Basic knowledge of steam turbine short course, ST-101/201 combined

Kyoichi Ikeno, Takuro Koda, Makoto Katagake, and Satoshi Hata

MITSUBISHI HEAVY INDUSTRIES COMPRESSOR CORPORATION

TEES TURBOMACHINERY LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

TEXAS A&M UNIVERSITY

Slide 2: Presenter/Author bios

Kyoichi Ikeno is the manager mechanical engineer of the turbine design section, Mitsubishi Heavy Industries Compressor Corporation, in Hiroshima, Japan. He is the specialist of detail design of rotating components in mechanical drive steam turbines and has experience with R&D for those turbines for 17 years. Mr. Ikeno has B.S. of Miyazaki University and M.S. degrees (Mechanical Engineering) from Kyushu University.

Takuro Koda is the senior mechanical engineer of the turbine design section, Mitsubishi Heavy Industries Compressor Corporation, in Hiroshima, Japan. He is the specialist of flow dynamics design in mechanical drive steam turbines and has experience with R&D for those turbines for 9 years. Mr. Koda has B.S. and M.S, degrees (Mechanical Engineering) from Kyoto institute of technology.

Makoto Katagake is the senior mechanical engineer of the turbine design section, Mitsubishi Heavy Industries Compressor Corporation, in Hiroshima , Japan.
It has experience detail design of mechanical components with R&D for mechanical drive turbines for 22 years.

Satoshi Hata is the vice president, engineer in Mitsubishi Heavy Industries Compressor International Corporation, doctor of engineering at Mitsubishi Heavy Industries Compressor Corporation, in Hiroshima, Japan. He is the specialist of detail design of rotating components in mechanical drive steam turbines and compressor has experience with R&D for them.

Target Audience:

This short curse is aimed at engineers, operations and maintenance personnel who need a broad-based introduction to mechanical drive steam turbine design, have a firm foundation in the basics associated with turbomachinery and mechanical engineering. This short course will provide the basic minimum knowledge of seam turbines from the design to the operation in half and more detail technical information, which will be useful design audit, trouble shooting, enhance participants, their own machines, how to approach in other half.

Description:

It is shown as the outline in this short course that the role of steam turbine, history, classification, basic structure, components and their function, manufacturing and design process and control system. And also, the basic thermal cycle, flow dynamics, strength analysis are explained as the academic knowledge. Finally, the trend of development and the state-of-the-art technology as the latest technical information and the typical root cause analysis as the example of troubleshooting are provided.