

出國報告（出國類別：開會）

## 出席「第一屆 IERE TIS-Asia GTC 會議」報告

（裝訂線）

出國人： 服務機關： 台灣電力公司  
職 稱： 綜合研究所副所長  
姓 名： 徐真明（063127）  
出國地點： 印 尼  
出國期間： 97年12月18日至12月20日  
報告日期： 中華民國 98年02月04日  
出國計畫： 97年度第76號



## 行政院及所屬各機關出國報告提要

出國報告名稱：出席「第一屆 IERE TIS-Asia GTC 會議」報告

頁數 32 含附件：是 否

出國計畫主辦機關/聯絡人/電話：

出國人員姓名/服務機關/單位/職稱/電話：

徐真明/台灣電力公司/綜合研究所/副所長/(02) 2360-1003

出國類別：1 考察 2 進修 3 研究 4 實習 5 其他

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關鍵詞：IERE、TIS-Asia、TIS-Asia SC、TIS-Asia GTC

內容摘要：(二百至三百字)

IERE (International Electric Research Exchange) 成立於 1968 年，是一個由電力能源供給業者、電力設備供應業者、電力相關研究機構及能源相關政府部門等成員組成之非營利性國際組織，以促進電力能源相關技術之研究、發展與交流為創立宗旨。

TIS (Technological Issue & Solution) 係 IERE 原有各項研討會議外新倡議的交流活動，希望透過會員互助的方式就特定的電力相關技術議題對有需要的會員提供協助，俾進一步提升 IERE 的價值，初期並以亞洲地區的會員為試辦對象，因此又稱為 TIS-Asia 活動。

2008 年 10 月第一屆 TIS-Asia Steering Committee (SC) 會議假日本召開，會中決議於 SC 之下增設 Generation 與 Network 兩個 Technical Committee (TC)，並推選台電公司綜合研究所費所長昌仁為 Generation Technical Committee (GTC) 的首任主席。這次 IERE 假印尼雅加達召開的 TIS-Asia GTC 會議即是該 Committee 成立以來的第一次會議。本報告的內容主要即在記述這次會議的開會過程與討論事項。

本文電子檔已傳至出國報告資訊網

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## 壹、計畫緣起

IERE (International Electric Research Exchange) 成立於 1968 年，是一個由電力能源供給業者、電力設備供應業者、電力相關研究機構以及能源相關政府部門等成員所組成並以促進電力能源相關技術之研究、發展與交流為宗旨的非營利性國際組織，總部設在日本東京，目前會員總數已超過 70 之數，許多國際知名的公司或機構如 AEP、EDF、TEPCO、ABB、GE、MHI、EPRI、KEMA、CRIEPI…等等均為其會員。台電公司先於 2001 年加入該組織為普通會員，2007 年更升級為高級會員。

IERE 成立以來每年均透過所謂 General Meeting 的召開以及舉辦 Forum、Workshop、Seminar 等各類研討活動來落實其促進交流的創立宗旨。2006 年間，理事會接受了日籍理事 Mr. Shirato (也是 CRIEPI 現任社長) 的提議，在現有的研討交流活動之外新增所謂 Technological Issue & Solution (TIS) 的活動，希望透過會員互助的方式就特定的電力技術相關議題對有需要的會員提供協助，俾進一步提升 IERE 的價值。TIS 活動推展初期先從亞洲地區開始試辦，因此目前有關這方面的活動又以 TIS-Asia 相稱。

2008 年 10 月 IERE 在日本召開了 TIS-Asia 活動啟動以來的第 1 次 Steering Committee (SC) 會議。會中通過在 TIS-Asia SC 之下先設立 Generation 及 Network 兩個 Technical Committee (TC)，負責推動 TIS-Asia 的相關活動，並且推選台電公司綜合研究所費所長昌仁為 Generation Technical Committee (GTC) 的首任主席。而這次 IERE 假印尼雅加達召開的 TIS-Asia GTC 會議即為該 Committee 成立以來的第一次會議，費所長添為 GTC 的首任主席自然受邀主持該項會議。惟同期間費所長已奉派率團參加另一項國際交流活動，因此乃指派徐副所長為代理人，代表其出席並主持該項會議。

## 貳、出國行程

本項出國任務主要係前往印尼雅加達出席並主持 IERE TIS-Asia GTC 第 1 次會議，本項會議由 IERE Central Office 籌備，於 12 月 19 日假印尼國營電力公司 PT PLN R&D Office 舉行，總共歷時 4 小時，全部議程大致如下：

- 13:00~13:30 Opening Remarks
- 13:30~14:00 Generation TC Overview
- 14:00~15:00 GTC-1 : Performance Improvement of Existing Power Plant
- 15:00~15:30 GTC-2 : Life Extension of Existing Power Plant
- 15:30~16:30 GTC-3 : New Generation Technologies and Renewable Energy
- 16:30~17:00 Free Discussions on GTC Activities
- 17:00 Closing Remark

(詳細議程請參見附錄一)。

## 參、會議議事紀要

本項會議於 12 月 19 日假印尼國營電力公司 PT PLN R&D Office 舉行，現任 GTC 主席台電公司綜合研究所費所長因故不克前來參加會議，特指派徐副所長為代理人，代表其出席並主持本會議，整個會議的議事過程摘要如下：

