

FTS-8114214
F.No.Z.2801320/2021-MS

Government of India
Directorate General of Health Services
National Council Secretariat

Nirman Bhawan, New Delhi.

Dated: 19 th July, 2021

MINUTES OF MEETING

The minutes of the meeting of the Sub-committee for drafting rules / regulations/ standards/ directions for **“establishment of Mini Oxygen Plants in hospitals and Clinical Establishments having more than 50 beds”** under Clinical Establishments Act, 2010/ Disaster Management Act held through hybrid mode, under the Chairmanship of Dr. K.T Bhowmik, Principal Consultant on 07.07.2021, at Nirman Bhawan, New Delhi are enclosed herewith for information and necessary action.

Dr. Anil Kumar
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To

All Participants as per the list annexed to the minutes

Copy for information to:

1. PPS to Principal Consultant(KTB), Dte.GHS, Chairman
2. PPS to JS (PS), MoHFW
3. Director, AIIMS, New Delhi
4. Medical Superintendent, SJH and VMMC, New Delhi
5. Director, LHMC, New Delhi
6. Medical Superintendent, ABVIMS & Dr. RMLH, New Delhi
7. Executive Director, National Health Systems Resource Centre (NHSRC), New Delhi
8. Staff of National Council Secretariat

Minutes of Meeting

Meeting Name :	Meeting of Sub-committee on “Including provision of Oxygen Plants under Clinical Establishments Act or Disaster Management Act”				
Meeting Purpose:	Drafting rules / regulations/ standards/ directions for “ establishment of Mini Oxygen Plants in hospitals and Clinical Establishments having more than 50 beds ” under Clinical Establishments Act, 2010/Disaster Management Act				
Date:	07.07.2021				
Time:	3:00 PM				
Location:	343-B, A Wing, 3rd Floor, NirmanBhawan, New Delhi				
Meeting Facilitator :	Dr. Anil Kumar, Addl DDG, Dte.GHS				
List of Attendees:	Annexure				
	S.No	Name	Participants	Telephone No/fax No/ Mobile No.	E. mail
	1.	Dr. K. T. Bhowmik	Principal Consultant, Chairman	23061803	bhowkt@vmmc-sjh.nic.in
	2.	Dr. Himanshu Bhushan	Senior Advisor, PHA division, NHSRC	9868071145	"Dr Bhushan" <drhbhushan@gmail.com >
	3.	Dr. Anil Kumar, Addl DDG (AK)	Dte. GHS, Nirman Bhawan, New Delhi	23061329	dr.anilkumar@nic.in
	4.	Dr. Sanjay Roy, Director (ME)	MoHFW	9810577958	Sanjay.roy14@nic.in
	5.	Dr.SonaliRawal	WHO India	9711236912	rawals@who.india
	6.	Dr.Vijaydeep Siddharth, Associate Professor,	HOD/Representative Dept. of Anaesthesia (AIIMS)	9013844255	vijaydeep@aiims.edu

		Hasp. Admin			
7.	Dr. G. Usha, HOD	HOD/Representative Dept. of Anaesthesia SJH	8447795934	doctorgusha@hotmail.com	
8.	Dr. Krishan Kumar, CMO (SAG)	OIC Medical Gases, VMMC & SJH	9560015630	krishankatal@gmail.com	
9.	Dr. Nishant Kumar	HOD/Representative Dept. of Anaesthesia LHMC & Associate Hospitals	9811934659	kumarnishant@yahoo.co.uk	
10.	Dr. Akhilesh	HOD/Representative Dept. of Anaesthesia RML Hospital	9810685426	drakhileshgupta@gmail.com	
11.	Dr. K. Bangararajan, Advisor	CDSCO, New Delhi	8447216636	bangara@cdsco.nic.in	
12.	Dr. Ranjan Kumar Choudhary	Health Technology Division, NHSRC		Ranjan.Choudhury@nhsr.india.org	
13.	Mr. K. S. Prasanth	PHA division, NHSRC	9310353647	"PrasanthSubrahmanian" <prasanth.mph@gmail.com>;	
14.	Dr. Niharika, Consultant (CE)	NCS, Dte. GHS, Nirman Bhawan, New Delhi	7026144286	Ncs.consultantce@gmail.com	
15.	Shri Atul Gupta, Consultant (IT)	NCS, Dte. GHS, Nirman Bhawan, New Delhi	9910875140	Ncs.atul@gmail.com	
16.	Ms. Anuradha, Statistical Assistant	NCS, Dte. GHS, Nirman Bhawan, New Delhi	9654638860	anusharma.ani@gmail.com	
17.	Mr. Akshat Agarwal, Legal Assistant	NCS, Dte. GHS, Nirman Bhawan, New Delhi	9582774498	ncs.akshat@gmail.com	

