



केंद्रीय भंडारण निगम

(भारत सरकार का उपक्रम)

CENTRAL WAREHOUSING CORPORATION

(A GOVT. OF INDIA UNDERTAKING)

THROUGH MAIL.

No.CWC/II-459/Const./2018-19/1470

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C I R C U L A R


Sub: Procedure/methodology for evaluation of project and working out the IRR.

Corporate Office is receiving the proposals from the Regional Managers for creation of additional storage capacity, generally on the available land or creation of green field capacities in their Regions which require to be evaluated w.r.t. the technical, commercial & financial feasibility. The returns to be achieved from the projects in the form of Internal Rate of Return (IRR) are also required to be computed.

In order to evaluate a project, commercial as well as financial viability are the requirements to be observed by the Regional Managers for which the guidelines have been formulated for income as well as expenditure. These guidelines are described in the self contained note enclosed as Annexure-A. The staffing norms to be observed have also been formulated and the same are enclosed as Annexure-B. As an illustration, the IRR has been worked out for one of the centre i.e. 10000MTC at Badhoi and is enclosed as Annexure-C for guidance. The calculation sheet of IRR in Excel file is also being sent alongwith this circular through mail.

All the Regional Managers are requested to go through the guidelines and accordingly take action for the project proposals for consideration of the competent authority.

Encl: As stated above


25/2/2019
(R.S.RAPERIA)
CHIEF ENGINEER

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11. All EEs/AEs in Engg. Div., CWC, CO, New Delhi.

Corporate Office: 4/1, Siri Institutional Area, August Kranti Marg, Hauz Khas, New Delhi-110016, Tel.Off-011-49857894
Telefax : 011-49857894, E-mail: engg.cwhc@cewacor.nic.in Website: www.cewacor.nic.in

Methodology for computing IRR for the Projects

For computing the IRR of a Project, which is proposed to be constructed either on the existing centre or on a new centre, the following methodology for financial evaluation of the project shall be adopted:

1. The figure of Income & expenditure has been updated upto F.Y.2017-18. Pay & allowances (Establishment cost) & other expenditure on repairs & maintenance, insurance, chemical, covers etc. would be taken as under:

S.No	Particulars	Unit	Cost 2017-18 (Rs. Per MT of available capacity)	Per employee cost for 2017-18 (Rs. In lakh)
(i)	Pay & Allowances (including the cost of RO & CO) (a) For 'A' and 'B' category officers (b) for 'C' and 'D' category employee.	Cost per employee (Rs. in Lacs)		19.93 12.39
(ii)	Repairs & Maintenance	Rs. per MT	35.00	
(iii)	Insurance	Rs. per MT	23.13	
(iv)	Chemical/Covers/Dunnages	Rs. per MT	9.88	
(v)	Travelling Allowances	Rs. per MT	5.58	
(vi)	Wages	Rs. per MT	14.25	
(vii)	Rates & Taxes	Rs. per MT	33.83	
(viii)	Estt. others	Rs. per MT	93.71	
(ix)	Other Misc. Expenditures	Rs. per MT	108.40	

The above costs under different sub-heads have been worked out based on last five years audited accounts except for the establishment cost, which is based on the financial year 2017-18. These costs have been computed by the Fin. Div. and would be circulated from time to time.

Number of employees for each slab of capacity would be taken as per the staffing norms enclosed as Annexure-B.

2. The employee cost has been taken based on actual cost of 2017-18 and to be added as per the staffing norms e.g. a warehouse is having a capacity of 15000 MT and another 5000 MT is proposed to be added then the additional cost of one manager shall be added under pay & allowances. Similarly if a new centre is to be opened with a capacity of 15000 MT then the cost of one JTA/TA category and 2 JS/WAG-I/II under 'C' category would be accounted for.
3. The cost of the land is taken on prorata basis keeping in view the total godown capacity which can be constructed on the land and the actual warehousing capacity being constructed. This applies to both freehold land and leasehold land.

The depreciation on leasehold is charged over the lease period of land and treated as Revenue expenditure.

In case free hold land, the cost of the land is taken at the book value i.e. the cost of the purchase. Corporation has many lands which are more than 20 years old. While computing IRR, the cost of such free hold lands and also the cost of leasehold lands (purchased on perpetual lease basis), which are more than 20 years old, can be ignored for the purpose of computing IRR.