### 一、Opening Remarks

在會議的開幕式上，主席首先邀請本次會議作為東道主的印尼國營電力公司 PT PLN Planning & Technology 的 Director — Mr. Bambang 以及 PT PLN R&D 的 Manager — Mr. Made 致歡迎詞，接著邀請 IERE Central Office 的秘書長 Mr. Kodama 致開幕詞，隨後即宣佈本次會議正式開始。

### 二、Generation TC Overview

本項議程主要討論並確認在新的一年（即 2009 年）中 GTC 相關活動的計畫內容。首先由 IERE Central Office 的 Mr. Nishimura 簡報 2009 年 GTC 活動計畫的規劃情形，隨即進入提問及討論，會議要點大致如下：

- 1、2009 年的 IERE TIS-Asia GTC 會議預計將於 2009 年 5 月間配合 IERE 的其他活動如 IERE TIS-Asia SC 以及 IERE Workshop 等合併舉行。該項合併舉行的構想並已獲得 2008 年 11 月間在巴西里約熱內盧召開之第 16 屆 IERE Board Meeting 的原則同意。
- 2、原規劃於 2009 年 5 月在法國巴黎舉行的 IT Integration Workshop 也將移師印尼與上項活動聯合舉辦，印尼國營電力公司 PLN 將加入該項 Workshop 的籌備工作。此一變動也已經在 2008 年 12 月 18 日於 PLN 總部召開的 IERE/PLN/HAPUA 聯合作業協調會上

獲得認可。

- 3、上述預計在 2009 年 5 月間聯合舉辦的各項 IERE 活動將選在印尼的 Bali 島舉行（聯合活動計畫草案請參見附錄二）。
- 4、印尼國營電力公司的 Mr. Bambang 已承諾將應邀擔任 2009 年 5 月間舉辦的 IERE TIS-Asia SC 會議主席。

### 三、GTC-1 : Performance Improvement of Existing Power Plant

本項議程主要檢討 TIS-Asia GTC 推動中的第 1 項 TIS 活動— Performance Improvement of Existing Power Plant 的執行情形。首先由 IERE Central Office 的 Mr. Yamanaka 代表本項活動服務團隊主持人 TEPCO 的 Mr. Yamaoka 簡報本活動的計畫概要以及迄目前為止的推動情形，隨即進入提問及討論，會議要點大致如下：

#### 1、活動計畫概要：

- 活動主旨：改善既有火力電廠之運轉性能。
- 實施對象：由印尼國營電力公司選擇一部火力機組為對象。
- 服務團隊：由日本東京電力公司領銜組成服務團隊提供服務。
- 服務方式：經現地訪查、資料蒐集及分析研判後提出改善建議。
- 服務時程：預計 2009 年 5 月提出服務報告。

#### 2、活動現況檢討：

- 日本東京電力公司已經組成推動本項活動的服務團隊。
- 印尼國營電力公司已經選定 Paiton 火力電廠 2 號機作為本項活動的實施對象。
- 本項活動服務團隊已於 2008 年 12 月 18 日完成 Paiton 電廠 2 號機的現地訪查作業。
- 本項活動服務團隊也已完成 Paiton 電廠 2 號機大部份運轉資料的

蒐集作業（Paiton 電廠運轉性能指標資料請參見附錄三）。

- 本項活動服務團隊目前蒐集到的 Paiton 電廠 2 號機運轉資料可以說相當豐富，亟待進一步整理分析。惟初步了解，近幾年來大規模採用 off-spec. 燃煤應該是機組性能顯著降低的主因。

本議程中除進行本活動直接相關的各項討論外，印尼國營電力公司也就過去他們針對 Paiton 電廠性能改善所做的努力提出簡單的報告。該項報告顯示，過去他們努力的重點主要集中在燃煤乾燥方面。

#### 四、GTC-2 : Life Extension of Existing Power Plant

本項議程主要檢討 TIS-Asia GTC 推動中的第 2 項 TIS 活動—Life Extension of Existing Power Plant 的執行情形。首先由 IERE Central Office 的 Mr. Nishimura 代表本項活動服務團隊 KEPRI 簡報本活動的計畫概要以及迄目前為止的執行情形，隨即進入提問及討論，會議要點大致如下：

##### 1、活動計畫概要：

- 活動主旨：評估既有火力電廠延長壽命之可行性。
- 實施對象：由印尼國營電力公司選擇一部火力機組為對象。
- 服務團隊：由韓國電力研究所領銜組成服務團隊提供服務。
- 服務方式：經現地訪查、資料蒐集及分析研判後提出改善建議。
- 服務時程：尚待協調確認。

##### 2、活動現況檢討：

- 韓國電力研究所已經組成推動本項活動的服務團隊。
- 印尼國營電力公司尚未確定推動本項活動印方的聯絡窗口以及本項活動實施對象。
- 韓國電力研究所亟需印尼國營電力公司提供前項資訊，俾進一步

協商確定本項活動之推動時程。

- 印尼國營電力公司於本議程中當場指派 Mr. Bambang Susiento 為本項活動的印方聯絡人，並確定由 Suraraya 電廠 3、4 號機中選擇一部作為本項活動的實施對象。
- 由於韓國電力研究所未派代表出席本次會議，會後 IERE Central Office 會將上項結果通知韓國電力研究所，俾儘快啟動有關推動本項活動的實質協商。

除上述討論外，本議程中來自伊朗以及進行本泰國的代表先後表示他們國家也都有同樣的問題，認為本項活動的實施成果對他們也有幫助。另外，議程中也討論到如何決定老舊機組究竟該延壽還是該更新的問題，由於此一議題還涉及壽評技術以外的問題，將留待未來新的 TIS 活動中探討。

