

**Capital Investment Subsidy for Construction/Expansion/
Modernisation of Cold Storages and Storages**

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CHAPTER-I

Making Application for a Letter of Intent under the scheme "Capital Investment Subsidy Scheme for Construction/Expansion/ Modernisation of Cold Storages/Storages"

1. Who can apply for getting Letter of Intent -

A natural person, a group of individuals or a legal person (Partnership Firm, a Trust, Cooperative Society, a Society registered under Registration of Society Act, a company, self-help group) may apply for issue of LOI.

Where to Apply for Issue of LOI-

A. Physical Application on Prescribed Format

Managing Director
National Horticulture Board
Plot No.85, Institutional Area,
Sector-18, Gurgaon

B. Online Submission of Application

NHB has introduced a system for online filing of applications for Letter of Intent (LOI) on its website www.nhb.gov.in. The Homepage of the Website provides a link "*Apply Online and Track Status*" under Cold Storage Scheme. This section contains information like how to apply, cost of application & payment options, checklist, etc. to help applicants to apply online. Applicant has following three options to pay the cost of application:-

- Demand Draft
- Electronic Transfer of funds in NHB's account
- Credit/Debit Card (VISA/Master)

Following is the structure for cost of application:-

Cost of Application	Demand Draft and Electronic Transfer category	Credit or Debit Card (VISA/MASTER)
For Projects having cost upto Rs 10.00 lakh	Rs 1,000/-	1000/- (plus applicable charges towards payment of gateway transaction fee)

For Projects having cost > 20 lakh and upto Rs 50 lakh	Rs 2,000/-	Rs 2000/- (plus applicable charges towards payment of gateway transaction fee)
For Projects having cost > 20 lakh and upto Rs 50 lakh	Rs 5,000/-	Rs 5000/- (plus applicable charges towards payment of gateway transaction fee)
For Projects having cost > 50 lakh	Rs 10,000/-	Rs 10,000/- (plus applicable charges towards payment of gateway transaction fee)

In case, the payment option is Demand Draft or through Electronic Transfer in NHB's account, applicant will have to first get the demand draft prepared or transfer the funds in NHB's account, as DD/Electronic Transfer number is required to be given in the online application. In this case, an applicant will be issued Temporary ID. Permanent LOI Code in case of electronic payment would be issued on receipt of funds in NHB's account and in the case demand draft on receipt of demand draft by the NHB.

In case applicant opts to pay cost of application through Credit or Debit Card, he is issued on the spot acknowledgement alongwith permanent LOI Code.

After filing online application, applicant should take print out of his online application form. He may take a print out in duplicate, retain one copy for his records and the second copy may be attached with the physical application alongwith other necessary documents. It is necessary for the applicants to fill up and submit the detailed application form **(Format-1)** apart from online application form.

2. How to establish Identity of Applicant-

- i. In cases of applicant being a natural person, his name, sex, age, occupation, father's / husband's name, permanent address, full postal address supported by self-attested passport size photograph of applicant affixed on application may normally suffice for establishing identity of natural person or group of individuals.
- ii. In cases the applicant is a statutory person, to know the applicant following details must be insisted upon-
 - a. Attested copy of Document of Registration of the applicant body/company.

- b. Memorandum and Articles of Association of applicant body/company.
- c. Board of Director's Resolution, duly passed and authorizing signatory of application to apply for bank loan, NHB subsidy and take all other related necessary steps in this regard. Signatory of the application must be described in the Board resolution with name, age, sex, designation / occupation, father's or husband's name, permanent address, postal address and his self attested photograph should be attached with the application form
- d. Applicant body's Board of Director's / Competent Body of Management's Resolution permitting or approving Investment proposal, taking of bank loan etc should also be enclosed.
- e. A copy of applicant body's latest Audit-Report and Annual-Report

3. Title of the land and copy of record of right-

The title of the piece of land on which the project is proposed to be set up should be in the name of applicant in the capacity of owner or lessee for minimum period of 15 years. In case of land leased, lease deed it should be registered with the Authority like office of Sub-Registrar, etc. A latest copy of record of right showing this fact should be enclosed with the application. Mortgaged land shall not be treated at par with lease even if the credit institution might have considered so. Similarly, Power of Attorney given by owner of land in favour of applicant shall not qualify him for benefit under the scheme.

4. Validity Period of LOI -

- Validity (i) For a period of one year from the date of issue of LOI for sanction of term loan.
- (ii) The project should be completed within two years from the date of sanction of term loan. Project time over run should be suitably examined.
 - (iii) Revalidation of LOI by the concerned Area Officer for a further period of one year on merit.

