

Technical Visit to Cameron Highlands Sultan Idris (II) Woh Power Station

ELECTRICAL ENGINEERING TECHNICAL DIVISION

reported by



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EM Electrical Engineering Technical Division (EETD) organised a technical visit to Cameron Highlands Sultan Idris (II) Woh Power Station on 13 February 2017. This was the first activity for EETD in 2017.

A total of 22 participants registered for the event and 3 self-drove from Kedah and Perak. The other participants departed from IEM early in the morning and reached the power station at about 10 a.m. where they were warmly welcomed by Mr. Tan Beng Wee, the Occupational Safety Health & Environment Manager, Encik Nik Faris, the Senior Engineer (Production), and several other TNB personnel.

Mr. Tan gave a safety briefing and asserted the importance of safety during the site visit later. He highlighted emergency and safety precautions such as safety exit points/routes, procedure for evacuating the building and designated areas for gathering. He said we should not panic should an emergency arise. The taking of photographs was strictly prohibited during the visit to the power plant.

Then Encik Nik Faris made a presentation on the overview of the Cameron Highland hydroelectric scheme which spanned Kelantan, Pahang and Perak.



Mr. Alex Looi presenting a token of appreciation to Encik Nik



Group photo of the participants

There are a total of 7 power stations, including 2 underground stations at Jor and Woh. Robinson Falls was commissioned in 1959, followed by Woh in 1967 and the total cost of the project at that time was RM267 million. The entire Cameron Highland hydroelectric scheme has a total generation capacity of 633MW, with 622MW being exported to the grid and the remainder for local consumption.

The Woh Power Station uses the vertical Francis turbine. All the stations are connected by 40km of water tunnels. The total catchment area is spread over 394.4 sq. km. and there are 15 water intakes. The power plants are actually "peaking" power plants, in the sense that they operate based on demand from the National Load Dispatch Centre in Bangsar, Kuala Lumpur. On a daily average, the power plants operate 8 hours during the day as power demands peak in the morning, noon and evening.

At the end of the presentation, there was a brief Q&A session where questions included one on the selection of turbine. According to Encik Nik, the Pelton turbine was generally preferred in high head application while the Francis turbine was preferred in high volume application.

The delegation then visited the generation areas of the plant. The participants were transported in vans to the turbine and power generation areas. The Woh Power Station has a head of 40m and the turbines rotate at 600rpm with the generators having 10 poles. Each of the 3 generators has a capacity of generating 50MW running at 0.9 power factor.

The participants were able to observe and ask question about the working principles of turbines, generators, transformers and the control systems in place for regulating and keeping the entire operation running smoothly.

The visit ended with Mr. Alex Looi presenting a token of appreciation to Encik Nik. ■

IEM DIARY OF EVENTS

Title: 1-Day Short Course on Design of Pumping Drainage System for Urban Stormwater Runoff - Rescheduled from 18 May 2017

15 June 2017

Organised by : Water Resources Technical Division
Time : 9.00 a.m. - 5.25 p.m.
CPD/PDP : 6

Title: Talk on "Solving Engineering Problems by Systematic Innovative Approach: Acquiring TRZ as your Skill"

5 July 2017

Organised by : Urban Engineering Development Special Interest Group
Time : 5.30 p.m. - 7.30 p.m.
CPD/PDP : 2

Title: Talk on Global Landbridge (OBOR) and Ocean Thermal Energy (OTEC) " Using the Engineering Finance Methodology in Designing "Cost Efficient" Projects to Enhance the Return on Investment

8 July 2017

Organised by : Oil, Gas and Mining Engineering Technical Division
Time : 9.00 a.m. - 11.00 a.m.
CPD/PDP : 2

Kindly note that the scheduled events below are subject to change. Please visit the IEM website at www.myiem.org.my for more information on the upcoming events.