## 五、GTC-3 : New Generation Technologies and Renewable Energy

本項議程主要檢討 TIS-Asia GTC 推動中的第 3 項 TIS 活動—New Generation Technologies and Renewable Energy 的執行情形。首先由 J-Power 的 Mr. Ohnishi 簡報本項活動的計畫概要以及迄目前為止的執行情形，隨即進入提問及討論，會議要點大致如下：

### 1、活動計畫概要：

- 活動主旨：持續提供再生能源及先進發電技術發展情形的最新資訊以為決策參考。
- 實施對象：IERE 全體會員。
- 服務團隊：由日本 J-Power 公司領銜組成服務團隊提供服務。
- 服務方式：透過建立新網站以及 IERE Workshop 持續提供再生能源及先進發電技術相關資訊。
- 服務時程：預計 2009 年 2 月完成新網站的建立，2009 年 5 月完

成 Workshop 的籌劃。

## 2、活動現況檢討：

- 日本 J-Power 公司已經組成本項活動的服務團隊。
- 有關新網站的建立目前已經完成初步構想，但所謂再生能源及先進發電技術涵蓋的範圍相當廣泛，因此網站內容究應包含那些項目是眼前亟待釐清的課題。這一部份建請服務團隊能夠廣泛蒐集會員意見，而各會員對於網站內容如有意見，亦可主動提供服務團隊參考。
- 有關再生能源及先進發電技術的應用，可能因為不同地區的環境差異而有不同的結果，因此未來在資訊提供上希望大家能夠抱持分享經驗的態度共襄盛舉，以免上網資訊失之偏頗。
- 另外為免發生智慧財產相關的爭議，會員提供的資訊應以可公開流通的資訊為限。

除上述討論外，議程中部份與會代表曾經提出是否將諸如核能發電、超臨界機組…等相關資訊也一併納入新網站的建議，惟鑒於 IERE 目前網站或其他網站中都已有類似資訊可供查閱，因此新建網站的資訊內容仍以會員比較關注的再生能源及先進發電技術相關資訊為重點。

## 六、Free Discussions on GTC Activities

本項議程主要在廣泛蒐集 TIS-Asia 活動開始以來各會員對該項活動的意見，包括活動主題的選擇、活動實施的方式乃至服務團隊的組成…等等。首先由主席 Mr. Hsu 引言，簡單說明迄目前為止 TIS-Asia 活動，尤其是 GTC 相關部份的推動情形，隨即進入意見交流，討論要點大致如下：

- 1、部份與會的會員代表提案表示，迄目前為止 TIS-Asia 各項活動中

有關 Solution 部份的服務方式頂多只能做到改善建議的提供，並無法實際解決問題，這一方面是否能夠考慮再往前跨一步。IERE 秘書長 Mr. Kodama 答覆表示，當初 TIS-Asia 活動的倡議係以會員自願互助的基礎規劃的，換言之活動的推動屬於無償性質，服務規模自然不可能太大。至於有償性質的服務案例，市場上早已存在而且不虞匱乏，而且那種有償的服務也不是 IERE 適合介入的領域。

- 2、另外還有與會會員代表發言表示，TIS-Asia 活動推動至今所有活動有關 Solution 服務的提供幾乎都是由經營電力公司的會員領銜主導，鮮少看到身為設備廠商的會員參與，但電力設備可以說都是設備廠商設計製造的，設備在營運上一旦出了問題，設備廠商應該是最關心也最有能力提供 Solution 的關係者之一，因此未來有關 TIS-Asia 的活動應該讓設備廠商多參與。對此 IERE 秘書長 Mr. Kodama 也回應表示，過去設備廠商不太參與 TIS 活動應該是顧慮到角色扮演的問題，不過未來在這一方面他會協調、鼓勵設備廠商多參與。

## 七、Closing Remark

經過大約 4 小時的溝通與討論，IERE 第一屆 TIS-Asia GTC 會議所有議程圓滿完成，大會主席 Mr. Hsu 在帶領所有與會會員代表重溫並齊呼 TIS-Asia 的團呼「Unified And Sustainable Asia, Together with TIS」後宣佈散會。

#### 肆、結語

此次奉派出席並主持 IERE 第一屆 TIS-Asia GTC 會議，在總共 4 小時的會議活動中，討論議程緊湊而且充實，謹略誌感想、建議數則如后以為結語：

- 一、印尼國營電力公司 PLN 近幾年來對於參與 IERE 主辦的各項活動態度頗為積極，就以本次會議相關之 TIS-Asia GTC 所主導的 3 項活動為例，PLN 即努力爭取到其中 2 項活動係以該公司轄下電廠的實際問題作為探討對象，而這也是本次會議決定在印尼雅加達召開的主要考量，此外本次會議期間 PLN 更要求所有相關部門都要派員參與討論，充分展現出他們積極尋求改善現況、解決問題的企圖心，也贏得其他與會會員代表的敬佩與支持。
- 二、IERE TIS-Asia 目前推動中的幾項活動，譬如既有電廠性能改善、既有電廠壽命延長等等，事實上也都是本公司營運單位實際面臨而且關注的議題，當然有些問題我們可能已有很好的解決方案，但也有一些問題我們可能亟需別人的經驗分享，因此建議公司營運單宜多注意 IERE TIS-Asia 活動的相關資訊，如遇有合適的活動項目而且人力、預算也許可，應該積極爭取參與甚至主導該項活動的機會。

