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### Study on the Inventory Management of Nepa Limited

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#### ABSTRACT

The prosperity, civilization and culture of a country depend upon its paper industry. A country which uses the maximum paper, is known highly civilized, developed and educated. The consumption of paper in India is increasing day by day due to the increase in literacy. The “National Newsprint & Paper Mills Limited” was floated by M/s Nair Press Syndicate Limited, as a private entrepreneur, on 25<sup>th</sup> January 1947, It was the first Newsprint Mill in the country. The management of NEPA was taken by the Madhya Pradesh Government in 1949 and it became a Govt. company in 1959. It is the first indigenous newsprint manufacturing unit in the country. A company’s profit, assets and other financial indicators are key information for investors, when deciding whether to buy or sell a company’s stock. Lying about those numbers can be an appealing way to keep a company riding high, when they are not actually performing well. The objective of this research is to study & analyze the Inventory Management of NEPA Limited for the duration of 15 Years from 2001-02 to 2015-16. Index Numbers have been used to analyze and observe the fluctuations in the Inventory in detail of NEPA Limited. Conclusively we can say that the inventory has played an important role in the Current Assets of NEPA Limited. More than Rs. Five thousand lakhs have been invested in the inventories by the NEPA Limited during the fifteen years of analysis from 2001-02. The Ratio in percentage in few years has shown increase, and in remaining years it has shown decrease. The trend values have shown the continuous decrease by 0.13 during all the fifteen years of study.

**Keywords:** Absolute Change, Inventory, Inventory Management, Index Number, Newspaper, NEPA Limited.

#### 1. INTRODUCTION

The paper industries in India play a very important role in fulfilling the huge requirement of paper in different fields and purposes. The consumption of paper in India is increasing day by day due to the increase in literacy.

Paper Industry in India is the 15<sup>th</sup> largest paper Industry in the world. Paper Industry is primarily dependent upon forest based raw materials. The paper in India began from Muslim time.

The actual theory of paper making started in year 1870 when “Beli”, near Kolkata the Royal paper mills was established. In 1925, Punjab Paper Mills was started with an annual capacity of 6000 tons. By 1930-1931, the total capacity of paper production in India was increased to 45600 tons as against 33000 tons in 1925. The share of indigenous production in national consumption was 71% as against 54% in 1925. This research paper focuses on the Study of Inventory Management of NEPA Limited for a period of fifteen years starting from 2001-02 to 2015-16.

At present there are 540 units which are engaged in the manufacture of paper, paper boards and news print in India, in the private sector with installed capacity of 51 lakh tons, these units are of diverse size, type and magnitude, there are about 30 large integrated mills, well organized and well equipped and there are about 270 small units which, are too small and too moderately equipped. As many as 194 paper mills, particularly small mills are either sick or lying close. It is also to be noted down here that NEPA Limited which commenced production in 1955, was the only unit in the country manufacturing newsprint.

## 2. LITERATURE REVIEW

This section covers the reviews of literature of some of the important studies, research papers, projects, books, etc. on the various aspects of this topic.

**Hiller (1990)** In his paper “The politics of News Print – The New Foundland Pulp and Paper Industry (1915-1939)” founded that in 1930s the industry employed not more than 10% of the labour force and even less Perhaps half on a full time basis.<sup>1</sup> It was dominated by two major pulp and paper companies with mills of grand falls and corner brook, which together held leases to almost all the island’s productive forest on generous terms.

**Subburaj (2006)** in his paper he explored that until 1981, national Newsprint and Paper Mills, which is known as NEPA Limited and which commenced its production in 1955, was the only unit in the country manufacturing newsprint. He also explored that the import of paper and paper products was 1.62 lakh tones in 2001-02.

His research also tells that from 1997 the Government has delicensed the paper industry.

**Mehra (2009)** he studied about paper and newsprint in India, where he reveals that for expansion of newspaper in the country there is a need for substantial increase in indigenous production of newsprint. Limited annual availability of such newsprint is a serious bottleneck to the growth of newspaper. He also found that India is a deficit country in respect of newsprint production. He pointed out that only after independence National Newsprint and Paper Mills Limited, NEPA Nagar, Madhya Pradesh, emerged as a newsprint producer. The domestic production of newsprint increased from 1.02 lakh metric tones in 1981-82 to 2.72 lakh metric tones during 1989. The total newsprint requirement for 1988-89 was of the order of 5.40 lakh metric tones. The total newsprint requirement for 2005-06 was 12.87 lakh metric tones.