CHAPTER-II

Protocol for Implementation of Technical Standards

Subject to provisions of *Variation Clause*, only those cold storage projects that are in conformity with the prescribed technical standards will be eligible for Central Government Subsidy. In order to verify this, following mechanism needs to be put in place-

- A. **System of *Letter of Intent* (LoI)**- LoI to be obtained by the promoter prior to undertaking construction of cold storage needs to be introduced. An application for Letter of Intent must be accompanied by following documents, in addition to any other documents prescribed-
 - i. A copy of the detailed project report
 - ii. Information in prescribed Basic Data Sheet accompanied by requisite documents

Technical scrutiny of the above documents will be undertaken to ensure that the project is in conformity with the prescribed technical standards or any variation is fully justified keeping in view the product to be stored, prescribed storage conditions, energy efficiency and environmental and safety concerns.

- B. **Civil Structure**- Following documents must be submitted by the promoter in respect of civil construction
 - i. Certificate of approval of the building plan by local planning authority,
 - ii. Certificate issued by registered civil design engineer about conformity with relevant BIS Standards and prescribed standards and safety concerns,
 - iii. Certificate by site engineer / architect to the effect of construction of the civil structure as per approved building plan and design and completion of the civil components accordingly in all respects as per prescribed plan and standards,
- C. **Thermal Insulation & Refrigeration System, Control and Safety Devices**
 - i. The components of insulation and refrigeration system should be certified in form of a technical data sheet by the manufacturer confirming the rating and performance as per prescribed standards.
 - ii. Further, site inspection at appropriate stages of construction / erection and commissioning may be undertaken by an inspection team constituted by competent authority for this purpose.
 - iii. Finally, the manufacturer/refrigeration contracting agency will issue a certificate of satisfactory commissioning of the cooling system in conformance to the performance indicators as per prescribed standards.
 - iv. The manufacturer/refrigeration contracting agency will also provide “as built drawings”, including cold store layout, P&I and electrical drawing and an operation & maintenance manual along with a list of essential spare parts.
 - v. A set of above documents along-with the refrigeration system performance certificate issued by the refrigeration company / contracting agency, duly signed by an authorized graduate engineer

of the company/agency, must be submitted to competent authority for record and a copy of the same must be issued to the promoter / owner of the project.

Guidelines for Inspection / Joint Inspection Projects on Completion

Objective- Inspection / Joint Inspection of the project is carried out with the prime objective of ensuring that the project has been completed as per original project report at approved project site and all essential components have been completed with satisfactory quality of execution and acceptable standard of workmanship. It is also aimed at verifying the vouchers and other records maintained by the beneficiary in order to make assessment about the component-wise actual expenditure incurred by the beneficiary and making assessment about cost of the project. It not only gives picture of the project but also provides photographs / video films as per standing instructions of NHB by way of proof of existence of assets created.

Intimation of completion of project and carrying out Inspection / Joint Inspection- On completion of credit linked project for which LOI has been issued by the Board, promoter will inform the concerned financing institution (FI) / Bank about the completion of the project. As soon as possible after receipt of the information/documents regarding completion of the project FI / Bank will fix the date for Joint Inspection of the project in consultation with concerned State Incharge of NHB. Such cases will be jointly inspected by representative of NHB and representative of financing institution (FI) / Bank in presence of beneficiary. Representative of State Directorate of Horticulture may also be associated as per standing orders of NHB.

Salient features of Inspection Report - Bank Inspection Report / Joint Inspection Report will be submitted in the prescribed form by the concerned FI / Bank to NHB. Inspection report is in writing giving necessary description of various components of the project and project land, source of funding, whether all the components of the project are new etc; it is supported by photograph or video film as per standing instructions of NHB.

Making Assessment of cost of components of project and project as a whole on completion of project-

Inspecting Officer / Joint Inspection Team is also responsible for making assessment of the cost of various components of the project and the project as a whole. It is generally made by verifying documentary proof such as vouchers / money receipts relating to procurements / services received etc. At times, when veracity of vouchers / money receipt is not certain, a fair assessment of cost may be made taking into account the local rates etc. Valuation made by Chartered accountant may also be taken into account. Generally, the FIs / Banks release subsequent and final installments of loan after ascertaining value of work executed through CA certificate etc. Such documents may also form the basis of assessing cost of components of the project and project as a whole.

- **Note-** It is advisable to inform the beneficiary about the compliances to be made by him for forwarding subsidy claim for his project; such as, requirement of fresh affidavit in prescribed Performa etc.