## 附錄一、第一屆 IERE TIS-Asia GTC 會議議程

# IERE TIS-Asia the 1st Generation Technical Committee Meeting Agenda

1. Date : 19 December 2008 13:00 – 17:00

2. Venue: PT PLN R&D

3. TC Chairman : Mr. Jen-Ming Hsu (TPRI/TPC)

4. Agenda:

13:00 - 13:30 : Opening Remarks (Mr. Hsu, Generation TC Chair)

13:30 – 14:00 : Generation TC Overview (IERE)

TIS-Asia Schedule

IERE 2009 TIS-Asia-SC/TC & IERE Workshop in Indonesia  
(Preliminary Announcement)

14:00 - 15:00 : GTC-1 : Performance Improvement of Existing Power Plant

Report on the On-site Inspection at Paiton Power Station  
Efficiency Improvement of Paiton SCPP (PT PJB)

15:00 - 15:30 : GTC-2 : Life extension of existing power plant

Expected Procedures by KEPRI (IERE)

15:30 - 16:30 : GTC-3 : New Generation Technologies and Renewable Energy

How to progress the GTC-3 (J-Power)

“New Website Menu” for a Platform New technology  
information. (IERE)

16:30 - 17:00 : Other Item (Preliminary Free Discussion about GTC Activities)

17:00 Closing Remark

## 附錄二、IERE 2009 年 5 月聯合活動計畫草案

## **Preliminary Announcement**

# **IERE 2009 TIS-Asia-SC/TC & IERE Workshop in Indonesia**

**(Draft)**

11 – 15, May 2009

Indonesia



Organized by  
IERE, PT PLN and EDF



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## **Introduction of IERE 2009 TIS-Asia SC/TC & IERE Workshop in Indonesia**

IERE Board Member and TIS-Asia member decided to hold the following IERE event jointly in Indonesia in May 2009.

<1> 2nd IERE TIS-Asia Steering Committee (SC) meeting

<2> IERE TIS-Asia Technical Committee (TC) meeting

- IERE TIS-Asia Generation TC meeting

- IERE TIS-Asia Network\* TC meeting

\*) Transmission and Distribution

<3> IERE Workshop

<3.1> IT-Integration

<3.2> Generation

- New generation technologies & Renewable energy

<3.3> Network

- 'Smart Grid' (including DG-Network Interconnection)

- Diagnosis technology for Substation facilities

(Life assessment of Old Facilities)

Those overall activities cover the wide area from "Generation", "Network (Transmission & Distribution)" and "IT-Integration"

They also deal with technical matters such as "R&D (Research & Development)" activities and "Practical" activities which are based on the experience.

Participants can share the useful information/experience and join the discussion to decide the future activities with IERE world-wide members for Unified and Sustainable Electricity Industry.

Indonesia is the center of ASEAN (Association of Southeast Asian Nations) and good venue to gather for International activities.

Welcome to IERE 2009 TIS-Asia SC/TC & Workshop in Indonesia!



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## < Schedule >

### **Monday – 11 May 2009**

- Registration
- IERE Workshop (IT-Integration)
- Dinner hosted by EDF

### **Tuesday – 12 May 2009**

- IERE Workshop (Generation)
  - New generation technologies & Renewable energy
- IERE TIS-Asia Generation TC meeting
- Dinner hosted by IERE

### **Wednesday – 13 May 2009**

- IERE Workshop (Network)
  - 'Smart Grid' (including DG-Network Interconnection)
  - Diagnosis technology for Substation facilities  
(Life assessment of Old Facilities))
- IERE TIS-Asia Network TC meeting
- Dinner hosted by PLN

### **Thursday – 14 May 2009**

- AM: 2nd IERE TIS-Asia Steering Committee (SC) meeting
- PM: IERE Board Meeting <IERE Board Member only>
- Dinner hosted by IERE

### **Friday – 15 May 2009**

- Technical Tour

## < Venue >

To be determined (e.g. Bali Island (Nusa Dua Beach Hotel, etc.), Yogyakarta, etc.)



## <Program>

Session structure and speakers may be subject to change according to the submission of contributions

