

F No. 51-10/2012-NCCD
National Centre for Cold Chain Development
Department of Agriculture and Farmers Welfare

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In response to multiple queries received regarding chamber sizing for cold storage facilities exceeding 5000 MT capacity, and with reference to the NCCD's guidelines and technical standards titled "**Engineering Guidelines and Minimum System Standards for Implementation in Cold Chain Components**", to facilitate easier decision-making and provide greater flexibility to applicants, the permissible chamber capacity range for cold stores above 5000 MT are explained as under:

Query A: What should be the capacity of chambers and how many chambers can be constructed while applying for NHB subsidy scheme i.e. above 5000 MT capacity of cold storage type-1, type-1-Onion and type-4?

Answer: Refer Table-1 (below).

Table - 1

| S. No. | Rule No. | Total capacity of the Project | Chamber capacity range | Allowable combinations of capacities |
|---------------|-----------------|--------------------------------------|-------------------------------|---|
| 1 | Rule no. 1 | Upto 5000 MT | Minimum 500 MT upto 1500 MT | |
| 2 | Rule no. 2 | 5001 – 10,000 MT | Minimum 1500 MT upto 2500 MT | For capacity more than 5000 MT but less than or equal to 10,000 MT, the applicant may choose any combination of its choice of sizes from Rule 1 and Rule 2 to fulfil their requirement. |
| 3 | Rule no. 3 | 10,001 – 20,000 MT | Minimum 1500 MT upto 5000 MT | |

ILLUSTRATIVE EXAMPLES FOR REFERENCE:

Example 1: Suppose if an applicant wants to construct a cold storage of Type-4 (CS-4) of capacity 7,500 MT (capacity upto 10,000 MT, but more than 5,000 MT), what can be the possible combinations and number of chambers that can be constructed?

Answer: If an applicant wants to construct a cold storage of Type-4 (CS-4) of capacity 7,500 MT (capacity upto 10,000 MT, but more than 5,000 MT), then the possible combinations and number of chambers are as follows:

1. $500 \text{ MT} \times 1 + 1500 \text{ MT} \times 3 + 2500 \text{ MT} \times 1 = 7500 \text{ MT}$
2. $500 \text{ MT} \times 1 + 1000 \text{ MT} \times 1 + 1500 \text{ MT} \times 4 = 7500 \text{ MT}$
3. $700 \text{ MT} \times 1 + 800 \text{ MT} \times 1 + 1000 \text{ MT} \times 1 + 2500 \text{ MT} \times 2 = 7500 \text{ MT}$
4. $1500 \text{ MT} \times 1 + 2000 \text{ MT} \times 3 = 7500 \text{ MT}$

And more such combinations which are within the prescribed range.

Example 2: Suppose if an applicant wants to construct a cold storage of Type-1 (CS-1) of capacity 12,000 MT (capacity upto 20,000 MT, but more than 10,000 MT), what can be the possible combinations and number of chambers that can be constructed?

Answer: If an applicant wants to construct a cold storage of type-1 (CS-1) of capacity 12,000 MT (capacity upto 20,000 MT, but more than 10,000 MT), then the possible combinations and number of chambers are as follows:

1. $2000 \text{ MT} \times 1 + 5000 \text{ MT} \times 2 = 12,000 \text{ MT}$
2. $1500 \text{ MT} \times 3 + 2500 \text{ MT} \times 1 + 5000 \text{ MT} \times 1 = 12,000 \text{ MT}$
3. $2000 \text{ MT} \times 1 + 2500 \text{ MT} \times 4 = 12,000 \text{ MT}$

And more such combinations which are within the prescribed range.

Query B:

NCCD has received some queries regarding Cold Storage type-II (CS-2), the **clarification** addressing these queries is provided as under:

| S. No. | Queries | Clarification |
|--------|--|---|
| 1 | Whether an applicant can construct more than Six chambers (multiple chambers) of upto 250 MT capacity in case of the cold storage type-II. | <p>The qualifying criteria for cold storage type-2 is that applicant has to construct minimum 6 chambers upto 250 MT capacity.</p> <p>1. Reference: This does not restrict the stakeholders to construct more chambers of upto 250 MT capacity. 2. In case of cold storage type-II. The applicant constructing more</p> |