CHAPTER-III

Guidelines for Making Subsidy Claims

Procedure for submission of documents/papers for final subsidy claim to the Board:- The concerned FI / Bank who has provided credit for the project has to submit subsidy claims to respective office of NHB directly according to the delegation of powers for sanctioning subsidy for the project. In all cases, the subsidy claims must be submitted in the following manner by speed post / registered post / or by messenger of the Bank who must have Identity Proof of being messenger or must carry authorization certificate from the concerned bank branch. This will help eliminate possibility recurrence of cases of submission of fake subsidy claims as had happened in some States. NHB is proposing to make provisions enabling Financing Institution to make online entry about loan sanction, release of installments of loan, progress of project implementation and making subsidy claims which may facilitate reporting of progress of project and later on, processing by competent authority in NHB of subsidy claims pending receipt of signed and attested copies of documents.

Eligible Project Cost (EPC)- It is observed that the beneficiaries and bankers are sometimes under impression that the subsidy @ 40% of the project cost as appraised or as assessed during Inspection / Joint Inspection of completed project will be sanctioned. This is not true. Therefore, it is being clarified that 40% subsidy will be sanctioned and released against the eligible project cost (EPC). EPC is calculated taking in to account per unit area project cost, and component-wise cost norm. In addition, it is to be noted that the component wise eligible cost shall be least of cost indicated in project report, cost appraised by the bank / FI and cost assessed during Inspection / Joint Inspection of the project. The components not indicated in project report, appraisal report shall, therefore, be not eligible for inclusion for the purpose of calculation of EPC. Similarly, change in component or project site without prior approval of NHB shall make the component or project, as the case may be, ineligible for getting subsidy. Even the change in FI / Banker should be done with prior approval of NHB. It should also be ensured that condition of prescribed minimum percentage of term loan is fulfilled otherwise, subsidy claims will be rejected.

Documents to be submitted with subsidy claims- Keeping in view of the above, the subsidy claims must be submitted in the form prescribed along with following documents including the Bank Inspection Report :-

- (a) Completion certificate of the project as issued by the Bank.
- (b) Financial appraisal carried out by the Bank before sanction of term loan showing means of finance along with any other details showing investment components and their costs. In case, pre-sanction inspection of project site

- is carried out by the FI / Bank, then a certified copy of each of such documents should also be submitted along with subsidy claim.
- (c) Term loan sanction letter issued by the Bank to the beneficiary with detailed terms & conditions clearly mentioning the purpose of term loan, period of repayment along with the activities for which loan sanctioned.
 - (d) Date wise term-loan disbursement detail for the project.
 - (e) Extract of term-loan account of promoter related to the project.
 - (f) Copy of Record of Rights of project land as appended in loan document by the beneficiary along with Search Report, if any, got done by the FI / Bank. This will enable NHB tally the same with the copy of record of right submitted by the beneficiary to NHB along with application for LoI.
 - (g) Photographs taken at the time of inspection of the project **duly signed by the Bank Officer and the promoter**. It should be ensured that the Inspecting Officer (Bank Officer) along with Promoter and NHB officer (in case of JIT) should also be seen in the photographs.
 - (h) All major components of the project must be covered in the photographs.
 - (i) Duly certified expenditure statement (prepared on the basis of vouchers/bills) by Bank or CA certificate as per NHB format by way of proof of assessed cost of the project during Joint Inspection
 - (j) If release of subsidy by RTGS is preferred by the Bank then application for the same with details of corresponding subsidy reserve fund account.

Procedure for adjustment of borrower's account:-

The subsidy released by NHB to Bank/FI in favour of the project shall be kept in the separate account termed as **Subsidy Reserve Fund**. The adjustment of subsidy to term loan account shall be made only as back-ended subsidy. Accordingly, the full project cost including the subsidy amount but excluding the margin money contribution from the beneficiary would be disbursed as loan by the banks. The repayment schedule will be drawn on the loan amount in such a way that the subsidy amount is adjusted after the bank loan portion (excluding subsidy) is liquidated. The subsidy amount in the borrower's Term Loan account should be adjusted only as a part of the recovery of last installment which should not be prior to 36 months period from the date of release of Term Loan. Therefore, term loan account of borrower should not be charged interest from the date subsidy amount is received by the Bank.

Submission of the Utilization Certificate by the Bank/FI:-

After completion of the project and closure of borrower's term loan account and on adjustment subsidy amount as part of the last installment which should not be prior to 36 months period from the date of release of Term Loan, the Bank/FI shall submit to NHB Utilization Certificate of the subsidy amount in Performa prescribed (**Format-VIII**) .

Format-I

List of the documents required for Letter of Intent (LoI) under the NHB scheme "Capital Investment Subsidy for Construction/Expansion/modernization of Cold Storage & Storages of Horticulture Produce".