**Monday – 11 May 2009**

## Registration

## IERE Workshop (IT-Integration)

### Opening Session:

ITWS-O-1: Opening Address: *Yves Bamberger (EDF, France)*

ITWS-O-3: Keynote Speech: *TBD (EDF, France)*

### Session 1: Smart helps for Field Operation

#### <Experience and feedback from utilities>

ITWS-S1-1: *TBD (Project Leader, EDF, France)*

ITWS-S1-2: *TBD (America)*

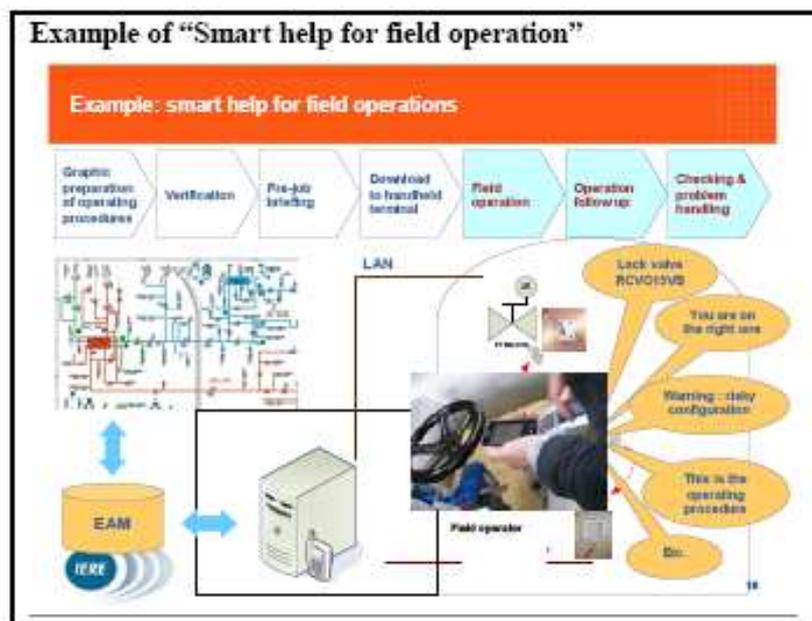
ITWS-S1-3: *TBD (Asia)*

Round Table Discussion

-Priority focused on tagging-out and lining-up for outage

-Integrated solution to be invented:

- prepare through 2D graphics
- load on PDA
- simplify and secure (RFID, barcodes)
- visualize (control room, OCC, ..), etc.





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## **Session 2: Cyber security and wireless solutions**

### **(Technology push aspects related to IT Integration)**

ITWS-S2-1: *TBD (Project Leader, EDF, France)*

ITWS-S2-2: *TBD (America)*

ITWS-S2-3: *TBD (CRIEPI, Japan)*

Round Table Discussion

## **Lunch**

## **Session 3: Technological roadmap for IT Integration**

Utilities (with Vendors) present their technological roadmap for IT Integration

ITWS-S3-1: *TBD (EDF, France)*

ITWS-S3-2: *TBD (EPRI, U.S.A.)*

ITWS-S3-3: *TBD (Japan)*

ITWS-S3-4: *TBD*

ITWS-S3-5: "Summary": (Session Chair)

**Dinner hosted by EDF on 11th May 2009**



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**Tuesday – 12 May 2009**

## **IERE Workshop (Generation)**

### **Opening Session:**

Welcome Speech: *TBD (Indonesia)*

GWS-O-1: Opening Address: *Mr. Chang-Ren Fei (IERE-TIS-Asia Generation TC Chair, General Manager, TPC, Taiwan)*

GWS-O-2: Keynote Speech: *TBD*

### **Session 1: High Efficiency Natural Gas Generation, Clean Coal Technologies and New Technologies**

GWS-S1-1: *TBD (Japan)*

GWS-S1-2: *TBD (Asia)*

GWS-S1-3: *TBD (Europe)*

GWS-S1-4: *TBD (America)*

GWS-S1-5: *TBD*

Focus on: -

- High Temperature Gas Turbine Technologies
- Fuel Cell, etc.
- Clean Coal Technologies (USC, IGCC)
- Utilization of unused natural resources (Coal Bed Methane etc.)

### **Coffee Break**

### **Session 2: Near CO<sub>2</sub> Zero Emission Generation Technologies**

GWS-S2-1: *TBD (Japan)*

GWS-S2-2: *TBD (Asia)*

GWS-S2-3: *TBD (Europe)*

GWS-S2-4: *TBD (America)*

GWS-S2-5: *TBD*

Focus on: -

- Post Combustion type Near CO<sub>2</sub> Zero Emission Generation
- Oxy Fuel Combustion type Near CO<sub>2</sub> Zero Emission Generation
- Pre Combustion (IGCC) type Near CO<sub>2</sub> Zero Emission Generation
- CO<sub>2</sub> Capture and Storage, etc.

### **Lunch**

### **Session 3: Renewable energy**

GWS-S3-1: *TBD (Japan)*

GWS-S3-2: *TBD (Asia)*

GWS-S3-3: *TBD (Europe)*

GWS-S3-4: *TBD (America)*

GWS-S3-5: *TBD*

Focus on: -

- Renewable/Alternative Energy
- Co-firing of Biomass Energy in Power Plant, Biofuel (Jetrofa, Oil Palm etc.)
- Large Scale Solar Power (PV), etc.



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Coffee Break

## **IERE TIS-Asia Generation Technical Committee (TC) meeting**

### **Session 1: Check & Review of TIS-Asia-Generation TC activities results and plan:**

Session Chairman: *TBD (IERE Member, Asia)*

GTC-S1-1: Improvement of Thermal Efficiency of Existing Thermal Power Plant\* TC activities:

*TBD (TC activity Leader, Tokyo EPCO, Japan)*

GTC-S1-2: "Diagnosis/Life Extension Technologies for Thermal Power Generation Plants based on RBI (Risk Based Inspection)" TC activities:

*TBD (TC activity Leader, KEPRI, Korea)*

### **Break**

### **Session 2: Next Generation TC activities**

IERE-TIS-Asia-Generation TC members discuss and decide next Generation TC activities

Generation TC Chairman & Session Chairman:

*Mr. Chang-Ren Fei*

*(IERE-TIS-Asia-Generation TC Chair, General Manager, TPC, Taiwan)*

Generation TC Vice Chairman & Session Vice-Chairman: *Tokyo EPCO (Japan), J-Power (Japan), KEPRI/KEPCO (Korea), Kansai EPCO (Japan), CRIEPI (Japan)*