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| | | <p>than 6 chambers of upto 250 MT capacity, after constructing the intended number of such chambers will have to follow the chamber size criteria as per Table-1 for rest of the capacity of cold storage. Please refer example no. 3 (for reference only).</p> |
| 2 | <p>Whether the applicant opting for racking system including bins or pallet as stacking option needs to construct multiple floors and provide doors on every floors as stated in the NCCD guidelines 2025.</p> | <p>a) The applicants who are opting for racks or pallets system for stacking technically do not require to construct multiple floors as racks may extend upto the desired height. Since loading/unloading on racks happen through MHE's only, the doors on each floor does not serve any purpose. Therefore, the allowed access of MHEs happen through one cold room door. The door installed should be provide easy movement of produce through fork-lifts or high reach MHEs.</p> <p>b) Further, for the chambers where racking system/palletisation is proposed, the conversion factor for those chambers should be 5.0 m³ or 176 ft³ for one MT storage capacity (Refer List II on page no. 348 of NCCD Guidelines 2025).</p> <p>c) The criteria for availing assistance for door is clarified as:</p> <ol style="list-style-type: none"> In case applicant applies under CS-2 (multi-commodity/multi-temperature, minimum 6 chambers of 250 MT but not restricted to 6 chambers), the applicant will be eligible for maximum 20 doors under MIDH, total capacity maximum upto 5000 MT. In case applicant applies under CS-2 (multi-commodity/multi-temperature, minimum 6 chambers of 250 MT but not restricted to 6 chambers), the applicant will be eligible for maximum 30 doors under NHB, total capacity above |

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| | | <p>5000 MT but not more than 20,000 MT.</p> <p>iii. The doors are exclusive of ante room doors as dock leveller system includes dock doors which can be installed on the ante rooms or as per relevant design.</p> <p>iv. For CS-1, CS-1-Onion, CS-2-CA, CS-4, the maximum number of doors that could be availed by the applicant upto 5000 MT under MIDH is 20 doors and for above 5000 MT upto 20,000 MT under NHB is 30 doors.</p> |
| 3 | If an applicant intends to opt for racking system including bins or pallet for storing produce in their cold storage, is there any component in subsidy related to racking system? | <p>a) The applicants opting for racking system may avail subsidy @ Rs. 2000 per MT maximum upto 5000 MT per project for both MIDH and NHB, where subsidy would be provided @ 35% in General areas and @50% in the case of NE & Himalayan States, Scheduled areas, vibrant villages, Andaman & Nicobar and Lakshadweep Islands (Please refer Component no. 9 in NCCD Guidelines at page no. 155).</p> <p>b) The applicants opting for racking system/ palletisation may avail the component- High reach handling equipment minimum one set or maximum 2 set per project, where subsidy would be provided @ 35% in General areas and @50% in the case of NE & Himalayan States, Scheduled areas, vibrant villages, Andaman & Nicobar and Lakshadweep Islands (Please refer Component no. 7 in NCCD Guidelines at page no. 154).</p> |

Example 3: Suppose an applicant proposes a cold storage type-II of total capacity 8500 MT with 10 chambers of capacity upto 250 MT in which racking system/palletisation is proposed. What is the chamber size criteria for this project?

Answer: The applicant is applying for CS-2 with palletisation as well as mezzanine. Therefore, for e.g.

- a) Say, 10 chambers of capacity upto 250 MT = 2500 MT
Number of doors = 10 doors.

b) For remaining capacity of 6000 MT the applicant has to follow criteria for table-1.

Therefore, the remaining chambers capacities could be in the multiple of:

- i. 1500 MT x 4 = 6000 MT
- ii. 1000 MT x 6 = 6000 MT
- iii. 1000 MT x 3 + 1500 MT x 2 = 6000 MT
- iv. 500 MT x 5 + 1000 MT x 2 + 1500 MT x 1 = 6000 MT

And more such combinations which are within the prescribed range.

Since, the eligibility of doors above 5000 MT upto 20,000 is 30 doors.

- i. 10 doors have been already installed for 10 chambers of 250 MT capacity.
- ii. Remaining eligible number of doors that can be installed is only 20 doors.
- iii. However, for those rooms which are installed with mezzanine floors needs to have door on each floor as specified in the NCCD guidelines 2025.

Please note that the above-mentioned capacities are just examples of possible combinations. These are mentioned to provide applicants the idea of chamber capacities and number of chambers they can design as per their requirement.

