



# THE INSTITUTION OF ENGINEERS, MALAYSIA

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## TECHNICAL VISIT TO CAMERON HIGHLANDS SULTAN IDRIS (II) WOH POWER STATION

(Organised by Oil, Gas and Mining Technical Division)

BEM Approved CPD/PDP hours: 3.5 Hours

Ref No: IEM15/HQ/281/V

Date : **10<sup>th</sup> September 2015 (Thursday)**  
Time : **7.00 am – 2.30 pm** (Assemble at Bangunan Ingenieur by 6.45 am)  
Venue : SSJ Cameron Highlands, TNB Generation Division, Beg Berkunci 100, 35009 Tapah, Perak Darul Ridzuan.  
Transport : Coach will be provided. **(Coach will depart at 7.00 am sharp)**

### BACKGROUND

Cameron Highlands Power Stations consists of two hydro electric schemes, the upper Cameron Highlands Hydro Electric scheme and the lower Batang Padang Hydro Electric scheme. These two schemes are spanning three states in peninsular Malaysia. The schemes started from the Plaur diversion intake at the border of Kelantan and Pahang, across Cameron Highlands district in Pahang and ends at the tailrace of Odak power station in Perak. The station operated since 1959 until today as a hydro electricity contributor to fulfill electricity demand. After operating more than 40 years, Life Extension Project (LEP) of this station was executed to improve station availability and efficiency. Under this project, the old systems are replaced with new technology employing best practices in power generation.

Sultan Idris II Power Station (Woh Power Station) is an underground power station with natural ground level, 900 feet below surface. The Power Station is located at the 7<sup>th</sup> mile road to Tanah Rata from Tapah. The Machinery Hall and Lower Valve Chamber were excavated out of solid granite. The Powerhouse is equipped with three vertical shaft Francis turbines running at 600 rpm with a static head of 1380 feet. The turbines are directly coupled to vertical shaft alternators delivering 50 MW at 0.9 power factor. Water is mainly supplied from Jar Reservoir via the Menglang Tunnel that is 9 miles long. Three small side stream intakes are situated along the line of Menglang Tunnel to waters from the Sungai Woh catchments. Menglang Tunnel supplies water to the two high-pressure penstocks of the Station. The water is led away from the turbines through a tunnel. This tailrace tunnel is one mile long and has an equivalent diameter of 16 feet.

| TIME     | ITINERARY   |
|----------|---|
| 7.00 am  | Bus departs from IEM, PJ  |
| 10.30 am | Arrival and welcoming remarks   |
| 11.00 am | Presentation of Cameron Highlands Sultan Idris (II) WOH Power Station |
| 12.00 pm | Q&A Session   |
| 12.30 pm | Site visit to Cameron Highlands Sultan Idris (II) WOH Power Station   |
| 2.30 pm  | Adjourn   |

- ✓ The visit is strictly limited to **30 participants** registered on a first-come, first-served basis.
- ✓ Interested participants are to register and pay online at [www.myiem.org.my](http://www.myiem.org.my) or register by returning the appended registration form **before 7 SEPTEMBER 2015** together with the payment.
- ✓ Cheques are to be made payable to **The Institution of Engineers, Malaysia**.
- ✓ Please note that the commitment fee must be settled prior to the visit. Payment on the day of the visit is not acceptable.
- ✓ After this closing date, IEM reserves the right to allocate seats on first come first pay basis.
- ✓ Members are also reminded that if a place is reserved, IEM may cancel the reservation if payment is not received.

**Ir. Ahmad Rafidi Mohayiddin**  
Chairman  
Oil, Gas and Mining Technical Division

**Commitment fees exclusive of GST  
(Non refundable & non transferable)**  
**IEM Member : RM 60.00**  
**Non Member : RM 90.00**

- REPLY SLIP -

Fax: 03-7957 7678 Email: [norshafiqah@iem.org.my](mailto:norshafiqah@iem.org.my)

### TECHNICAL VISIT TO CAMERON HIGHLANDS SULTAN IDRIS (II) WOH POWER STATION

I wish to participate in the above visit on **10<sup>th</sup> September 2015**. I enclosed herewith a cheque No.....for the amount of RM..... as my commitment fee for the visit.

Name:..... Membership :.....Grade:.....  
Company:..... Designation :.....  
Contact Number :..... IC Number :.....  
Address:.....

I will be participating in the visit at my own risk and hereby indemnify fully the IEM from all claims arising from any injury, damage or loss that may be sustained by me.

.....  
Date

.....  
Signature