The Power Plant Operation and Maintenance Seminar for Developing Countries

Program Description

<table>
<tr><td>Name</td><td colspan="3">The Power Plant Operation and Maintenance Seminar for Developing Countries</td></tr>
<tr><td>Organizer</td><td colspan="3">North China Electric Power University</td></tr>
<tr><td>Duration</td><td>From September 15th to September 28th</td><td>Language</td><td>English</td></tr>
<tr><td>Invited Countries</td><td>Developing countries</td><td>Planned Number of Participants</td><td>25 participants in total</td></tr>
<tr><td>Program Goal</td><td colspan="3">Through the training, the participants are expected to better know the future development tendency and prospect of power generation in the world； to learn about the courses on power plant operation and maintenance； to get familiar with simulator of Thermal Power Generation； capable of design, development, operation and maintenance in the field of power generation, as well as of doing structural design and construction of related equipments. On completion of the course, using what they have learnt from the program, the participants are expected to put forward development suggestions in related field, considering the specific industrial conditions of their home countries.</td></tr>
<tr><td rowspan="3">Requirements for the Participants</td><td>Professional Background</td><td colspan="2">——Professional field: related to Energy and Power Engineering
——Occupation: in the field of power plant operation and maintenance
——Administrative rank, Diploma, degree or other qualifications: no requirements
——Working years in related field: be experienced in related field or profession</td></tr>
<tr><td>Language</td><td colspan="2">Capable of listening, speaking, reading and writing in English for program study</td></tr>
<tr><td>Others</td><td colspan="2">Capable of using Tencent Meeting platform (international version), with long-distance technique support from the organizer on attending online course</td></tr>
<tr><td>About the Courses</td><td colspan="3">1. Brief Introduction to Major Training Courses
(1) China's national conditions: mainly introduces the current situation of China's political, economic, social and cultural development.
(2) Engineering Thermodynamics: enable participants to master the basic concepts and laws of engineering thermodynamics; Correctly use the knowledge of engineering thermodynamics to design, calculate and analyze the thermal power system and equipment; provides sufficient theoretical preparation for learning follow-up courses and lays a theoretical foundation for solving practical production problem.</td></tr>
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	（3) Heat transfer: enable participants to master the basic theoretical knowledge of heat transfer; Be able to correctly point out the heat transfer modes involved in the actual physical phenomena, and analyze the conservation relationship between various energies; Be able to select appropriate calculation methods to calculate typical heat transfer problems (heat conduction, convective heat transfer, radiation and heat exchanger) in the field of power generation. (4) Fluid mechanics, pumps and fans: enable participants to master the basic concepts, theories and methods of fluid mechanics, and study the balance law or movement law of fluid caused by external reasons from a macro perspective. In thermal power plants, pumps and fans are important components of power cycle and one of the important auxiliary machines. Their safe and economic operation plays an important role in the safe and economic power generation of power plants. Enable participants to master the basic principle, performance, structure, operation regulation and other necessary knowledge of pumps and fans. (5) Boiler equipment and operation: mainly introduces the basic principles of boiler operation, so that participants can master the knowledge of safe and economic operation of boilers, and cultivate the ability to analyze engineering problems, carry out boiler design calculation, operation check calculation and experiment. (6) Steam turbine equipment and operation: enable participants to have a comprehensive and systematic understanding of the working principle of steam turbine, be familiar with the main structure of steam turbine, and master the process and law of energy conversion of steam in steam turbine, the operating characteristics of steam turbine under variable conditions, the strength verification method of main parts of steam turbine and the regulation principle of steam turbine. 7) Economic operation management of power plant: mainly introduces the main thermal economic indicators of power plant and their calculation methods, as well as the change relationship between thermal economic indicators; The main factors affecting the thermal economy of power plants and the methods to improve the thermal economy. With introduction of basic principle of thermal system and equipment connection in power plant, and discussion of the optimal connection mode of thermal power generation system, the participants are expected to master the principle and comprehensive thermal system of typical power plants. 2. special lectures on Engineering Technology: New energy power generation technology; Present situation and application of clean coal power generation technology. 3. Virtual visit: Visit Hebei key laboratory of low carbon and high efficiency power generation technology
Note	1. The training program will be arranged online through Tencent Meeting platform (international version), so the participants are supposed to have access to internet, prepare computer, microphone, camera etc. 2. Course-completion certificates will be awarded based on the attendance record, so the participants should be punctual and disciplinary for each class during the program. 3. Disciplines: enter the classroom 15 minutes earlier for the lectures start. Participants are supposed to change their online name into “English Name (identical with passport)-

	abbreviation form of home country name". 4. Information security: for protection of information security and privacy, all the lectures should not be issued to any social media, and the teaching materials will be sent to the participants after class. 5. Participants should prepare materials for seminars on particular topics according to the schedule.
About Organizer	North China Electric Power University (NCEPU) is affiliated with the Ministry of Education of China and officially listed as one of the "211 Project" universities as well as one of "Predominant Discipline Innovation Platform" of "985 Project" universities. In 2017, the university entered the ranks of national "double first-class" construction universities, focusing on the construction of energy and power science and engineering discipline group, comprehensively opening a new journey of building a world-class discipline and high-level research university. It possesses an actively-striving, highly-qualified and well-structured teaching staff with a total number of 1991 full-time teachers, including 420 in senior positions and 722 in deputy senior positions. At present, there are 2 academicians of Chinese Academy of engineering, 10 double employed academicians, more than 100 other high-level talents, and many high-level research teams. NCEPU has School of Electrical and Electronic Engineering, School of Energy Power and Mechanical Engineering, School of Control and Computer Engineering, School of Economics and Management, School of Renewable Energy, School of Nuclear Science and Engineering, School of Environmental Science and Engineering, School of Water Conservancy and Hydropower Engineering, School of Mathematics and Physics, School of Humanities and Social Sciences, School of Foreign Languages, School of Marxism, School of Energy Internet, and School of Artificial Intelligence. Taking talent cultivation as the central work, NCEPU has formed the special talent-development model featuring in solid foundation, emphasizing on practice, promoting abilities and pursuing innovation, which makes the university one of the first universities under Ministry of Education to implement the Excellent Engineer Development Plan, initiating the establishment of university-enterprise training alliance for excellent engineer in power industry. NCEPU has made every effort to promote the process of international education, and established network of cooperation partners including not only world top-level universities but also institutes in "One Belt, One Road" region. It has comprehensively enhanced student exchanges, scientific research cooperation, established various cooperative education programs between China and other countries, actively expanding the scale of international students coming to China, and continuously improved the quality of international education. NCEPU has organized many state-level training programs for foreign aid, to be actively involved in implementing China's foreign policies, and signed Memorandum of Partners Cooperation among energy-related institutes in "One Belt, One Road" region, with 15 overseas universities including Russia's Moscow Power Institute, in response to the "One Belt, One Road" initiative from the state. NCEPU has served as the leading Chinese University in the energy field and established the think tank related to energy among universities from the Shanghai Cooperation

	Organization. It has built the largest Confucius Institute in North America - West Kentucky Confucius Institute.
Organizer Contact	Contact Person: Ms. Yanhua Ruan Office Telephone: 0086-0312-7522346 Cell phone: 0086-15830238808 Fax: 0086-0312-5016156 WeChat: genenka E-mail: 31599070@qq.com