**Dinner\*2 hosted by IERE**



**Wednesday – 13 May 2009**

## **IERE Workshop (Network)**

### **Opening Session:**

Welcome Speech: *TBD (Indonesia)*

NTCWS-O-1: Opening Address: *Mr. I Made Ro Sakyia (Deputy Director, General Manager, PLN, Indonesia)*

NTCWS-O-2: Keynote Speech: *TBD*

### **Session 1(Round Table Discussion): Definition of Smart Grid**

We discuss and summarize the definition of Smart Grid when starting discussion in IERE

Session Chairman: *TBD*

NWS-S1-0: "Outline of Technologies item related to Smart Grid": *TBD*

NWS-S1-1: "Definition of Smart Grid in CRIEPI": *TBD (CRIEPI, Japan)*

NWS-S1-2: "European Smart Grid platform": *TBD (Europe)*

NWS-S1-3: "Definition of Smart Grid in EPRI": *TBD (EPRI, U.S.A.)*

Round Table Discussion

#### **Coffee Break**

### **Session 2: Smart Grid related Technologies;**

#### **Interconnection of Distribution Generation (DG) and Network**

Session Chairman: *TBD*

NWS-S2-1: *TBD (Japan)*

NWS-S2-2: *TBD (Asia)*

NWS-S2-3: *TBD (Europe)*

NWS-S2-4: *TBD (America)*

NWS-S2-5: *TBD*

Focus on: -

Interconnection of Large Scale PV to Transmission NW and Large amount PV to distribution NW

Interconnection of Large Scale Wind Power to Transmission NW, etc.

### **Lunch**

#### **Session 3: (Round Table Discussion) :**

#### **Diagnosis Technology for Substation Equipments**

#### **(Life Assessment of Old Substation Facilities)**

Session Chairman: *TBD (CRIEPI, Japan)*

NWS-S4-0: "Outline of Life Assessment of Old Substation Facilities in IERE Members": *TBD*

NWS-S4-1: "Life Assessment of Old Transformer in Kansai": *TBD (Kansai EPCO, Japan)*

NWS-S4-2: "Life Assessment of Old Substation Facilities in Japan": *TBD (Japan)*

NWS-S4-3: "Life Assessment of Old Substation Facilities in Europe": *TBD (Europe)*

NWS-S4-4: "Life Assessment of Old Substation Facilities in America": *TBD ( America)*

NWS-S4-5: "Life Assessment of Old Substation Facilities in East Asia": *TBD (Asia)*

NWS-S4-6: "Life Assessment of Old Substation Facilities in Southeast / South Asia": *TBD (Asia)*

Round Table Discussion



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## **IERE TIS-Asia Network Technical Committee (TC) meeting**

IERE-TIS-Asia-Network TC members

- 1) Check & Review of TIS-Asia-Network TC activities results and plan
- 2) Discuss and decide next Network TC activities

### **Session 1: Check & Review of TIS-Asia-Generation TC activities results and plan:**

NTC-1: "Network Technical Loss Decrease & Voltage Unification" TC activities:  
TBD (TC activity Leader, KEPCO/KEPRI, Korea)

### **Session 2: Next Network TC activities**

Network TC Chairman & Session Chairman:

*Mr. I Made Ro Sakyia (Deputy Director, General Manager, PLN, Indonesia)*

Network TC Vice Chairman & Session Vice-Chairman; Kansai EPCO (Japan), Tokyo EPCO (Japan), Chubu EPCO (Japan), KEPRI/KEPCO (Korea), CRIEPI (Japan)

**Dinner hosted by PLN**



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**Thursday – 14 May 2009**

## **2nd IERE TIS-Asia Steering Committee (SC) meeting**

### **Opening Session: Welcome and Keynote Speech**

Session Chairman: *TBD (IERE Board Member or IERE Central Office)*

SC-O-1: Welcome Speech: *Bambang Praptono*

*(2nd TIS-Asia-SC Chairman, Director, PT PLN, Indonesia)*

SC-O-2: Opening Address : *Greg Tosen (Chair of IERE 2009-2010, ESKOM, South America)*

SC-O-3: Keynote Speech : *TBD (PIESA, South America)*

SC-O-4: Keynote Speech : *TBD (HAPUA, Southeast Asia)*

SC-O-5: Keynote Speech : *TBD (Eurelectric)*

SC-O-6: Keynote Speech : *TBD (America Continent)*

### **Session 1: Report of TIS-Asia-TC activities results and plan:**

Session Chairman: *TBD (IERE Board Member)*

SC-S1-1: TIS-Asia-Generation TC Chair Report about Result & Next TC activities  
e.g. target facilities, nation and organization

SC-S1-2: TIS-Asia-Network TC Chair Report about Result & Next TC activities

### **Session 2: Common subjects and recommendation for future directions**

Session Chairman: *Bambang Praptono (2nd TIS-Asia-SC Chairman, Director, PT PLN, Indonesia)*

The subjects include technology transfer/joint research, coordination with other international organization (e.g.HAPUA) /international initiatives and an increase of the membership in the region.

### **Schedule of Next TIS-Asia-SC meeting**

#### **Closing Remarks**

: *TBD (Next TIS-Asia-SC Chair)*

#### **Lunch**

### **IERE Board Meeting** <IERE Board Member only>



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**Friday – 15 May 2009**

**Technical Tour** (to be determined)

**<Other Information >**

**(1) Language:** The official language is English.

**(2) Accommodation**

To be determined

(Accommodation would be the same place with the SC/TC & Workshop Venue)

**(3) Registration:**

Detailed Registration will be notified by the first announcement, which will be delivered later.