Section A

Documents related to Letter of Intent

- Application Form (Format-II)
- Affidavit (Format-III)
- Prescribed cost of application form and scheme brochure
- Basic Data Sheet* (Format-IV)
- Board Resolution of the applicant firm/Company, if applicable

Section B

Detailed Project Report consisting of following details :

- . Promoter Profile
- . Proof of identity of applicant
- . Marketing Strategy
- . Implementation Schedule
- . Key Map of Project land showing project details and land boundary details
- . Site layout Plan
- . Financial Analysis
- . Annexure

Section C

Land Documents

- Copy of latest Record of Right issued by competent authority showing applicants right on land
- Copy of permission to use land for cold storage purposes
- NOC from State Pollution Control Board

Section D

Bank Documents

- . Bank Consent Letter

Section E

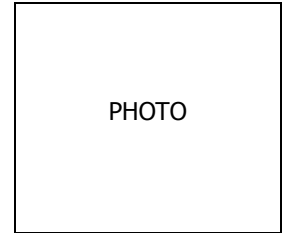
Company Related Documents

- Memorandum of Association & Article of Association
- Certificate of Incorporation
- Latest audited annual accounts

* Basic Technical Data Sheet Available in NHB website www.nhb.gov.in under all Technical Standards for Cold Storage Type-01, 02 & 03

FORMAT-II

- 1) Date of application
- 2) Control No. :
(to be given by NHB)



To
**The Managing Director
National Horticulture Board
Plot No. 85, Sector-18, Institutional
Area, Gurgaon-122015
(Haryana)**

Application for Letter of Intent (LOI) under the scheme "Capital Investment Subsidy Scheme for Construction/Modernization of Cold Storages and Storages" of National Horticulture Board)

A. BENEFICIARY/ENTREPRENEUR

- 1. Name : _____
- Permanent Address : _____
- Postal Address: _____

2. Constitution : Individual/Company/Joint Promoter/Government

In case of Individual

- 3. Category : SC/ST/OBC/Ex-Service Man
- 4. Gender : Male/Female _____ Age _____
- 5. Occupation :
- 5. Promoters/beneficiary profile :

In case of companies -

- Registration number & date of registration
- Registering authority
- Act under which Registered
- Authorized share capital _____

- Paid-up share capital _____ Reserves & surplus _____
(by end of last financial year)

B. PROPOSED ACTIVITY

1. Name of the Project
2. Location:
Survey/Khasra No. _____ Village _____, Taluka _____,
District _____, State _____
3. Component : Cold Storage/CA Storage/Modified Storage/Onion Storage/ Modernization of Existing Storage

4. (A) Existing capacity, if any Chamber (s) Capacity in MT

Chamber No. 1
Chamber No. 2
Chamber No. 3
Chamber No. 4
Total

(B) Proposed new capacity Chamber (s) Capacity in MT

Chamber No. 1
Chamber No. 2
Chamber No. 3
Chamber No. 4
Total

(C) Chamber/Capacity Proposed Chamber (s) Capacity in MT for modernization

Chamber No. 1
Chamber No. 2
Chamber No. 3
Chamber No. 4
Total

(D) Justification for Additional Capacity/Modernization

B.II (a) Whether proposed activity in application is Yes/No
a completely a new activity
(if No, the details of pre-existing activity or any component thereof included in the application should be indicated clearly)

.....
.....

(b) Whether any subsidy has been availed Yes/No
for the proposed proposal/activity from
Central Govt. or any of its Agencies.
(if YES, please indicate clearly in detail)

.....

.....

C. PROPOSED PROJECT COST (Component-wise)

D. PROPOSED MEANS OF FINANCE

(i) Promoter's share
(ii) Bank/FI term loan
(iii) Proposed subsidy from other sources, if any
a) Form State Govt.
b) From Central Govt. other than NHB
Total

(Note: Unsecured loans from friends/relatives will not be treated as equity)

Expected back-ended subsidy from NHB: Rs.

(NHB subsidy will be considered as per Board's guidelines, if found in order, but not guaranteed)

E. EXISTING STATUS OF PROJECT

(Please give details about the activities of the proposed project already completed at the time of submission of application of Letter of Intent (LOI))

.....
.....
.....

G. Whether any assistance in the form of soft loan and subsidy has been availed by the beneficiary earlier from the National Horticulture Board? If yes, give details thereof.

.....
.....

H. Whether any subsidy has been availed from the Board, other Central Govt. organization or State Govt. for the same activity on same piece of land, khasra no. etc.?

.....
.....

Details of subsidy, if availed from:

- (i) MFPI :
- (ii) APEDA :
- (iii) NHM :

(iv) Technology Mission :

I. Name of the Bank/FI from where the term loan is availed/to be availed by the Beneficiary (Please enclose a copy of the duly filled up term loan Application).

- a) Name of Bank:
- b) Details of Bank Branch:
- c) Bank Code:.....