Minutes

Dr. K.T. Bhowmik, Principal Consultant, Chairman of Subcommittee

vetted By:

Discussion: (Items/Knowledge Shared)

After welcome and introduction, Dr Anil Kumar informed the members that the purpose of meeting is to discuss and formulate rules / regulations/ standards/ directions for **“establishment of Mini Oxygen Plants in hospitals and Clinical Establishments having more than 50 beds”** under Clinical Establishments Act, 2010/Disaster Management Act as ramping up of Oxygen infrastructure is of prime importance in view of ongoing Covid19 pandemic and to deal with any future health emergency.

Soft copies of following documents were shared with participants in advance:

1. The copy of the letter from Secretary, Ministry of Road Transport & Highways (MORTH) dated 14-6-2021
2. A DO letter of MOHFW issued to all States/UTs on 21.06.2021, regarding norms of oxygen cylinders based on Oxygen/ICU beds-NRBM/NIV/HFNC/Ventilator Bed capacity in the hospital for management of COVID-19

After point wise discussion of the “norms of oxygen cylinders based on Oxygen/ICU beds-NRBM/NIV/HFNC/Ventilator Bed capacity in the hospital for management of COVID-19” the subcommittee members endorsed the norms prescribed in DO letter of MOHFW issued to all States/UTs on 21.06.2021.

Mini-Oxygen / PSA plant is useful in cases where oxygen requirement is mild to moderate and also as an emergency lifesaving mechanism in disaster situation. The plant can also be used for refilling oxygen cylinders which can be supplied to other health facilities.

Dr. Sanjay Roy, MOHFW informed that National Medical Commission (NMC) has already made this mandatory to install Mini-Oxygen/PSA plants in all Medical College Hospital.

Some experts were of the view that instead of having individual oxygen plants in the hospitals, bigger capacity oxygen plants may be installed at a central location to cater to needs of nearby hospitals through supplying the filled in oxygen from the plant like a hub and spokes model, but it was also pointed out that there may be logistic issues in implementing the same.

Oxygen plants can be very useful in remote/difficult and inaccessible areas if the maintenance requirements can be taken care of.

The experts pointed out that in places where there is space crunch, it can also be installed on the roof top of the hospitals. However Dr. H. Bhushan (Advisor & Head) PHA Division, NHSRC expressed their reservation on the above mentioned suggestion as technically may be not feasible.

It was also pointed out that Delhi High Court of Delhi in its order dated 20-5-2021 has directed **the hospitals with 100 beds or more should install their own PSA/Refilling plants /create other necessary infrastructure which should have sufficient capacity, say to produce at least two times of their normal requirements. Similar action by Smaller Hospitals of 50 -100 beds to meet at least their normal requirements and even still smaller less than 50 beds hospitals should also augment**

their infrastructure and add capacities so as to avoid panic situations.