**(4) Registration Fee:**

The Registration fee would be around US\$ 700 for IERE members and US\$800 for IERE non-members. The Registration Fee would be announced in the 1st Announcement.

Registration fee covers attendance for the conference, Lunch and Dinner, conference package and Technical Tour.



## <Objective and Outline of Each Activity>

### <1> 2nd IERE TIS-Asia Steering Committee (SC) meeting

#### <1-1> Objective of TIS-Asia-Steering Committee

IERE has been carrying out TIS-Asia to find out technological issues in Asia region in the field of construction, operation, maintenance of electric facilities in order to cope with secure electricity supply and increasing demand for environment protection in the region. TIS-Asia Technical Committee (TC) activities have been establishing mechanisms to practically provide solutions to the various technological issues in real workplace.

The primary objective of TIS-Asia Steering Committee (SC) is

- (1) To discuss the improvements of mechanisms for practical solutions under TIS-Asia.
- (2) To discuss common issues and decide the directions of TIS-Asia activities.
- (3) To review and discuss ongoing activities of TIS-Asia-TCs.
- (4) To establish additional TCs if necessary for new areas of the activities

at a higher management level

Electricity power industry is now required to address energy security and global environment issues as well as to accomplish stable supply of electricity. Now is the time that utility companies among Asian nations deal with those issues in a body with intensified co-operation. With the global networks of IERE, we believe that TIS-Asia can contribute to build a secure, affordable, reliable, sustainable electricity society in growing Asia.

#### <1-2> Expected participating members/organizations in SC

The expected members of SC are Representatives from IERE members such as Managing Directors in charge of Technical matters:

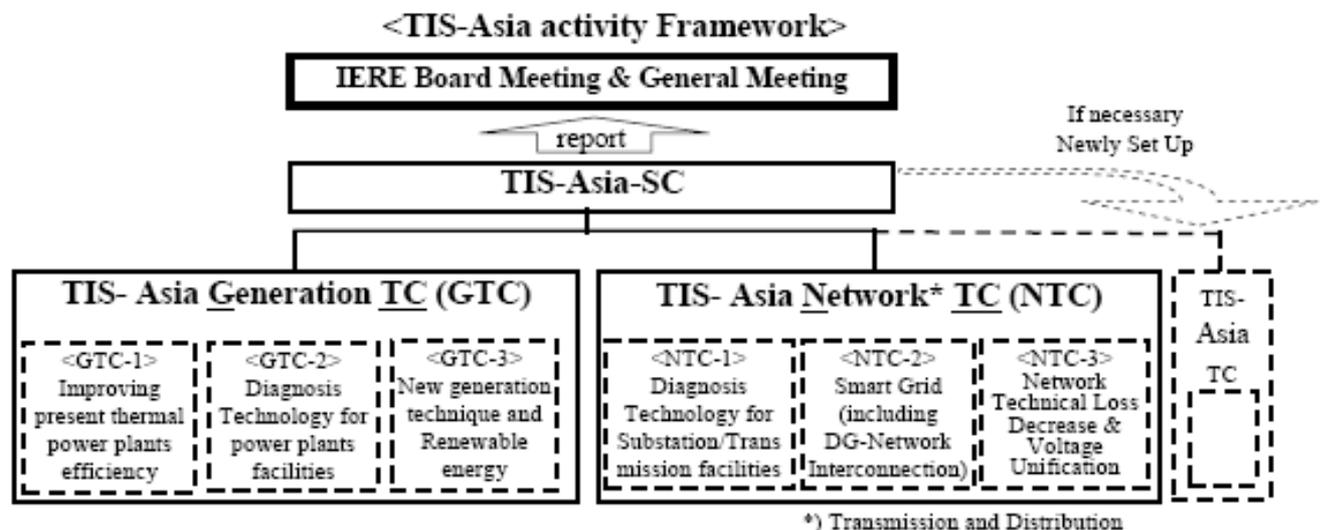
- (1) IERE members in Asia;  
Tokyo EPCO etc(Japan), KEPRI/KEPCO etc (Korea), CEPRI(China), CLP(Hong Kong), TPC(Taiwan), TNB(Malaysia), PLN(Indonesia), SP PowerGrid, PowerSeraya(Singapore), EGAT, MEA, PEA(Thailand), CPRI, Tata Power(India), NRI(Iran), etc.
- (2) Potential IERE members whom TIS-Asia-Caravan visited in 2007 and IERE Delegation visited in 2008, (Vietnam, etc.) in Asia
- (3) IERE Members in the other region of Asia
  - 1) TIS-Asia SC is open to all the members  
Kinectrics (Canada), GE (U.S.A.), etc.
  - 2) participation of IERE Board Members are expected

#### <1-3> Chairman of 2nd IERE TIS-Asia SC meeting

Mr. Bambang Praptono (PT PLN, Indonesia) who hosts 2nd IERE TIS-Asia SC meeting.

#### <1-4> Participants from each organization for SC

- (1) TIS-Asia SC members: IERE Representatives of each organization
- (2) TIS-Asia TC members
- (3) Other members



## <2> IERE TIS-Asia Technical Committee (TC) meeting

### <2-1> Objective of IERE TIS-Asia TC meeting

Technical Committees (TCs) were established under TIS-Asia-SC. The Committees are composed of high-level Directors, General Managers & Deputy/Assistant Governors and will be structured in such a way that continuing activities will be possible. TCs will supervise the activities for the solutions of technical issues.