J. Date & Amount of sanction of term loan, if any

: _____

K. Details of release of term loan, if any

: _____

L. DETAILS OF LAND

- I) Whether own land (ancestral) : _____
- ii) Whether own land purchased : _____
- iii) Whether leased If so, how many years lease : _____

iv) Whether lease/tenancy/contract is registered with the Competent Registration Authority

(copy of the proof of each title be enclosed)

M. IMPLEMENTATION SCHEDULE OF PROPOSED ACTIVITY

N. MARKETING OF PRODUCE

O. Cost of Application Form & Scheme Brochure will be as under:

Projects costing upto Rs. 10.00 lakh	: Rs. 1000/-
Projects costing above Rs. 10.00 lakh and below Rs. 20.00 lakh	: Rs. 2000/-
Projects costing above Rs. 20.00 lakh and below Rs. 50.00 lakh	: Rs. 5000/-
Projects costing above 50.00 lakh	: Rs. 10000/-

The above prescribed cost of application form and brochure will be non- refundable.

P. Please remit the cost of application and scheme brochure by Demand Draft drawn in favour of National Horticulture Board payable at Gurgaon (Haryana)

Q. Name & address of consultant who prepared the project report (DPR).

Certified that the information/contents as above furnished by me/us in the application are true to the best of my/our knowledge & belief and nothing material has been concealed. In case, any information furnished in the application is found false, my/our application may be rejected out rightly at any stage by the Board.

(Signature of the Beneficiary)

Name & Address:

Place:

Telephone/Fax No.

Date :

FORMAT-III

**AFFIDAVIT
(on stamp paper of Rs. 20)**

**I/we (Name of the promoter/Director)
Age son of Mr.(father's name) resident of
.....(residence address) do hereby solemnly
affirm and declare as under:**

1. That I/we am/are individual grower/promoter/director/partner/group of growers/association of growers/proprietor of M/s.....(name of beneficiary) having its Registration no. Registered office at (office address of beneficiary).
2. That I hereby make application and I am duly authorised in my own right/by management vide its resolution no.dated to apply and sign all required documents including this affidavit on behalf of company/partnership firm/cooperative society named as ; and am fully aware of the facts relating to the setting up the project at Survey No. Village Tehsil.....District..... State.....(location of the project) for(activities to be undertaken by project) and application is being made to NHB for seeking Letter of Intent (LOI) under the scheme "Capital Investment Subsidy Scheme for Construction and Modernization of Cold Storage and Storages".
3. That the term and conditions of the scheme of NHB under which an application is made by the applicant have been properly read and understood by me and I affirm that the project/proposal/scheme comply with the terms and conditions of NHB and the application is made in the correct applicable scheme.
4. That the proposed activities to be undertaken by the project/proposal scheme are covered under the above scheme of NHB and no part of the scheme/infrastructure of the project is designed or assigned to be used for any activity other than the horticulture activities specified in the applicant at present or in the near future.
5. That the information provided in the application of Letter of Intent (LOI) is true and correct to the best of my knowledge and belief. The estimate of the cost of project/proposal/scheme; financial viability and operating results have been worked out/computed as per the rule and generally accepted principle and norms in this regard.

6. That no subsidy /grants-in-aid other than shown in application form has been availed by the promoters/directors/proprietors for this new project and component thereof from Central Govt. or any of its agencies Except the NHB.
7. That myself or any other promoter of Cooperative Society\, partnership firm self help group has not availed any subsidy from NHB which has not been disclosed in the application.
8. That I/we also solemnly affirm that the proposal activity in the application for LOI is a completely new activity and not a pre-existing activity or any component thereof.
9. That I have thoroughly examined notification F. No. 45-64/2010-Hort dated 25.02.2010 for prescribed technical standards w.e.f. 01.04.2010.
10. That I accept and undertake that the Technical Scrutiny of the documents by NHB or its empanelled agencies shall not in any way obviate the responsibility of the Promoter/deponent, to scrutinize his project and insure that it invariably complies to the prescribed technical standards w.e.f. 01.04.2010 vide notification F. No. 45-64/2010-Hort dated 25.02.2010”.
11. That in case of concealment of any facts in this regard, the Board would have right to reject my application out rightly at any stage.

DEPONENT

VERIFICATION

Verified on solemn affirmation at (Place) on this (date) of, (month), 2010 that the content of the above affidavit are true to the best of my knowledge and belief and nothing material has been concealed.

