VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA, BELGAUM – 590014KARNATKA, INDIA

Project Report on

"ENERGY GENERATION FROM WASTE OIL"

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IN
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Submitted by

Mr. PRAVIN K. PARAMKAR	**USN: 2HA09ME024**
Mr. ROOPESH R .VERNEKAR	**USN: 2HA09ME034**
Mr. MERAJ SHAIKH	**USN: 2HA09ME040**
Mr. RAZEEFALI L. JAMADAR	**USN: 2HA10ME411**

Under the Guidance of

PROF. SURESH D. MANE
Associate Professor

DEPARTMENT OF MECHANICAL ENGINEERING
SHAIKH COLLEGE OF ENGINEERING AND TECHNOLOGY
15/2, Abu Campus, Adjacent to Rani Channamma University, Bhootramanhatti, Belgaum - 591156

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ABSTRACT

Large quantities of lubricating products are used in our automobiles, farm machinery and industrial processes; creating the need to address the issue of what to do with them when their useful life is over. Recycling waste oil products, allows this non-renewable resource to be used many times reducing energy requirements but leads to many a potential environmental problems as the recycled oil does not meet the SAE or API standards and hence leads to faster wear and tear of engine components. With many concerned about the high cost of fuel, more and more people are looking to alternative fuels like reused waste oils. Many brave souls are taking up the challenge to minimize the use of imported petroleum products.

We are aimed to utilize the waste oil viz. Waste engine lubricating oil from automobiles and design a furnace for melting metals in foundry application which will provide more amount of heat than normal copula furnace which uses coal as burning fuel. To active our objective the following procedures are followed in our project work. Complete Design of the parts, Plotting assembly, sub-assembly drawings and fabrication of the burner. A deep study of components is undertaken and greater care is taken in the fabrication and assembling process in designing the waste oil burner.

The metal to be melt is kept in the crucible. This crucible is placed in the furnace which has the refractory bricks lining to prevent the dissipation of heat to the surrounding. This furnace is attached with an arrangement of a blower and waste oil sump through pipe. First of all the air blower is started then the oil valve is opened and the air coming from the blower carries the oil in the furnace. For igniting we make use of match stick. Hence system gets started and metal get melted in the crucible.

By the above process we can observe that we are saving some amount of energy that was actually required for the burner that is in terms of wood or charcoal, now by utilizing the oil which was waste we are librating more amount of heat at very less input or low cost. In this system there is elimination of ash handling or disposal problem. It can be quickly started as and when required and the control is easier than compared to that of solid fuels.