

LIST OF POTENTIAL 132kV NODES FOR GENERATION CONNECTION SCHEME

In preparing for Virtual Power Purchase Agreement (VPPA) through Corporate Green Power Program (CGPP)

Grid Technical Solutions, Grid Planning, Grid Strategy Grid Division, Tenaga Nasional Berhad

November 2022



Objective



- To provide the latest list of potential nodes at 132kV grid system for generation connection scheme
 - The information is to be incorporated in the scheme participation Request for Proposal or any document with regards to CGPP/VPPA

Disclaimer:

The list is based on preliminary assessment & provided as an indication for generation connection scheme i.e., CGPP/VPPA. Any further nodal point proposed will be subjected to the power system study and feasibility/availability with regards to the reliability of the grid system network.

General Remarks



- The list of nodal points provides potential substation for connection based on network & physical availability
 - Due to generation surplus in Southern region, new generation connection is not recommended in Southern region
 - Bidders/Developers are to hold full responsibility & undertake any constraints at the listed substations.
- For security reason, access to the substations is only allowed for successful bidders/developers
 - Bidders/Developers are advised to <u>utilize public & available platform</u> to determine the suitability for connection in term of access, space availability in the control building etc.
- The proposed connection to the nodal points/grid system shall be subjected to power system assessment & respective prudent practice by TNB under purview/ jurisdiction of Grid Owner
- Maximum allowable capacity subjected to PSS for injection at 132kV. If any violation found, the allowable capacity is limited based on the PSS findings.
- It is advisable to have one proposal per one nodal point due to the following reasons:
 - To avoid dispute between SPDs should the allowable capacity is limited
 - To ensure smooth project implementation

<u>Notes):</u>

- 1. PSS: Power System Study
- 2. SPD: Solar Power Developer

List of Potential Nodal Points for Generation Connection Scheme



Kedah/Perlis -					Kelantan Substation Full	Name Remark	Better. Brig
Substation Full Name Rema	irk		2	m	PMU Kand		
PMU Taman Intan -		2		$\gamma \rightarrow 1$	PMU Rantau Pa		by 2043
PMU Aman jaya Due for reha	b by 2038				PMU Tunju		
PMU Bukit kayu Hitam Due for reha	b by 2038						
PMU Mergong Due for reha	b by 2038		$\int \int \nabla$		┌──→	Terengganu	
PMU Kuala Ketil ¹ Due for reha	<mark>b by 2038</mark>			```		Substation Full Name	Demeril
PMU Kuala Muda South ² Land acquisiti	on required	\sim				PMU Batu Rakit	Remark
PMU Guthrie Land acquisiti	on required		ر ر	\frown		PMU Balu Rakit PMU Chukai	Due for rehab by 2044
		1	2 {	\bigcirc	<pre> </pre>	PMU Kertih	- Due for rehab by 2040
Pulau Pinang			7 2		{	PMU Santong ³	
			< <u> </u>		}	v	Land acquisition required
Substation Full Name	Remai	rk	$\left\{ \begin{array}{c} \\ \end{array} \right\}$				
PMU Batu Kawan South	-				5		
PMU Simpang 4 East	-		- Church			Pahang	
PMU Nibong Tebal	Due for rehat	by 2038				ranang	
PMU Tasik Gelugor Switching Station	_			<u>``</u>		Substation Full Name	Remark
· · · · · · · · · · · · · · · · · · ·					{	PMU Gebeng Industrial	¹⁴ Due for rehab by 2044
			has -		6	PMU Jambu Rias	-
Perak -				\sim	\sim	PMU UIA Malaysia	_
Substation Full Name	Remark					PMU Kuantan	-
	vehildin	-	Selangor 🚽 🔪	\sim			

Substation Full Name	Remark	
PMU Kelebang	Due for rehab by 2041	
PMU Pengkalan Industri	-	
PMU Proton City	Due for rehab by 2044	
PMU Sri Iskandar	-	
PMU Kampung Gajah	-	
PMU Lumut Maritime	Due for rehab by 2044	
PMU Teluk Intan East	_	
PMU Meru Raya	Land acquisition required	

Substation Full Name	Remark
PMU Bandar Baru Salak Tinggi	_
PMU Abu Bakar Baginda	Due for rehab by 2040
PMU Bandar Botanic	_
PMU Setia Alam	-
PMU Ulu Yam	_
PMU Kota Kemuning	Due for rehab by 2042
PMU Rasa Industrial	Due for rehab by 2038

Notes:						
•	Existing	LSS:				
	1.	50MW				
	2.	<mark>91MW</mark>				
	3.	30MW				
	4.	30MW				
	-					

• Any proposed injection (i.e., switching station) which not included in the list above shall be assessed by case basis



h.h.ii

1

Hank