DEPONENT

(Self Certification Format to be obtained on a stamp paper of Rs.100)

DECLARATION

**I (Name of the Consultant) Age son of
Mr.(father's name) resident of
.....(residence address) certify that:**

1. That I am a graduate engineer and have adequate experience / expertise in designing, Constructing and commissioning cold stores, insulation & cooling system and cold chain infrastructure equipment.
2. That a copy of my graduation / post graduation certificate of B.E. / B. Tech / M. Tech is enclosed and shall form part of my certification and declaration.
3. That I am the project / Technical Consultant and have been hired by the project promoter_____ to design, conceptualize and prepare the project DPR bearing Ref. No._____.
4. That I am fully conversant with relevant codes and standards applicable to the cold chain infrastructure and affirm invariable compliance of the project to the above mentioned prescribed Technical Standards.
5. That I have thoroughly examined notification F. No. 45-64/2010-Hort dated 25.02.2010 for prescribed technical standards w.e.f. 01.04.2010.
6. That I certify that the components of insulation and refrigeration systems in the prescribed format of the technical data sheet conform the ratings and performance of selected equipments and proposed design as per the prescribed Technical Standards w.e.f. 01/04/2010 vide notifications F. No. 45-64/2010-Hort dated 25.02.2010.
7. That I undertake to adhere to the requirements of confidentiality and non-compete with respect to proprietary information entrusted to me by the promoter/manufacturer of equipment / the Board.

8. That I will assist the Government inspection and regulatory agency during stage inspection of the project and provide any/or all technical clarifications as and when required.
9. That I will furnish a certificate of satisfactory commissioning of the cooling system in conformance to the performance indicators as per the prescribed standards.
10. That in case of any concealment of facts by me in the DPR with respect to invariable compliance to Technical Standards or on any instance of false declaration / certification by me or any part of my declaration is found to be incorrect, the Board may, in its discretion, take any actions (including legal action) against me as deemed fit and proper.

IN WITNESS WHEREOF, the consultant has signed this declaration and certification on this ____ day of ____ 2010 in the presence of the following witnesses;

WITNESSES:

1.

(Sign of the Consultant)

2.

FORMAT – IV

Basic Data Sheet

A. Identification

Name of Cold Storage			
Location of Cold Storage	Area / Village	Town	
	District	State	
Name of Promoter Company / Owner			
Type of company (Proprietorship / Partnership / Pvt. Ltd / Ltd)			
Postal address of Promoter			
	Tel / Fax	Mob. No	E-mail
Present activity in brief			
Name of CEO / MD			
Name of Manager / Contact Person		Phone / Mobile No	

B. Basic Cold Store Design Considerations

i) Commodity Storage Requirements

Type of Commodities/Produce		
Ideal / Recommended Storage Conditions – Temperature (DB in °C)		

<ul style="list-style-type: none"> - Humidity RH (%) Range - Air Circulation (CMH/MT of Produce) - Ventilation (Air Changes/Day) - CO₂ Range (PPM) - Produce Cooling Rate (°C/day) - Freezing Point °C - Others 		
Cold Chamber Dry bulb (DB in °C)		
Cold Chamber RH (%)		
Max Storage period (months)		
Max product temp (°C) - at the time of loading		
Daily loading rate (MT/day) - in each cold chamber		
Loading Period (months)		
Pull down rate (°C / day)		
Unloading Period (months)		
Daily unloading rate (MT/day) - from each cold chamber		
Ante Room Conditions (T °C & RH %)		
Sorting & Grading Area (T °C & RH %)		
Special Provisions - CIPC treatment for Process Potatoes		
Special Provisions – MA / Ethylene Control / Fumigation/ Fresh Air etc		

ii) Fresh Air / Ventilation System

Brief Description of CO ₂ Extraction / Ventilation System	
CO ₂ Concentration Control Range (PPM)	
Monitoring & Control Instrument - Type - Accuracy	
Ventilation Capacity (Max Air Changes/Day)	

Design Considerations for Energy Recovery and Preventing Wetting of Produce	

iii) Cold Store Chamber Sizing and Capacity

- No. of chambers:
- Type : Mezzanine/ Palletized
- Max Height of Building

Details	CSC 1	CSC 2	CSC 3	CSC 4
Total Capacity of Each Cold Store Chamber (MT)				
Internal Chamber Dimensions L x B x H (m)				
No. of mezzanine floors X Height (m) per floor				
Size & Weight of Bags or Boxes being stored				
Total number of Bags/Boxes stored in each Cold Store Chamber				

iv) Ante Room & Process Areas

Details	Length (m)	Width (m)	Height (m)
Ante Room			
Sorting & Grading Area			
Loading / Unloading dock			

v) Machine Room & Utility Areas

Details	Length (m)	Width (m)	Height (m)
Machine Room			

Office Area			
Toilets & Changing rooms			
Any other			

vi) Building & Construction Details

– **Type of construction :** Civil/ Pre-engineered Building

Type of External walls of cold chambers	
Type of Internal / Partition walls	
Type of Roof / Ceiling	
Type of Internal structure / Racks	
Type of mezzanine grating	
Types of Lighting fixtures in cold Chambers	
Types of Lighting fixtures in Process & Other Areas	