The project life is taken as 30 years. The cost of freehold land taken as project cost should be taken as salvage value in 30th year for computing the IRR as land doesn't get depreciated.

4. The Tax benefit as per the Income Tax Act will be taken for the calculation of IRR calculation. The rate may be considered as 34.60% or at the rate existing in the year in which project is assessed.
5. The above costs of other expenditures are for the year 2017-18 which may be escalated at the rate of 7.40% per annum, taking the same as base rate for subsequent years. The rates will be subject to review periodically. For current year cost i.e. first year, the escalation factor of 7.40% per annum be taken.
6. The cost of equipment like Lorry Weighbridge in case required to be considered as outflow in the first year of installation for calculating the IRR. Cost of assets other than the land and building are to be considered alongwith the project cost as cash outflow for which estimate is to be made by Region depending on the requirement.
7. The income may be estimated based on the type of business & percentage of occupancy to be communicated by RM and confirmed by the Commercial Division based on the last five years utilization rate of RO. In case expected utilization is higher or lower than the average occupancy, RM should give reason for the same. The annual increase in the income may be taken as under, which have been arrived at based on past experience:

For Storage Income @6.00% p.a.
For MF Income @3.20% p.a.


As there is backlog in fixation of tariff for FCI, the above rate of yearly increase of 6.00% in storage income from FCI be considered to estimate the storage income.

8. MF income (income from H&T Operation) is to be considered based on the RMs/Commercial Division's recommendations.
MF expenditure would be considered on the following basis based on the past experience:

For General Operations	91.74% for MF income
For CFS	75.69% of MF income
For ICP	80.60% of MF income

The income would be intimated by the RM

9. Wherever PCS income is considered, corresponding chemical consumption cost @21.98% of PCS income may be considered as expenditure.
10. The costs given above are to be taken for the full capacity being constructed, as rate per MT stated above at S.No. 1 are based on average capacity available per MT.
11. As approved by the BOD, the minimum rate of IRR is 10% for General Warehouses, 12% for Industrial Warehouses and 7.5% for foodgrain warehouse constructed under PEG scheme.
12. Based on the above parameters, the project cost estimates including Departmental Overheads @ 7%, will be prepared by the Head of Engineering Section of concerned RO and submit the same to RM for calculating IRR at their level and then forward to Engineering Division, Corporate Office for its scrutiny and seeking approval of the competent authority through Commercial & Finance Division, CO, New Delhi. Commercial Division, CO, New Delhi will also calculate the IRR at their level for authenticity.
13. The above cost Escalation rates in Income and Expenditure will be updated based on the audited accounts periodically after every three years which would be circulated from time to time.
14. In case required IRR is not coming from the project and RM feels that project is justified, he should look into the following aspects and give his due recommendations:
 - (a) If, there is a possibility that in the first few years, the capacity utilization is low but same may get improved in the later years, and if their projection is different from the average utilization of the Region, then necessary recommendations can be made by RM.
 - (b) The RM may also consider the anticipated income from storage in open or from any other source keeping in view the future scope of business at that centre.


25.9.2019
(R.S.RAPERIA)
CHIEF ENGINEER

Annexure-B

STAFFING NORMS TO BE OBSERVED AS PER THE CAPACITY OF THE WAREHOUSE.

S. No.	Capacity of WH in MT	Manager	TA/JTA	JS/WA-I & II	Security Guards	Total
1	Upto 5000		1	1	4	2
2	5000 to 15000		1	2	4	3
3	15000 to 20000	1	1	2	4	4
4	20000 to 35000	1	2	3	5	6
5	35000 to 50000	1	3	4	6	8
6	50000 and above	1	4	5	8+ (as per requirement of RM)	10

