	Fatehabad	Haryana
Patran	Patiala	Punjab
Mahi-Banswara	Banswara	Rajasthan
Rawatbhata	Chittorgarh	Rajasthan
Narora	Bulandshahr	U.P.

The evaluation with respect to site at Rawatbhata and Narora had already been covered in the earlier Report No.1. However it is now re-evaluated for

setting up of additional 2X700 MWe PHWRs. The report also indicates order of merit of the sites in the Northern Electricity Region as below:

<u>Location</u>	<u>District</u>	<u>State</u>
Rawatbhata	Chittorgarh	Rajasthan
Narora	Bulandshahr	U.P.
Kumharia	Fatehabad	Haryana
Patran	Patiala	Punjab
Mahi-Banswara	Banswara	Rajasthan

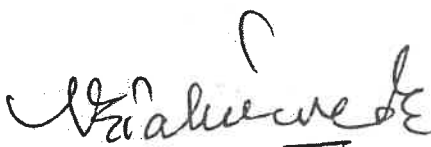
The characteristics of Rawatbhata and Narora sites have been compiled based on available data supplemented by information with NPCIL (RAPS-1 to 4, RAPP-5&6 and NAPS-1&2). Site related data for Kumharia site in Haryana, Patran site in Punjab and Mahi-Banswara site in Rajasthan have been furnished by Nodal State Govt. agencies, viz. Haryana Vidyut Prasaran Nigam (HVPN), Punjab State Electricity Board (PSEB) and Rajasthan Rajya Vidyut Prasaran Nigam (RRVPN), nominated by Haryana State Govt., Punjab State Govt. and Rajasthan State Govt. respectively, for co-ordinating with the SSC. This has been supplemented by the data compiled by the previous SSC on these sites.

Working Group members, drawn from the various organisations i.e. Bhabha Atomic Research Centre (BARC), Atomic Minerals Directorate for Exploration & Research (AMD), Central Electricity Authority (CEA), Union Ministry of Environment and Forests (MOEF) and Units of NPCIL, have participated in collection scrutiny and review of the site related characteristics and also in preparing the recommendations and conclusions.

I wish to thank the members of SSC and the members of the Working Group for the co-operation in preparing this report.

Mumbai

16-06-03



(V. K. Chaturvedi)

Chairman & Managing Director &
Chairman, Site Selection Committee

breaches in canal from natural and man made causes. Present Committee corresponded with Punjab Government for suggesting any new sites and reevaluation of Patran site. No new site was suggested by Punjab Government and only Patran site was reevaluated.

In Rajasthan Hayath Committee in 1961-62 investigated Tulsonka Namla on Jaisamand lake near Udaipur. Because the site was too far from existing electrical grid and large scale fishing in the area, it was not considered suitable (water availability was also not dependable). Hayath Committee also investigated Rawatbhata site and recommended for setting up Nuclear Power Plant. India's first PHWRs were set up at Rawatbhata followed later by number of units. Chakravarti Committee in 1972 recommended Rawatbhata for further expansion. Kati Committee investigated Bayana, Panchana, Jaisamand, Rawatsar, Rawatbhata and Mahi-Banswara. Bayana and Panchana did not have satisfactory source of water. Jaisamand also did not have sufficient water due to irrigation commitments. Srinivasan Committee agreed with this view. At Rawatsar, source of water is Rajasthan main canal. During closure periods a pond will have to be constructed which was considered expensive. In the general area around, ground subsidence on account of salt deposits is reported. Also the site is near to International border (94 km). Hence Rawatbhata and Mahi-Banswara were the two sites Srinivasan Committee recommended after detailed investigations. Present Committee corresponded with the Rajasthan Govt. for suggesting any new sites and reevaluation of Mahi-Banswara site. Rajasthan Govt. suggested Dholpur, Rodhain, Sankarpur, Rundhgajpura and Gaupipla. The sites at Dholpur, Rodhain and Sankarpur did not have good foundation conditions and reliable source of water hence were not considered for further investigations. Gaupipla site is situated on a small river Wakal. The source of water was not reliable and so this site was not considered further. The site at Rundhgajpura had good foundation conditions but source of water is through Chambal river which is 8 km from site. Further, about the 160 mtr. of pumping head for cooling water is required. Since the stretch of Chambal down stream of Kota barrage is declared as crocodile sanctuary, clearance from environmental angle for construction of barrage for assured supply of water for the plant will be difficult. State Govt. has been requested to carry out investigation in the area for locating a site closer to water source with practical pumping head. At Mahi-Banswara, the State Govt. has still not assured the water availability. Present Site Selection Committee has evaluated Mahi-Banswara (subject to availability of water) and existing Rawatbhata site for expansion.