



EVENTS EVENTS

Oxygen Production in Sugar Mills and Status of Oxygen Demo Plant at Dharashiv Sakhar Karkhana Ltd.

Under the guidance of Mr. Sharad Pawar, Hon. President, VSI, the Institute sent letter to all sugar mills in Maharashtra for exploring the possibility of production oxygen in sugar mills when country is facing shortage of medical oxygen in COVID-19 situation. In this context, virtual mode meeting on "Oxygen Production in Sugar Mill-Way Forward" was organized by VSI on April 24, 2021. Meeting was attended by ministers from Maharashtra, Chairmen of NFCSFL & MRSSKS Ltd., Chairman of various sugar mills, and Managing Directors from various sugar mills and scientist from VSI.

VSI Scientist explained three options for early oxygen production as molecular sieve (3 Å) replaced with another zeolite molecular sieve (OX19 or OX8 or 13 X) which are suitable for oxygen production. Air has to be filtered for removing dust, particulate matter, oil and moisture before feeding to molecular sieve. In addition to this existing cycle time used in ethanol plant need to be changed. Further, oxygen booster compressor has to be installed to increase pressure (around 150 bar). Second option was to purchase of skid mounted oxygen generators with capacity from 10 m³/h to 50 m³/h. These units can produce 30-150 oxygen cylinders per day which can be sufficient for 80-300 bed capacity hospitals. This plant also uses PSA (pressure swing adsorption), a technology to generate oxygen from air and third option was to purchase of portable oxygen concentrator with capacity of 5 or 10 L/h which is sufficient for supplying oxygen to one/two patients depending oxygen requirement.

VSI officers contacted several vendors & suppliers of skid mounted oxygen generators & portable oxygen

concentrators and requested them to provide techno-commercial proposals for different capacities. In continuation, second online meeting of purchase committee was held on April 29, 2021 to finalize the order for skid mounted oxygen generators and portable oxygen concentrators and to review the progress of demo of oxygen production by modifying ethanol plant at Dharashiv Sakhar Karkhana Ltd. Offers received from SNCE and OxAir for skid mounted oxygen generators were scrutinized and negotiated. Offers received from SNCE and BPL for portable oxygen concentrators were scrutinized and negotiated. Offers received from SNCE and EKC for oxygen cylinders were also scrutinized and negotiated during meeting. During meeting, it was discussed that there is a shortage of cylinders for oxygen storage. It was decided that since during the lockout most of the industrial units are closed and have empty oxygen cylinders. These cylinders can be used by oxygen producing plants initially.

It was decided to purchase orders for more than 20 skid mounted oxygen generators and 600 portable oxygen concentrators have been placed by Maharashtra sugar mills so far. The above information was also passed on to sugar mills in UP, Haryana, Punjab, Karnataka and as per our information purchase orders for more than 15 Skid Mounted Oxygen Generators have been placed by sugar mills in these states.

Dharashiv Sakhar Karkhana Ltd. (DSKL) - Oxygen Demo Plant

As per suggestion given by DG, VSI, a meeting was held with Chairman of DSKL, MOJJ Engineering Systems Pune, who had installed ethanol plant at