The primary objective of TIS-Asia TCs are

- (1) Each organization will select TC to participate and be TIS-Asia-TC members.
- (2) Technical Committees will continuously search for the technical issues and will seek for their solutions.
- (3) Technical Committees will decide overall directions of activities, activity types\* and participating member organizations considering their priorities, commonalities in the region, feasibilities and other ongoing activities.

\*Examples of activity forms: Task Force (TF), seminar, exchange of information, joint research, arrangements of experts/organizations/facilities for technical support, giving advice during TC meetings, clarification of technological requirements.

### <2-2> Expected participating members/organizations in TC

The expected members of TCs are, e.g., Deputy or Assistant Governors, General Managers, Directors who are in charge of technical field:

- (1) IERE TIS-Asia-TC members and the other IERE members in Asia;
- (2) Potential IERE members whom TIS-Asia-Caravan visited in 2007 and IERE Delegation visited in 2008, (Vietnam, etc.) in Asia
- (3) IERE TIS-Asia-TC members and the other IERE Members in the other region of Asia
  - 1) TIS-Asia SC is open to all the members
  - 2) Participation of IERE Board Members are expected



### < 2-3> IERE TIS-Asia Generation TC (GTC) Member & Theme

TC Chairman: Mr. Chang-Ren Fei (General Manager TPRI/TPC, Taiwan)

TC Vice Chairmen: Tokyo EPCO (Japan), J-Power (Japan), KEPRI/KEPCO (Korea) (to be confirmed), Kansai EPCO (Japan), CRIEPI (Japan)

TC Members: TPC (Taiwan), PLN (Indonesia), TNB (Malaysia), Chubu EPCO (Japan),  
NRI (Iran), GE Singapore (U.S.A.), TEPSCO (Japan) (as of 28th Nov. 2008)

TC Activity Themes :

- (1) **GTC-1: Performance improvement of existing power plants**  
Leading Vice Chairman: Tokyo EPCO (Japan)
- (2) **GTC-2: Life extension of existing power plant (other than nuclear power plant)**  
Leading Vice Chairman: KEPRI/KEPCO (Korea)  
(KEPRI will inform IERE of the official decision later)
- (3) **GTC-3: New generation technique and Renewable energy**  
Leading Vice Chairman: J-Power (Japan)

### < 2-4> IERE TIS-Asia Network\* TC (NTC) Member & Theme

TC Chairman: Mr. I Made Ro Sakya (Deputy Director of Technology, PLN, Indonesia)

TC Vice Chairmen: Kansai EPCO (Japan), Tokyo EPCO (Japan), Chubu EPCO (Japan),  
KEPRI/KEPCO (Korea)(to be confirmed), CRIEPI (Japan)

TC Members: Tohoku EPCO (Japan), TPC (Taiwan), PLN (Indonesia), TNB (Malaysia),  
SP PowerGrid (Singapore), Tata Power (India), NRI (Iran), Kinectrics (Canada),  
GE(Singapore), Mitsubishi Electric (Japan), Toshiba (Japan),  
Hitachi (Japan AEP)(Japan) (as of 28th Nov. 2008)

TC Activity Themes :

- (1) **NTC-1: Diagnosis & maintenance technology for Substation/Transmission facilities**  
Leading Vice Chairman: Kansai EPCO (Japan)
- (2) **NTC-2: 'Smart Grid' for more integrated, efficient and reliable energy**  
Leading Vice Chairman: CRIEPI (Japan)
- (3) **NTC-3: Network technical loss, voltage unification**  
Leading Vice Chairman: KEPRI/KEPCO (Korea)  
(KEPRI will inform IERE of the official decision later)

\*) Transmission and Distribution



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### <3> IERE Workshop

#### <3.1> IERE Workshop (IT-Integration)

##### Objective of IERE Workshop (IT-Integration)

IT-Integration Workshop will exchange information that helps IERE members

- 1) To envision advanced operating modes of power plants or electricity networks, to identify the solutions that future options will require (application pull).
- 2) To be aware of the opportunities that modern Information and Communication Technology solutions could provide in the day-to-day business, as well as long-term technological trends and up-dated offers through specific dialog with vendors and manufacturers (technology push).

<General Theme>: Solutions for mobility (Power Generation Sector)

Focus in: Smart helps for field operator, IT for advanced maintenance, Human factors, ergonomics, cyber security, enterprise architecture

#### <3.2> IERE Workshop (Generation)

##### Objective of IERE Workshop (Generation)

We discuss and summarize about the each topics

- 1) to recommend the useful technologies to IERE Members in Asia
- 2) to exchange information among IERE members in the world

which are related with the theme of IERE-TIS-Asia Generation TC activities "New generation technique and Renewable energy."

#### <3.3> IERE Workshop (Network)

##### Objective of IERE Workshop (Network)

We discuss and summarize about the each topics

- (1) to recommend the useful technologies or method to IERE Members in Asia
- (2) to exchange information among IERE members in the world

which are related with the theme of IERE-TIS-Asia Network TC activities.

- 1)'Smart Grid' for more integrated, efficient and reliable energy"
- 2) Diagnosis & Maintenance Technology for Substation/Transmission facilities



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