vii) Insulation and Vapor Barrier

– **Type of Insulation :** Insulating Sheets / Metal Skin Composite panels

Type of Insulation	Wall		Ceiling / Roof	Floor
	External	Internal		
Type of material EPS / Metal Skin PUF Composite Panels / XPS/ PUR, Others				
Relevant IS Code				
Density (kg/m ³)				
Thermal Conductivity at +10°C k value (W/m.K)				
Thermal diffusivity m ² /h				
Water vapour transmission rate, ng/Pa.sm, Max.				
Water absorption after 24h				

immersion, percentage by mass.				
Relevant IS Code of Practice for Thermal Insulation of Cold Store				
Total Insulation Thickness (mm)				
No. of layers & Thickness / layer (mm)				
Type of vapor barrier & thickness (microns)				
Type of Bituminous/Sticking Compound				
Type of Cladding / Covering/External Finish				
Locking/Fixing & Sealing System in case of Metal Skin Composite Panels				
Any other info				

viii) Cold Store Doors & Air Curtains

Type of Insulation	Details
No. of Insulated doors	
Type hinged / sliding	
Insulation Material EPS / PUF / Others	
Thickness of Insulation (mm)	
Type of cladding	
Size of door opening	
Provision of Strip curtains – nos. & overlap %	
Air curtains, if any	
Others	

ix) Material Handling

– **Proposed Practice :** Manual / Semi Automated /Automated

Procedure	Brief Description
Material Handling Procedures & Equipments	
Cap of Electric Elevator Rating of motor (kW)	
Any other device	

x) Grading, Sorting Washing & Packing Line (optional)

– **Proposed Practice :** Manual / Semi Automated /Automated

Procedure	Brief Description
Process Line	
Total Connected Load (kW)	

Please attach a Plan & Layout of the proposed Cold Store unit in accordance to the Statutory Building By-Laws and BIS Building Codes & Standards duly approved by a Registered Architect and Structural Engineer. The drawings should detail out insulation type, thickness, and fixing methodology in sectional details.

C. Heat Load Calculation of Cooling System – Summary

Ambient Conditions	Summer	Monsoon	Winter
Dry Bulb Temperature (°C)			
Wet Bulb Temperature (°C)			

Refrigeration Load		During Loading (kW)	During Pull Down (kW)	During Holding (kW)
Transmission Load				
Product Load				
Internal	Lighting load			

Load	Occupancy load			
Infiltration Load				
Ventilation/ Fresh Air Load				
Equipment Load - Fan motors etc.				
Total Load (kW/24 hrs)				

Compressor Operation Hours/Day	Loading Period	
	Pull Down Period	
	Holding period	

Multipliers	Safety Factor	
	Defrost Period	

Total Refrigeration Load	Peak Period	Holding Period	Lean Period
Total Load (KW)			

Please attach detailed heat load calculation sheets of the proposed cold store unit in accordance to the prescribed Technical Standards and Guidelines duly approved by a Qualified Engineer.

D. Cooling System Design & Equipment Selection

i) Cooling System Configuration

Type of Refrigerant	Ammonia /Freon /Others
Type of System	Direct Exp / Gravity Feed / Overfeed
Type of compressor	Reciprocating / Screw / Scroll / Others
Type of capacity control	Automatic In steps / Step less
Type of condenser	Atmospheric / Evaporative / Shell & Tube / Plate Heat Exchanger / Other
Cooling Towers (if applicable)	FRP Induced Draft / Others

Type of cooling coil	Ceiling suspended / Floor Mounted / Others
Type of defrosting	Air / Water / Electric / Hot gas
Humidification System & Control (Brief Description)	

ii) Compressor Detail

Compressor Make & Model	Nos.	Comp. RPM	Operating Parameters Evap. SST. / Cond. Temp (°C)	Refrigeration Capacity (KW)	Motor Rating. (KW)	Total Electric Power. (BkW)	Remarks Working /Standby

iii) Condenser Details

Condenser Make & Model	Nos.	Operating Parameters Cond. Temp.(SDT)/ in/out water temp(°C) &flow (lps)	Condenser Capacity (kW)	Electric Fan /Pump Motor Rating (kW)	Total Electric Power (BkW)	Remarks Working /Standby

iv) Cooling Tower Details (if applicable)

Cooling Tower Make & Model	Nos.	Operating Parameters DB & WB Temp, in/out water temp(^o C)	Cooling Tower Capacity(KW)	Fan & Pump Capacity (CMH/LPS) & Motor (kW)	Total Electric Power (BkW)	Remarks Working /Standby

v) Air Cooling Units (ACU)

ACU Make & Model	Nos.	Operating Parameters Evap. (SST) & TD* (^o C)	Cooling Capacity (kW)	Air Flow (CMH) & Face Velocity (M/S)	Material of Coil Tubes & Fins	Fin pitch (mm)	Total Fan Electric Power (BKW)

(*) TD – Temperature difference between Evap. (SST) ^oC & Return Air (at coil inlet).