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25/2/2019

Calculation of Internal Rate of Return (IRR)			
CENTRE NAME		Bhadoi	
CAPACITY in MT		10000	Fig In Rs Lakh
Sl. No.	Particulars	Details /Area	Amount
1	Capital Cost		
	Cost of Land including registration charges, if any (as per norms)	In lakh Rs	5.48
	Cost of Construction	In lakh Rs	744.25
	Cost of Equipments (LWB etc)	In lakh Rs	18.00
	Total Capital Cost	In lakh Rs	767.73
2	Tax Benefit from Capital Investment (available for exclusively for Foodgrains Godown)	%	34.60%
3	Occupancy level (%) (first Year)	%	100.00%
4	Capacity in MT		
	(a) Existing capacity	MT	5000.00
	(b) Capacity to be added	MT	10000.00
	(c) Total Capacity after Addition.	MT	15000.00
	(d) Capacity utilization in MT.	MT	10000.00
5	<u>Cost/ Revenue escalation per annum</u>		
	Storage Income	%	6.00%
	MF Charges	%	3.20%
	Any other Income (dessa etc)	%	3.20%
	Escalation in Expenditure PA	%	7.40%
6	Expected No of years for commencement after 2008-09 (pre commencement escalation)	Years	2
7	Establishment Cost	CTC in lacs	No of Employee
	No of additional Employees (Grade A & B)	19.93	0
	Additional Employees (Grade C & D)	12.39	1
	Total (Avg weighted Employee Cost)	12.39	1
8	Salvage Value of construction cost after 30 years	%	5.00%
9	Depreciation Rate on SLM basis	%	3.17%
10	Income Tax Rate	%	34.60%
11	Effective IRR of the Project	%	13.11%

Note Inputs are to be made in Yellow cells only

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27/2/19

Calculation of Internal Rate of Return (IRR)						
CENTRE NAME		Bhadoi		CAPACITY IN MT		10000
SL No	Particulars	Details	Space Utilized	Tariff in RS MT /PM	Amt PM (Lacs Rs)	Amt PA (LACS)
A	CAPACITY IN MT					
	Total available Storage Area	MT	10000			
	Capacity Utilization (taken)	%	100%			
	Total Utilized capacity in MT	MT	10000			
B	SOURCES OF REVENUE (first Year)					
1	Storage Revenue					
	a) Food Grains	100%	10000	108.60	10.86	130.32
	b) Industrial	0%	0	0.00	0.00	0.00
	c) Others	0%	0	0.00	0.00	0.00
	Sub total	100%	10000	108.6	10.86	130.32
2	Gross M.F. Charges		10000.00	0	0.00	0.00
	MF Expenses	92%		0	0.00	0.00
	Net M F Margin	8%		0	0.00	0.00
3	Income of other services, if any.	Lump Sum			0.00	0.00
	Total revenue at 100% Capacity				10.86	130.32
C	EXPENDITURE	(in Lakh)	Cost 2017-18 per MT of available Capacity (in Rs.)	Cost on Commencement	Amt PM (Lacs Rs)	Amt PA (Lacs)
1	Pay & Allowances	12.39	123.90	142.92	1.19	14.29
2	Repairs & Maintainces		35.00	40.37	0.34	4.04
3	Insurance		23.13	26.68	0.22	2.67
4	Chemical/ Covers /Dunnages		9.88	11.40	0.09	1.14
5	Travelling expenses		5.58	6.44	0.05	0.64
6	wages		14.25	16.44	0.14	1.64
7	Rates & Taxes		33.83	39.02	0.33	3.90
8	Estt. Others		93.71	108.09	0.90	10.81
9	Other Expenditures		108.40	125.04	1.04	12.50
10	Project specific expenses		0.00	0.00	0.00	0.00
	TOTAL Expenditure (First Year)		447.68	516.39	4.30	51.64
	Cash Surplus in First Year at 100% utilization				6.56	78.68

Calculation of Internal Rate of Return (IRR)