PART – 2: MODERNISATION (Component C-12)

In response to multiple queries received regarding modernisation of cold storage facilities and with reference to the NCCD's guidelines and technical standards titled "**Engineering Guidelines and Minimum System Standards for Implementation in Cold Chain Components**", clarification on existing modernisation component is stated as under:

| Scheme | Component | Cost Norms | Pattern of Assistance |
|---|---|---|---|
| For MIDH (facilities upto 5000 MT capacity) | C.12 Technology induction/modernization of Cold Storage | Max. Rs. 125 lakhs (where 5 Lakhs/project is for Unified Control System) but not more than Rs. 3000/MT of the cold store capacity for modernization of refrigeration And | Credit linked back-ended assistance @ 35% in General areas and 50% in the case of NE & Himalayan States, Scheduled areas, vibrant villages, Andaman & Nicobar and |

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| | | <p>Max. Rs. 120 lakhs but not more than Rs. 1800/MT for modernization of insulation respectively.</p> <p>However, actual cost would be derived based on the component and qty., etc. chosen depending upon components selection as per NCCD guidelines</p> | Lakshadweep Islands |
| For NHB (facilities above 5000 MT capacity upto 20,000 MT capacity) | C.12 Technology induction/modernization of Cold Storage | <p>Max. Rs. 125 lakhs (where 5 Lakhs/project is for Unified Control System) but not more than Rs. 3000/MT of the cold store capacity for modernization of refrigeration</p> <p>And Max. Rs. 120 lakhs but not more than Rs. 1800/MT for modernization of insulation respectively.</p> <p>However, actual cost would be derived based on the component and qty., etc. chosen depending upon components selection as per NCCD guidelines</p> | <p>50% of the actual cost or 50% of the Rs. 125lakh whichever is lower, for Modernisation of Refrigeration, with capping of maximum subsidy to Rs. 62.5 lakhs. &</p> <p>50% of the actual cost or 50% of the Rs. 120lakh whichever is lower, for Modernisation of Insulation, with capping of maximum subsidy to Rs. 60 lakhs.</p> |
| <p align="center">Unified Control System (50% of the actual cost or 50% of the Rs. 5 lakh whichever is lower, for availing Unified Control System, with capping of maximum subsidy to Rs. 2.5 lakhs)</p> | | | <p>This can also be availed as a separate component under modernisation with due justification along with all the system details.</p> |

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| | <p>The BDS for Unified Control System is included as point 4-Automation & Controls in the Energy Efficiency Datasheet. The applicant needs to fill and submit only the mentioned portion of the BDS to avail the subsidy.</p> |
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Understanding the purpose of modernisation, retrofitting, promoting energy efficiency and green gases following changes are incorporated:

1. Change of refrigerant:

| S. No. | Cost per kg | GWP of Refrigerant gas |
|--------|-------------|------------------------|
| 1 | Rs. 2000 | 500 - 1000 |
| 2 | Rs. 1400 | 1000 - 1500 |

2. Eligibility Essentials:

- Details of existing system
- Capacity of existing system
- COP of existing system
- Refrigerant used in existing system
- Refrigerant charge of existing system
- Photograph of the existing system with label on the compressor showing gas used.
- Certificate from the compressor manufacturer that the compressor used (make & model) could be retrofitted with the new refrigerant gas (refrigerant name, GWP of the refrigerant, efficiency of the refrigerant compared to existing refrigerant used and expected life of the system thereafter).

Cost Norm for Refrigerant modernisation:

- The maximum permissible cost per project would be Rs. 2000 per kg for GWP range from 500 to 1000 and Rs. 1400 per kg for GWP range from 1000 to 1500 upto maximum 5000 MT for MIDH and upto maximum 10,000 MT for NHB but not

exceeding Rs. 1.20 lakhs per project, subject to a subsidy of 50% of the invoice value or maximum of Rs. 60,000 per project or whichever is less. This would be given as one time assistance in case of modernisation/change of refrigerant and retrofitting.

- B. One time assistance under point no. 10 of Component no. 10 at page number 155 of NCCD guidelines 2025 would also be applicable under modernisation.

Please note:

If an applicant applies under modernisation, the applicant needs to submit the Basic Datasheet along with above additional details but not restricting NCCD/NHB/MIDH to ask further details about the project where modernisation would be proposed.

The clarification has been made in response to the queries received by NCCD.