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PRESS STATEMENT

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STUDY ON PROJECTS TO MITIGATE PENANG'S RAW WATER RISKS TO BE TABLED IN EARLY 2021

- **PBAPP plans to present a feasibility study on the “Penang Water Supply Initiatives 2050” to the State Government in Q1 2021.**

PENANG, Tuesday, 22.12.2020: An independent feasibility study on contingency plans to mitigate Penang's raw water risks in the near future will be tabled for review by the Penang State Government in the first quarter of 2021.

Perbadanan Bekalan Air Pulau Pinang Sdn Bhd (PBAPP) is planning to present the study on its proposed “Penang Water Supply Initiatives 2050” (PWSI 2050) projects to the Penang State Executive Council for review and approval.

The initial PWSI 2050 contingency projects proposed in 2019 include:

1. **Package 12A of the Sungai Dua Water Treatment Plant (WTP)**
Potential yield: 114 million litres per day (MLD)

Package 12A involves the construction of a new 114 MLD water treatment module in the Sungai Dua WTP.

2. **Sungai Perai Water Supply Scheme (SPWSS)**
Potential yield: 136 MLD

The SPWSS is aimed at tapping Sungai Perai as an additional raw water resource for Penang. Previous water engineering studies have indicated that raw water from this river may not be safely treated using conventional water treatment technology. As such, the SPWSS will explore the possibility of employing alternative water treatment technologies to “treat” the raw water safely for human consumption.

3. Phase 1 of the Penang Desalination Water Supply Scheme (PDWSS) Potential yield: 250 MLD

Phase 1 of the PDWSS proposes the construction of a sea water desalination facility in the southern area of Penang Island. Its purpose is to address the increasing water supply needs in Balik Pulau and the surrounding areas, as well as for the Penang South Reclamation (PSR) project towards 2030. Phase 1 is scheduled for commissioning in December 2024.

Subsequent phases may be implemented until 2050. Since Penang is surrounded by sea, it has theoretically unlimited access to usable sea water for desalination.

The feasibility study takes into consideration the following factors:

- Updated projections of water demand in Penang towards 2050 (based on actual PBAPP data recorded from 2010 to 2019, as well as projected water demand from new development projects in Penang).
- Timeline considerations to mitigate raw water risks by 2025.
- Feasibility of the proposed projects and technologies.
- Costs and options.

PENANG'S PRIMARY RAW WATER RISKS

As a state with a small geographical footprint, Penang is a state with unlimited socioeconomic resources but very limited raw water resources. Our raw water risks are related to two key rivers that represent raw water resources:

- **Sungai Muda** (Yield: 1,200 MLD per day for Penang in 2020)

Since 1974, Penang has been largely dependent on one primary raw water resource: Sungai Muda. As at 2020, PBAPP abstracts more than 80% of the raw water that Penang needs daily from this river, at its Lahar Tiang Intake in Penang.

However, it has been projected that Sungai Muda may reliably meet Kedah and Penang's combined raw water needs only until 2025.

Moreover, PBAPP is concerned with the impact of logging in Ulu Muda (Kedah), the water catchment area for Sungai Muda.

Recently, Kedah has also raised a proposal to allow the mining of rare earth elements (REE) in the 163,000 hectare Greater Ulu Muda Forest Complex. REE mining poses the triple threat of environmental destruction, land and water pollution, and raw water contamination.

- **Sungai Perak**
(Projected Yield: 2,000 MLD by 2050 for both Penang and Perak State)

In 2011, when Penang migrated to the National Water Services Restructuring Initiative (NWSRI), the Federal Government agreed to fund and implement raw water resource projects for Penang. Since then, PBAPP has proposed the implementation of the Sungai Perak Raw Water Transfer Scheme (SPRWTS).

As at December 2020, talks between the state governments of Perak and Penang have reached a “stalemate”. This is because Penang wishes to buy raw water from Sungai Perak (located entirely in Perak), while Perak wants to sell Penang treated water.

For now, it appears unlikely that the Phase 1 (250 MLD) of the SPRWTS will materialise by 2025, the deadline for PBAPP to tap a second and alternative raw water resource for Penang (to complement Sungai Muda).

2025 DEADLINE

PBAPP has proposed Package 12A of the Sungai Dua WTP, the SPWSS and the PDWSS to mitigate Penang’s raw water risks by 2025.

However, kindly note that these initial PWSI 2050 projects do not fully mitigate Penang raw water risks, vis-a-vis:

- Continued abstraction of raw water from Sungai Muda on a daily basis.

- Conservation of Ulu Muda as a Northern Corridor Economic Region (NCER) water catchment area.
- Tapping of Sungai Perak as a second major raw water resource.

The initial PWSI projects were originally conceptualised to complement, and not replace, the existing Sungai Muda Water Scheme and the proposed SPRWTS.

That said, the PWSI may be expanded or modified to address crisis scenarios, such as REE mining in Ulu Muda that will affect both the quantity and quality of the raw water that is available from Sungai Muda.

For example, Penang may consider the option of pursuing larger scale desalination projects to better insulate the state from long-term raw water risks until 2050. However, the price for achieving raw water security via desalination technology will be high.

In Singapore, desalination and water recycling technologies are employed alongside conventional water treatment operations. The revised water price for the first 35,000 litres of domestic consumption in Singapore is now RM8.32 (SGD2.74) per 1,000 litres, inclusive of water conservation tax and waterborne fee.

Penang's current average tariff for the first 35,000 litres of domestic consumption per month is RM0.32 per 1,000 litres.

Thank You.

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