

Industry Partnership Scheme - 2008

Department of Energy Science and Engineering, IIT Bombay

Meeting Minutes

Date: 10th September 2008

Venue: Guest House Conference Hall, DESE laboratories, ME-201 (Seminar Room)

Timing: 1 PM to 5:45 PM

- Prof. R. K. Shevgaonkar (Deputy Director, IIT Bombay) welcomed the participants to the Industry partnership meeting. He mentioned that the Institute had approved the setting up of the new Department of Energy Science and Engineering in 2007 in view of the importance of the energy section.
- Brief introduction of industry participants and faculty members (list provided in Annexure).
- Prof. Rangan Banerjee provided a brief outline of the DESE and its academic programs and an overview of the Industry Partnership Scheme.

Followed by the above items industry participants were invited to share their opinions about the DESE's Industry Partnership Scheme interaction in general and about Dual Degree (B.Tech.+ M.Tech.) program in particular.

- Dr. Amit Chatterjee (Suzlon) - Course structure is appropriate. There should be emphasis on courses like project management, Quality management, 6 Sigma in R&D, etc. He also mentioned that nuclear waste management program to be included if possible.
- Mr. D. M. R. Panda (NTPC) – mentioned about the M.Tech program that NTPC run with IITD. He also mentioned about the teaching needs on power plant operation and equipment manufacturing.
- Dr. Avinash N. Patkar (Tata Power) - emphasized the need for better writing and communication skills in students. He has shown interest in micro-turbine, solar thermal, Arun, as research areas. He also mentioned the need of doing applied research, need to have closer interaction with industry (Prof. Banerjee has stated that DESE will have focus on both fundamental and applied research).
- Dr. Om Pal Singh (AERB) – impressed upon the need for including a minor in nuclear energy which can be supported by AERB, there should be a course in reliability analysis and safety assessment.
- Mr. S. Mohan (Bharat Petroleum Corporation Ltd.) – has shown interest in bio-fuels and bio-energy, assured support for student internship and students visit.
- Mr. D. K. Kuvalekar. (Forbes Marshal) – mentioned about the need of energy benchmarking with respect to industrial processes, improving energy efficiency, also stressed upon deciding common topic of interest on which IIT-industry can work together.
- Dr. R. R. Sonde (Thermax Ltd.) – mentioned about the need of science based research in energy field, radical R&D efforts to bring cost down, waste to energy conversion, use of geo-thermal energy, he stressed on intellectual inputs should be coming from DESE. He mentioned about faculty should opt for sabbatical to an industry.

- Dr. R. K. Malhotra (Indian Oil Corporation Limited) – mentioned that course structure is fairly elaborate, till 3 to 3.5 years students should focus on basic courses, then students should decide which area they want to focus on, M.Tech students should be motivated to do research, IOCL is shifting its focus to be an energy industry and renewable energy industry, IOCL would like to be associated with DESE in several ways; sponsored projects, fellowships, visiting faculty, he has shown strong desire to join hands with DESE.
- Shri. K. B. Dixit (Nuclear Power Corporation of India Limited) – stressed to get support from IIT Bombay for HR augmentation, new design and innovation, research on thermal hydraulics, BRNS projects.
- Dr. Madhusudan V. Atre (Applied Materials) – requested for focus on modeling and simulation of systems as well as devices, instrumentation and simulation software, course on solid state physics and devices, support of adjunct faculty from Applied Materials, would be willing to give talk in DESE.
- Dr. Peeush K. Bishnoi (Siemens) – include some regulatory framework, awareness of techno-economic analysis, students need better understanding of 2nd law of thermodynamics.
- Mr. G. K Sadekar (L& T) – has stressed on the need of industry oriented projects which will open students to other industrial problems, L&T is willing to provide all kind of possible help.
- Mr. Natarajan Mani (Tata BP Solar (teleconference) – students should focus first 6 semester on basics, then next 3 sem. they should turn to get specialization in one particular area, last semester could be spent on case study, projects should be on manufacturing process equipments, modeling and simulation of system as whole, bit of economic analysis, also focus on energy storage devices, PV tracking etc., at M.Tech. level there should be industry sponsored projects.
- Dr. Uday Lajmi (Reliance Infrastructure, Reliance Energy) – mentioned that Reliance Infrastructure is open for all sets of activities with DESE, stressed on lack of students joining Reliance Infrastructure which require lot of manpower, student should go to the utility sector if possible. He outline the needs for the transmission and distribution sector.
- After this interaction participants were taken for the lab visits. The Visits have been made to Energy Systems Lab, New Materials lab, Solar Cell Characterisation Lab, Solar Lab, Cummins Lab and Fuel Cell Lab.

The session concluded with an interaction between the Industry partners and the students of the Department of Energy Science and Engineering. The industry partners outlined their vision of the challenges and opportunities in the energy sector and re-iterated their commitment to partner with the Institute to meet these challenges.

Annexure
DESE Industry Partnership Scheme – 2008

September 10, 2008

List of Industry Partners

Sr. No	Industry	Nomination
1.	Atomic Energy Regulatory Board	Dr. Om Pal Singh (Secretary AERB & Director. Information & Technical Services Division)
2.	Reliance Energy	Dr. Uday Lajmi Dean – Management Education (Training & Development)
3.	Applied Materials	Dr. Madhusudan V. Atre President
4.	Forbes Marshall	Mr. D. K. Kuvalekar General Manager
5.	Siemens	Dr. Peeush K. Bishnoi Program Manager
6.	Suzlon Energy Ltd.,	Dr. Amit Chatterjee General Manager
7.	National Thermal Power Corporation Ltd.	Mr. D. M. R. Panda Sr. Faculty
8.	Cummins India Limited	Mr. Prasad M. Parulekar Senior Manager
		Mr. Vilas V. Chinchankar General Manager
9.	Thermax Limited	Dr. R. R. Sonde Executive Vice President
10.	TATA Power	Dr. Avinash N. Patkar Chief Sustainability Officer and Head – Corporate Safety, Health and Environment
		Mr. P.K. Mittal Head – Capability Development
11.	Bharat Petroleum Corporation Ltd	Mr. S. Mohan Director (HR)
12.	Indian Oil Corporation Ltd.	Mr. Anup Kacker Dy. General Manager (Coordn.)/C
		Dr. R. K. Malhotra Executive Director (R & D)
13.	Larsen & Toubro Limited	Mr. G. K Sadekar Head – Product & Technology Development Centre
14.	Tata BP Solar India Ltd	Mr. Natarajan Mani Add. General Manager (Via Tele Conference)
15.	Nuclear Power Corporation of India Ltd.	Shri. K. B. Dixit Executive Director (Engineering & Procurement)

Other Attendees from IIT Bombay

Prof. R. K. Shevgaonkar
Mr. Rajeev Deshpande
Prof. U. N. Gaitonde
Prof. S. V. Kulkarni
Prof. C. Amarnath
Prof. Kannan I. Iyer
Prof. S. A. Soman
Prof. A. W. Date
Prof. S. A. Khaparde
Prof. M. V. Rane

Prof. S. L. Bapat
Prof. J. K. Nayak
Prof. Rangan Banerjee
Prof. S. B. Kedare
Prof. Chetan S. Solanki
Prof. P. C. Ghosh
Prof. Pratibha Sharma
Prof. Manoj Neergat