

Concept Paper		
Energy Saving Potential in Electric Motor Using Variable Frequency Drive		
NPA-1	Webinar	SAARC Energy Center

Background:

Electric motor system accounts for 47 percent of global electricity consumption. Induction motor is one of the most widely used motor in the world because of its simple and rugged construction, economy of installation/use, high efficiency of energy conversion, lower maintenance cost and reliability of operation. Variable Frequency Drive (VFD) is a mechanism that provides an approach for variation in speed of Alternating Current (AC) in motors and makes the motor system more efficient because of low motor starting current, reduction of thermal and mechanical stress on motors and belts. Additional advantage with VFD are its ease of installation, high power factor, lower KVA etc. However, there is limited understandings of energy saving potential with the application of VFD. Knowing the benefits of VFD will allow engineers and operators to apply VFDs with confidence and to achieve the greatest operational saving in the electric motor in industrial process.

Introduction:

SEC, under its thematic area of “Program to successfully Implement Technology Transfer (POSIT), is conducting a webinar on “Energy Saving Potential in Electric Motor Using Variable Frequency Drive (VFD)”. The webinar will be of two- and half-hour activity and will consists of presentations from various experts within and outside the SAARC region to share their experience on energy saving potential of electric motor focusing on VFD. In this webinar, experts will share their views on electric motor’s range and VFD products, their applications, and energy saving possibilities in industries. Speaker will also point out energy savings potential in existing industrial process which are in operation without VFD and will also discuss the safety aspects to the consumer. The aim is to educate and make awareness among the participants on energy saving opportunities in electric motor system with application of VFD in industries.

Objectives:

The objective of the webinar is to share the information on energy efficiency improvement in electric motor systems using VFD and sensitize the manufacturers, users and energy officers in South Asian Industries on the importance and benefits of such devices.

Major Aspects /Topics to be covered during the Webinar:

The following aspects of motor systems and VFD shall be covered in the webinar:

1. Dissemination of the knowledge on construction and working principle of electric motor and VFD.
2. Discuss the range of electric motors including compressor in air conditioning system and VFD products including types, size cost etc.
3. Selection criteria of most efficient electric motor system for entire areas of applications focusing in South Asian Countries
4. Basis of energy savings in motor system with of VFD
5. Discussion on case studies of VFD applications and accompanying energy savings in overall system
6. Areas of energy savings potential in existing industrial process with electric drives system
7. Installation requirement and safety assurance to the consumer concerned with VFD system.
8. Knowledge and interactive discussion

Relevance, Coherence and Sustainability:

The proposed webinar is related to the objectives of SEC to promote efficient use of energy within the SAARC region. South Asian Countries are promising the better economic growth in the forceable future with the set-up of more and more industrial establishments which ultimately require efficient and automatic motor system embedded with VFD. Through this webinar, SEC shall stimulate and enhance knowledge of participants on the application of VFD in industrial motor systems. The webinar will also cover the discussion on potential saving and adaptation strategy of VFD both in existing and future industrial establishments.

Potential Professional Resource:

The experts/ presenter both inside and outside of SAARC region having experience in VFD and motor systems shall be engaged during the webinar. They shall deliver their presentations and respond to questions by participants during the webinar. SEC program coordinator will finalize the event program in close coordination with the speakers.

Venue of the Webinar:

The Webinar shall be broadcasted from office of SAARC Energy Centre on 22/05/2020