Patent granted to Sinhgad Institutes Project to generate electric power from speed breakers

Sou. Venutai Chavan Polytechnic - SVCP, Vadgaon of Sinhgad Institutes has been granted Patent for an Invention entitled 'Power Generation Using Speed Breaker' by Patent Office, Government of India, bearing Patent No. 358697.

Working on the basic concept of Physics, faculty and students of SVCP developed a mechanism to generate power by converting the potential energy generated by a vehicle going up on a speed breaker into kinetic energy, a simple mechanism to convert the conventional mechanical energy into electrical energy.

Working under the Project Guide Ms. Meenal R. Majge, the Project Group of 4 were; Prathmesh Bhide, Pranay Barshiker, Sumit Mohite and Kalpesh Mendadkar

Speaking on the Project, Meenal, the Project Guide, says, "Plates are fitted below the speed breakers. When the vehicle moves over the inclined plates, it gains height resulting in increase in potential energy, which is otherwise totally wasted in a conventional rumble strip or speed

breaker.” Explaining further, she adds, "When the plates come down, they crank a lever fitted to a ratchet-wheel type mechanism. This in turn rotates a geared shaft loaded with recoil springs. The output of this shaft is coupled to a dynamo to convert kinetic energy into electricity and in this simple manner electricity is generated in one of the cheapest, most economical manner. A vehicle weighing 1,000 kg going up a height of 10 cm on such a rumble strip produces approximately 0.98 kilowatt power. In this manner, one speed-breaker on a busy highway, where on an average, more than 100 vehicles pass every minute, about one kilo watt of electricity can be produced every single minute. Thus, the quantity of electricity produced by the end of the day will be huge."

A storage module like an inverter will have to be fitted to each such speed breaker to store this electricity. The cost of electricity generation and storage per megawatt from speed-breakers will be nearly Rs 1 crore as compared to about Rs 8 crore in thermal or hydro power stations.

The generated electricity is stored in batteries and can be further used for various purposes like lighting up the street lamps, providing power to the nearby slums at low cost etc. In fact, sufficient electricity can be produced to light up an entire village located near the highway. Thus this project accomplishes low budget electricity production, less floor area, no obstruction to traffic and easy maintenance. It is also suitable at parking of multiplexes, Malls, Toll booths and Signals etc

Congratulation the team for remarkable achievement, Founder President Prof. M.N. Navale Sir said, “The main role of engineers is problem solving and innovation to make the world better through their work. The Project team of SVCP took up and succeeded in their noble endeavor to develop electric power with minimum input, which is the need of the hour. I congratulate them for their success in the project and in getting it duly patented.

Dr. (Mrs.) Mrunalini S. Jadhav, Principal and Prof. (Mrs.) Sujata K Biyani Vice-Principal of Sou. Venutai Chavan Polytechnic (SVCP) also congratulated and motivated the project team for their innovative and laudable efforts.