Please attach Detailed Technical Data Sheets of each equipment namely Compressors, Condensers, Cooling Towers, Air Cooling Units giving General Layout, Dimensions, Material of Construction, Rated Capacity, Operating Parameters and COP (please note that the Air Cooling Unit data sheet should include heat transfer area, fin spacing, no. of rows, air flow, face velocity, fan static, air throw, Fan Motor BKW/KW, fin spacing, etc) duly Certified by the respective equipment manufacturers with reference to the Relevant Codes & Standards.

E. Electrical Instillation

Total Connected load (kW)	
Estimated power requirement at Peak Load Period (BkW)	
Estimated power requirement at Holding Load Period (BkW)	
Estimated power requirement at Lean Load Period (BkW)	
Capacity of Transformer (KVA) (proposed)	
Size of Capacitor for power factor correction & their operation	
Make & Capacity of standby D.G.Set (KVA)	

F. Safety Provisions

Details of Fire Fighting equipment	Dry	
	Water based	
Handling Refrigerants & Leaks	Leak Detection	
	Handling measures	
Safety devices – LP/HP cutouts, safety valves, shut off valves etc.		
Details of Emergency alarm system & push button system in cold chambers		
Emergency lighting in Cold chambers & other areas		
Lightening arrestors		
Any other safety provisions		

G. Codes & Standards Followed

Building Design & Structure	
Construction Materials	
Thermal Insulation & Application	
Refrigeration Equipment & Systems	
Electrical & Mechanical Systems	
Food Safety	
Others	

H. Energy Saving Equipment & Measures

Details of Energy Saving devices	Brief Description and Savings
Light Fixtures CFL/LED	
Natural Lighting for general areas	
VFD for fans / compressors	
Refrigerant Controls and Automation	
Air Purger	
Power Factor Controller	
Energy recovery heat-exchanger for Ventilation System	
Renewable/ Solar Energy e.g. PV lighting	
PLC Control, & Data Acquisition	
Any other features e.g. water recycling, rain water harvesting ...	

I. Operation & Maintenance

Description	Nos. / Details
Proposed staff for Operation & Maintenance	
Proposed Annual Maintenance Contracts (if any)	
Training & Preventive Maintenance procedures	
Sanitation & Hygiene practice	
Pollution Control	

J. Estimated Performance Parameters of Proposed Cold Store

Parameters	Peak Period	Holding Period	Lean Period
Coefficient Of Performance (COP) Of the Cold Store Unit			
Power Consumption (KWH/Day)			
Total Electricity Cost (Rs/Day)			
Electricity Cost towards Storage (Rs/ MT /Day)			

K. Other Information

Place
Date

Signature and
Name of Applicant with seal

FORMAT-V

NATIONAL HORTICULTURE BOARD

**Progresses Report
(Pre-Inspection Report)**

Date of Inspection:

1.	(i) Name of the project (ii) Address for communication with telephone No. (iii) Project location with address (iv) Constitution (Individual/ Joint Individual/Partnership Firm/ Company. (v) Status of Land right with land specification – Khasra No. Khatoni etc (own land in the name of applicant/Regd. Lease land in the name of applicant or else, please specify)	
2.	Proposed Activity Type Proposed type of cooling system	Cold Store CS1 / CS2 / CS3
3.	Project Cost & Mean of finance	
4.	<u>Present physical status of the project</u> 4A. Date of start (i) Land development status/boundary/road (ii) Connecting road to the plot (iii) Stage of cold store building civil/pre engineered as on inspection date (iv) Installation of power transformer/electricity supply equipment (v) Installation of Refrigeration cooling system (vi) Type of produce proposed to be stored (vii) Whether cold storage is functioning.	Remarks (in detail) ➤ ➤ ➤ ➤ ➤ ➤ ➤

5.	If any subsidy is given by the Board earlier for any cold storage project, the details of applicant, purpose, year and amount of subsidy may please be indicated	
6.	Status of previous project if any.	
7.	Remarks of inspecting officer	
8.	Whether promoter has approached the Bank/FI for term loan, if yes, the month thereof (Name of Bank with address, Branch Code No. & phone No. If the cold storage is under construction, the details of expenditure made as on date. (i) From applicant share (ii) From Bank Loan	Yes/No
9.	Recommendation of Pre Inspecting Officer	
10.	Permission for cold storage consideration/decision from the relevant Authority	

**Signature of Inspecting Officer
(Full Name & Seal)**