The following limitations of Mini-Oxygen/PSA plants were pointed out by the committee members:

- i. The percentage of Oxygen generated by Mini-Oxygen/PSA plants is between 93+ or - 3%, which does not meet the requirements of critical care areas, ICUs, ventilator beds and Operation Theatres where a high percentage of oxygen of 99-100 percent is essential.
- ii. It requires huge investment of money.
- iii. Dedicated separate adequate space for installation is required.
- iv. It generates lot of noise and heat. Hence cooling is required for proper functioning of the compressor.
- v. Power backup is essential
- vi. Licensing is required for filling of cylinders from the Mini oxygen plants
- vii. Trained dedicated staff is required to operate Mini-Oxygen/PSA plants

Most of the experts were of the opinion that mini oxygen generation/PSA plants should be available in hospitals having more than 50 beds for implementation under the Clinical Establishment Act

Miscellaneous Items:

NIL

Decisions Made: (What, Why, Impacts)

After discussion and deliberations, by the committee members the following **principles for ensuring availability of Oxygen in the hospitals and clinical establishments were agreed upon:**

- It was agreed that the primary focus should be to ensure availability of Oxygen as per requirement for all the services envisaged to be provided by the hospital. At least one third of total number of beds should be oxygen beds. Atleast 48 hours (preferably 72 hours) of oxygen of the total calculated oxygen requirement should be available at any given time, as backup.
- Oxygen requirement may be calculated as per the ME Division norms of oxygen cylinders based on Oxygen/ICU beds – NRBM/NIV/HFNC/Ventilator Bed capacity in the hospital for management of COVID-19, as mentioned in DO letter dated 21-6-2021
- Capacity of Mini-Oxygen/PSA plants required to be installed should be able to supply at least one third of total number of oxygen beds.
- Scope of expansion of health facility is to be taken into account for assessing the capacity of Mini-Oxygen/PSA plants to be installed.
- The sustainability of the technology of Mini-Oxygen/PSA plants should be taken into account.
- Feasibility of Mini-Oxygen/PSA plants as per altitude, ambient temperature and other environmental factors which may affect the functioning to be taken into account.
- Mini-Oxygen/PSA plants should cater to a defined area of hospital where it can be used with separate supply with provision of automatic switch over to LMO/Oxygen Cylinder in case of any

failure.

- Five years of warranty followed by five years of CMC along with training of staff could be inbuilt in the agreement with the supplier at the time of placing order for Oxygen Plant.

Regarding the “**establishment of Mini Oxygen Plants in hospitals and Clinical Establishments having more than 50 beds**”, following action points were recommended:

1. Mini-Oxygen/PSA plants of appropriate capacity to meet the oxygen requirements based on the norms and guidelines issued by the Government and directions of Hon’ble High Court of Delhi may be made mandatory for all new hospitals having more than 50 beds for grant of registration under Clinical Establishments Act, 2010.
2. For the existing such hospitals, 1 year time or the time period already provided under Clinical Establishments Act, 2010 whichever applicable may be given for compliance to conditions of installation of Mini-Oxygen/PSA plants.
3. All small hospitals should also build infrastructure and add capacities to meet their oxygen requirements.
4. Accordingly it is recommended that this requirement may be included in minimum standards for Hospitals to be notified by MoHFW under Clinical Establishments Act, 2010.
5. The same advice as at points 1, 2 and 3 may be disseminated to the States/UT not covered by Clinical Establishments Act 2010 to enforce it under the respective State Clinical establishments Act or Disaster Management Act.
6. NHSRC is carrying out the revision of Indian Public Health Standards (IPHS) under NHM, so they may clearly define oxygen requirements for various categories of hospitals ranging from 50 to 500 bedded in the revised IPHS guidelines. Further NHSRC may define the capacity/specifications of equipment/ Mini-Oxygen/PSA plants to meet the oxygen requirement along with ensuring sustained Oxygen supply in Government Health facilities under NHM as a part of IPHS. They may consider defining the standards separately for difficult/remote/ inaccessible areas.

The meeting ended with a vote of thanks to the Chair and participants.

Next Steps: (Task, Assigned to, Checkpoint Date)	Person/ Authority Assigned	Due Date
Approval of recommendations of Subcommittee by the National Council for Clinical Establishments	Dr. Anil Kumar to put up in agenda for consideration of recommendations by National Council	