The Power and Blowing Station is one of the most important station of Bhilai Steel Plant. The production of cold air blast is carried out in STB unit and is taken to the various blast furnaces for further conversion to the hot air blast. The waste gases from the blast furnaces and other units mainly coke oven are used as fuel to produce the cold air blast thereby reducing the fuel requirement and hence the overall efficiency of the plant. The project tries to explain various processes and equipments used in the production of cold air blast for the blast furnace. The various equipments for example Boiler, Condenser, Turbo-Blowers, Deaerator, Steam jet air ejector, lubrication system etc. have been studied.

Usually there is the aim to minimize the friction losses, heat losses and drain leakage in steam lines of any power plant. Often, this is the primary goal and proper utilization of pipe length (shortest route to carry steam), proper insulation and installation of well working drain valve are favorable solution. However, in Bhilai steel plant, most of the plants use old technology, therefore only a very small proportions of waste steam is utilize including turbo blower and turbo generator condensate (initially exhauster steam also feeds back to boiler but not now). At present all the consumers of PBS don’t feed condensate back to the boiler this is the biggest loss because we demineralized water for water this require a lot of input. So utilization of used steam by condensing might reduce the steam losses and will increase power plant efficiency to a remarkable extent. Insulation is the main factor in heat losses, glass wool (or mineral wool) with aluminum coating is commonly used, according to diameter of standard value of insulation is provided. But provided insulation should be repaired within a time interval but as it is seen in BSP many steam pipe lines not having proper insulation which are leading huge heat losses. Friction losses can be minimized by avoiding unnecessary bend, trap (for drain), reducer and expander in steam line. This study will result in a net return to any integrated steel plant by the recovery of steam losses. Recovery of steam losses will result reduced specific fuel consumption and which lead reduced cost of fuel and substantial reduction in steam generation cost through this work i.e. proper insulation, proper trap for drain. Implementation of this solution will definitely increase overall efficiency of power plant. BSP is not too far to recover all their pipe line insulation and proper maintenance of steam line.