
MHD Power Plant Co-Ordination With Thermal Power Plant

Anchal Srivastava

Electrical And Electronics Engineering, Inderprastha Engineering College Ghaziabad (U.P.) India

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Abstract

In the existing scenario, most of the electricity produced throughout the world is from steam power plants and also a lot of gaseous waste is generated which is discharged into the atmosphere after a predefined treatment. However this flue gases can be used directly to feed a MHD power plant. An isolated MHD power plant is generally found to be highly economic. Its co-ordination with thermal plant will help in reducing the overall cost of system to a great extent. According to recent studies, a HYBRID MHD plant is co-ordinated with steam plant, such that the waste generated from MHD plant is used in the ECONOMIZER and PRE AIR HEATER of steam plant in order to increase the efficiency of steam plant but it is not much efficient according to economic point of view. The objective of the paper is directed towards co-ordination of MHD plant with steam plant in which, the waste generated from steam plant will be used as a fuel for MHD plant.

1. Introduction

The discussions begins with considering the layout of thermal power plant. We all are aware about thermal power plant, where coal energy is used for the generation of electricity. The general layout is as shown in figure 1. However in MHD power plant, the basic principle of generation is based on Faraday's laws of electromagnetic induction. The general layout is as figure 2. This is basically the open cycle plant. In hybrid power plant, the given plant is co-ordinated with steam power plant as shown in figure 3.

***Corresponding Author,**

E-mail address: wakeanchal24@gmail.com

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