CENTRE NAME	Bhadol				CAPACITY IN MT				10000		P V Factor	NPV				
	6.00%	3.20%	3.20%	6.00%	7.40%	3.17%	Surplus or PBT	Tax Outflows	Depreciation added	Net Cash flows after Tax						
Year	Capital Outflows	Storage Income	MF Income	Others Incomes	Occupancy Level in %	Total	Establishment	Other Expenditure	Depreciation	Total Operational expenditure	Surplus or PBT	Tax Outflows	Depreciation added	Net Cash flows after Tax	P V Factor	NPV
0	767.73			263.74		263.74										
1		130.32	0.00	0.00	100%	130.32	14.29	37.35	0.00	51.64	-503.99	27.22	0.00	-503.99	1.00	-503.99
2		138.14	0.00	0.00	100%	138.14	15.15	40.11	0.00	55.26	78.88	28.68	0.00	51.46	0.88	45.49
3		146.43	0.00	0.00	100%	146.43	16.06	43.08	0.00	59.14	82.88	30.20	0.00	54.20	0.78	42.37
4		155.21	0.00	0.00	100%	155.21	17.02	46.27	0.00	63.29	87.29	31.81	0.00	57.09	0.69	39.45
5		164.53	0.00	0.00	100%	164.53	18.04	49.69	0.00	67.73	91.92	33.49	0.00	60.12	0.61	36.73
6		174.40	0.00	0.00	100%	174.40	19.13	53.37	0.00	72.49	96.79	35.26	0.00	63.30	0.54	34.20
7		184.86	0.00	0.00	100%	184.86	20.27	57.32	0.00	77.59	101.90	37.12	0.00	66.65	0.48	31.83
8		195.95	0.00	0.00	100%	195.95	21.49	61.56	0.00	83.05	107.27	39.07	0.00	70.16	0.42	29.63
9		207.71	0.00	0.00	100%	207.71	22.78	66.11	0.00	88.89	112.91	41.11	0.00	73.84	0.37	27.57
10		220.17	0.00	0.00	85%	187.15	24.15	71.01	0.00	95.15	118.82	43.18	0.00	77.71	0.33	25.65
11		233.38	0.00	0.00	85%	198.38	25.59	76.26	0.00	101.85	124.96	45.32	0.00	81.83	0.29	23.96
12		247.39	0.00	0.00	85%	210.28	27.13	81.90	0.00	109.03	131.78	47.67	0.00	86.21	0.26	22.49
13		262.23	0.00	0.00	85%	222.90	28.76	87.97	0.00	116.72	139.31	50.19	0.00	90.94	0.23	21.22
14		277.96	0.00	0.00	85%	236.27	30.48	94.47	0.00	124.96	147.58	52.84	0.00	95.98	0.20	20.11
15		294.64	0.00	0.00	85%	250.44	32.31	101.47	0.00	133.78	156.67	55.67	0.00	101.33	0.18	19.10
16		312.32	0.00	0.00	85%	265.47	34.25	108.97	0.00	143.22	166.67	58.67	0.00	107.15	0.16	18.17
17		331.06	0.00	0.00	85%	281.40	36.31	117.04	0.00	153.34	177.99	61.81	0.00	113.44	0.14	17.31
18		350.92	0.00	0.00	85%	298.28	38.48	125.70	0.00	164.18	189.67	65.14	0.00	120.22	0.12	16.51
19		371.98	0.00	0.00	85%	316.18	40.79	135.00	0.00	175.79	197.99	68.64	0.00	127.54	0.11	15.84
20		394.30	0.00	0.00	85%	335.15	43.24	144.99	0.00	188.23	203.99	72.26	0.00	135.34	0.09	15.31
21		417.95	0.00	0.00	85%	355.26	45.83	155.72	0.00	201.55	211.71	76.19	0.00	143.67	0.08	14.90
22		443.03	0.00	0.00	85%	376.58	48.59	167.24	0.00	215.83	221.12	80.33	0.00	152.59	0.07	14.58
23		469.61	0.00	0.00	85%	399.17	51.50	179.62	0.00	231.12	231.12	84.74	0.00	162.04	0.06	14.33
24		497.79	0.00	0.00	85%	423.12	54.59	192.91	0.00	247.50	247.50	89.34	0.00	171.98	0.05	14.14
25		527.66	0.00	0.00	85%	448.51	57.87	207.19	0.00	265.05	265.05	94.26	0.00	182.33	0.05	14.03
26		559.32	0.00	0.00	85%	475.42	61.34	222.52	0.00	283.86	283.86	99.41	0.00	193.26	0.04	14.00
27		592.88	0.00	0.00	85%	503.94	65.02	238.98	0.00	304.00	304.00	104.80	0.00	204.20	0.04	14.00
28		628.45	0.00	0.00	85%	534.18	68.92	256.67	0.00	325.59	325.59	110.64	0.00	215.64	0.03	14.00
29		666.16	0.00	0.00	85%	566.23	73.05	275.66	0.00	348.72	348.72	117.04	0.00	227.48	0.03	14.00
30		706.12	0.00	0.00	85%	612.90	77.44	296.06	0.00	373.50	373.50	124.00	0.00	240.00	0.02	14.00
Total	767.73	10303	0	306		9288	1130	3792	0.00	4922	3599	1420	0	2179		0.00

IRR 30 Years 13.11%