Draught system in thermal power plant ppt

The document describes the key systems and processes involved in a typical coal-based power plant. It discusses the various stages from receiving coal, to grinding and feeding it into the boiler to produce steam, to generating electricity via turbines connected to generators, and finally returning water to a liquid state to repeat the process.

Synergem Power Sector Training Institute - Synergem is an ISO-9001-2008 Certified training Institute in India in the line of thermal power plant training which offers variety of courses in thermal power plant engineering, power management, customized on-site training programs for power plant professionals and much more. SynergemIndia offers unique simulator training ...

COAL BASED THERMAL POWER PLANTS Rankine cycle - improvisations, Layout of modern coal power plant, Super Critical Boilers, FBC Boilers, Turbines, Condensers, Steam & Heat rate, Subsystems of thermal power plants - Fuel and ash handling, Draught system, Feed water treatment. Binary Cycles and Cogeneration systems. UNIT II

Explore our fully editable and customizable PowerPoint presentation on Thermal Power Plants, designed to provide comprehensive insights into their operation, efficiency, and environmental impact. Perfect for educators, students, and professionals alike. ... Ppt Powerpoint Presentation Tips. This is a three stage process. The stages in this ...

KEY RESULT AREAS IN THERMAL POWER PLANT. KEY RESULT AREAS IN THERMAL POWER PLANT. A) HT/LT AUXILIARIES FD fans ID fans Boiler feed Water pumps Condensate extraction pumps Circulation Cooling Water Pumping system Cooling Towers CT Fans PA fans Coal Mills. KEY RESULT AREAS IN THERMAL POWER PLANTS. B) OFF ...

3. A Steam Power Station is a power plant in which the prime mover is steam driven. Water is heated, turns into steam and spins a steam turbine which drives an electric generator. After it passes through the turbine, the steam is condensed in a condenser and recycled to where it was heated; this is known as a Rankine cycle. Some thermal power plants ...

2. Forced Draught In a forced draught system, a blower is installed near the base of the boiler and air is forced to pass through the furnace, flues, economiser, air-preheater and to the stack. This draught system is known as positive draught system or forced draught system because the pressure and air are forced to flow through the system.

26. Mechanical Draught Modern large size plants use very large size of boilers of capacity above 1000,000 kg

per hour. such boiler needs tremendous volume of air (around 200000 m3) Per minute. A chimney provide this. Therefore mechanical draught is used. Forced draught In forced draught system the fan is installed near the boiler .the fan force the air ...

3. contents parichha thermal power plant introduction of thermal power plant salient features technical data of 110mw plant main parts of power plant boiler generator turbine fuel handling ash handling bowl mill raw coal feederand its specification fans - primary air fan, force draught fan, induced draught fan with specification and working electrostatic precipitator ...

FBC boilers, Turbines, condensers, Steam and heat rate, subsystems of thermal power plants- Fuel and ash handling, draught system, Feed water treatment, Binary cycles and cogeneration systems. RANKINE CYCLE-IMPROVISATIONS Fig.1 The arrangement of the components used for steam power plant working on rankine cycle.

The different types of systems and components used in steam power plant are as follows : (i) High pressure boiler (ii) Prime mover (iii) Condensers and cooling towers (iv) Coal handling system (v) Ash and dust handling system (vi) Draught system (vii) Feed water purification plant (viii) Pumping system (ix) Air preheater, economizer, super ...

Page 31 Draught system to overcome the resistance offered by the pipelines, air ducts, fuel beds, dampers, chimney, etc. for the flow of air, flue gases draught system is required in thermal power plant. Normally FD (forced draft) fan, ID (induced draft) fan and chimney facilitate this function. FD fan provides air from atmosphere to the boiler ...

It provides descriptions of the basic systems and circuits within a thermal power plant, including the steam, condensate, coal, air, ash, circulating water, and DM water circuits. It also discusses boiler types, draught systems, firing methods, and other components and concepts relevant to thermal power plant design and operation. Read less

steam power plant PPT. ... (b) Prime mover . (c) Condensers and cooling towers . (d) Coal handling system . (e) Ash and dust handling system . (f) Draught system . (g) Feed water purification plant . ... Selection of plant site The selection of plant site for thermal power plant compared with hydro-power plant is more difficult as it involves ...

Describe the major control systems involved in the thermal power plant and nuclear power plants. 1. Know various power generation processes. 1 2. ... draught, power requirements for draught systems. Fan drives and control, control of airflow. Combustion control: Fuel/Air ratio, oxygen, CO and CO2 trimming, ...

Draught is an essential part in thermal power plant. The functions of the draught system are: To supply required quantity of air to the furnace for combustion of fuel. To draw the combustion products through the

system. To remove burnt products from the system.

Thermal power plants convert heat energy from fuels like coal into electrical power. Coal is pulverized and blown into boilers where it is burned, heating water to produce high pressure steam. The steam powers turbines connected to generators, producing electricity. The steam is then condensed and recycled. Electrostatic precipitators remove particulate matter from flue ...

6. A surface condenser is an example of such a heat-exchange system. It is a shell and tube heat exchanger installed at the outlet of every steam turbine in thermal power stations. Commonly, the cooling water flows through the tube side and the steam enters the shell side where the condensation occurs on the outside of the heat transfer tubes.

4. STEAM POWER PLANT 4 A Steam Power Plant converts the chemical energy of the fossil fuels (coal, oil, gas) or fissile fuels (Uranium, Thorium) into electrical energy. Steam Power Plant basically works on Rankine cycle. Steam is produced in the boiler by utilizing the heat of fuel combustion; thus steam is expanded through the steam turbines.

Thermal power plant - Download as a PDF or view online for free ... Steam Control valve 19. Superheater 2. Cooling water pump 11. High pressure steam turbine 20. Forced draught (draft) fan 3. transmission line (3-phase) 12. ... Most plants use a closed cooling system where warm water coming from condenser is cooled and reused Small plants use ...

3. Unit collection of Power PlantUnit collection of Power Plant There may be several units which areThere may be several units which are described below -described below - 1.1. Energy source (Heat, wind, water etc.)Energy ...

7. Thermal energy storage (TES) TES are high-pressure liquid storage tanks used along with a solar thermal system to allow plants to bank several hours of potential electricity. o Two-tank direct system: solar thermal energy is stored right in the same heat-transfer fluid that collected it. o Two-tank indirect system: functions basically the same as the direct system ...

A thermal power plant uses steam to generate electricity. Coal is burned in a boiler to produce steam, which spins a turbine connected to a generator. The steam is then condensed in a condenser and recycled to the ...

Demerits of thermal Power Plants: 1. Thermal plant are less efficient than diesel plants 2. Starting up the plant and brining into service takes more time 3. Cooling water required is more 4. Space required is more. PART -B 1. Draw and Explain the working of thermal power plant? (Apr 2005) The four main circuits one would come across in any ...

13. AIR AND GAS CIRCUIT Air from the atmosphere is directed into the furnace through the air preheated

by the action of a forced draught fan or induced draught fan. The dust from the air is removed before it enters the combustion chamber of the thermal power plant layout. The exhaust gases from the combustion heat the air, which goes through a heat exchanger ...

162. How Does it Work oCarnot Efficiency (T1-T2)/T1: in transferring heat to do work, the greater the spread in temperature between the heat source and the heat sink, the greater the efficiency of the energy conversion. oAs long as the temperature between the warm surface water and the cold deep water differs by about 20°C (36°F), an OTEC system can ...

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