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Media Release

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## **MENGGUANG DAM EXPANSION PROJECT (MDEP): PENANG NEEDS 2 MORE COMPONENTS TO MITIGATE HIGH WATER RISKS**

- **MDEP Package 2C: 440 MLD Lahar Yooi Pumping Station to pump water from Sungai Muda to refill dam during wet seasons**
- **MDEP 400 MLD Drawdown Upgrade Pipeline Project to enable 1,000 MLD drawdowns from the Expanded Mengkuang Dam (EMD)**

PENANG, Monday, 29.4.2024: Penang needs the kind support of the Ministry of Energy Transition and Water Transformation (PETRA) to complete 2 more components of the Mengkuang Dam Expansion Project (MDEP) to mitigate high water risks.

Earlier today, PETRA Undersecretary of Development Division, En. Amisam bin Ismail, visited the Expanded Mengkuang Dam (EMD) site in Seberang Perai.

To date, the following MDEP packages have been completed by the Federal Government and handed over to the Penang State Government and PBAPP:

MDEP: Completed Packages		Handed over
1	Expansion of the dam's effective capacity from 22,000 million litres (ML) to 86,400 ML	26.11.2020
2A	Increasing the raw water pumping capacity of the Mak Sulong Pumping Station from 200 million litres per day (MLD) to 400 MLD from Sungai Kulim	
2B	Laying 7km of 1.6m raw water pipelines from the Mak Sulong Pumping Station to the Sungai Dua Canal to increase maximum drawdown capacity from 300 MLD to 600 MLD	15.2.2024

PETRA is also implementing an estimated cost of RM200 million project to build a new barrage and the related components at Rantau Panjang, Seberang Perai, to replace an outdated 51-year-old barrage. The new barrage should enable more effective and efficient management of Sungai Muda river water levels for optimal raw water abstraction.

PBAPP thanks PETRA for undertaking the new Rantau Panjang Barrage project for the benefit of Penang.

However, 2 more MDEP components are needed for the EMD to function fully as a “major back-up raw water resource” for Penang towards 2030. There are 3 compelling factors that are driving the need for these components:

- Higher water consumption in Penang: 877 million litres per day (MLD) in 2023 and 927 MLD in February 2024.
- Climate change: Rainfall in the water catchment areas (WCAs) of Penang’s dams have become less consistent. Climate change is also affecting rainfall in the WCA for Sungai Muda (Penang’s one and only primary raw water resource), as well as the WCAs for the Muda Dam and Beris Dam in Kedah that release water into Sungai Muda.
- Sungai Muda mishaps: The “Baling Flood Waters 1” incident in July 2022, the “Sudden Drop in Sungai Muda Level” incident in May 2023 and the “Baling Flood Waters 2” incident in September 2023. All of these mishaps occurred in Kedah but affected water supply for about 465,000 water consumers in Penang.

### **Package 2C and 400 MLD Drawdown Upgrade Pipeline**

The 2 components that Penang needs are:

1.	Uncompleted MDEP Package 2C: Construction of the 440 MLD Lahar Yooi Pumping Station to pump water from Sungai Muda to refill the EMD during wet seasons.
<b>Rationales</b>	
a.	Rapid refilling by tapping a second river during wet seasons.
b.	Presently, the Mak Sulong Pumping Station may pump a maximum of 400 MLD from Sungai Kulim to refill the EMD. However, the EMD’s maximum effective capacity is 86,400 million litres (ML). The existing maximum daily refilling capacity is only 0.46% of the dam’s maximum effective capacity.
c.	Under its Water Contingency Plan 2030 (WCP 2030), PBAPP is planning to build a new water treatment plant (WTP) near the EMD in 2025. This Mengkuang WTP will unlock the potential of the EMD as a “daily dam” that needs to be refilled regularly.



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2.	400 MLD MDEP Drawdown Upgrade Pipeline: EMD to the Sungai Dua Canal
Rationales	
a.	Upgrading the drawdown capacity of the EMD to 1,000 MLD so that the EMD may be deployed as a fully functional “back-up resource” to Sungai Muda.
b.	PBAPP abstracts more than 1,000 MLD from Sungai Muda to support water treatment operations at the Sungai Dua WTP. However, the maximum drawdown capacity from the EMD is limited to 600 MLD (as at April 2024).
c.	The Sungai Dua WTP “serves” about 465,000 consumers in Seberang Perai and Daerah Barat-Daya (DBD) on Penang Island. If PBAPP can draw down 1,000 MLD from the EMD during emergency scenarios, short-term mishaps involving Sungai Muda should not affect water supply for 465,000 water consumers in Penang.

### **Proposed Sungai Muda “Off-River Storage Scheme”**

During the EMD visit today, PBAPP also briefed En. Amisam bin Ismail about an additional back-up project that will also mitigate Penang’s Sungai Muda risks: the proposed “Off-River Storage Scheme” (ORSS) near the Lahar Tiang Intake in Seberang Perai.

The objective of this ORSS is to store 2,000 ML of raw water to support the Sungai Dua WTP for 48 hours. The ORSS reserves may be pumped to Sungai Dua WTP when there is a Sungai Muda mishap.

### **Mitigation of High Water Risks**

As a small state with limited raw water resources, Penang is facing high water risks in 2024.

As at 27.4.2024, the effective capacity of the Air Itam Dam was 32.1%. Over the past 2.5 months, PBAPP has been “defending” the reserves of this dam through its Air Itam Dam Action Plan 2024 (AIDAP 2024).

Under the AIDAP 2024, PBAPP reduced daily drawdowns from the dam by 75% while pumping 33 MLD of treated water into the Air Itam from the Sungai Dua WTP. The Sungai Dua WTP treats raw water from Sungai Muda.

Hence, even water supply in Air Itam today is highly dependent on raw water from Sungai Muda daily and the EMD during prolonged dry seasons and emergencies.

With these considerations in mind, PBAPP seeks the support of PETRA to kindly undertake Phase 2C of the MDEP as well as the 400 MLD MDEP Drawdown Upgrade Pipeline as soon as possible.



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Penang urgently needs a fully functional and effective EMD (as well as the Sungai Muda ORSS) to mitigate high water risks and achieve a decent level of water supply security towards 2030.

Thank You.

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