**Singh (2011)** In his research he found that paper industry is generally define as a forest based industry. He revealed that there are currently 64 newsprint mills with an installed capacity of 12 lakh tones. He also said that until 1981, there was just one newsprint producing unit in the country, the National Newsprint 7 Paper Mills (NEPA).

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1 J.D.Sutherland “A Social History of Pulpwood Logging in Newfoundland during the great depression”, M.A. thesis, Memorial University, 1988, PP. 2-4, 29.

### **3. STATEMENT OF PROBLEM**

As the use of every kind of paper is increasing day by day the more and more pressure on the manufacturing units is also increasing. The manufacturing units which are in the private sector are doing well but few of the manufacturing units of paper specially the Newspaper in Public Sector are running in losses and therefore not able to meet out the demand of the country for the same. NEPA Limited is one of such Newsprint manufacturing unit in Public Sector among the all Newspaper producing unit which is running in losses and not able to pay back its debts. In this paper the focus is on the Study on the Inventory Management of NEPA Limited so that it's inventory requirement can be understood and analyzed its performance and accordingly remedial solutions can be suggested not only to the Company but also to the Government for improvement.

### **4. RESEARCH METHODOLOGY**

The Methodology & Approach followed in this study has naturally been to remain very close to the data available and to analyses them to test the various hypotheses based on theoretical and imperial evidences. To analyze the data various statistical techniques such as absolute percentage change, index numbers, trend values, and ratio techniques have been used in this research work. The secondary data has been used in this research project which had been collected with the help of the various annual reports of NEPA Limited & Various information have been collected from valuable books, articles, bulletins and news papers also. For collecting the data, the web site of the paper making units have also been used.

### **5. OBJECTIVE OF STUDY**

1. Paper is a vital core industry for any country and for capital consumption can be taken as a measure of growth and progress in areas of industrial, cultural & educational activities. The first objective of this paper is to find out the core importance of Paper, Newspaper and Newspaper Mills and their performance in India with reference to National Newsprint and Paper Mills Limited.
2. The economic and social development of any country depends on the paper industry. So one of the objective here is to study how NEPA has contributed for the economic and social development of the economy of India.
3. In the whole research only Inventory Management of NEPA Limited have been focused. Therefore the main objective this research is to study and analyze the Inventory Management of NEPA Limited for a duration of fifteen years starting from 2001-02 to 2015-16.

### **6. ANALYSIS AND INTERPRETATIONS**

The research has been imposed on the Inventory Management of NEPA Limited for the duration of fifteen years commencing from 2001-02. In this research all kinds of Inventories of the company have been taken in to account. Balance sheet is an indicator of the financial position of a business concern in terms of assets and liabilities. Balance sheet is always prepared in such a way that the true and fair financial position of a business is revealed, which will be easily readable and more quickly understood form.

Just like other manufacturing organizations and institutions, NEPA Limited also has different types of inventories.

## **7. STUDY ON THE INVENTORY MANAGEMENT OF NEPA LIMITED**

Inventory is the main component of working capital. Inventory is also known as stock and merchandise. The inventory means and includes the goods and services being sold by the firm and the raw materials or other components being used in the manufacturing of such goods and services. The raw material inventory contains items that are purchased by the firm from suppliers and are converted into finished goods through the manufacturing process. They are an important input of the final product. The work in progress inventory consists of items currently being used in the production process. They are normally partially or semi finished goods that are at various stages of production in a multi stage production process. Finished goods represent the final or completed products which are available for sale. As such a large quantum of fund is necessary to finance the required volume of inventory.

Holding finished goods inventory ensures better customers vices.

## **8. INVENTORY MANAGEMENT**

The application of managerial functions on the basis of some management principles relating to inventory is termed as inventory management. The important managerial functions are planning, organising, directing, communicating, controlling and coordination.

Direction to employees about inventory, communication of related information to the related employer about the inventory through a reasonable or correct medium of communication, controlling the inventory process and inspection of performance of employees about the inventory management which includes their jobs, role and duties towards inventory management and coordination with employees in the field of inventory in management.

The effective controlling of inventory basically depends upon proper management through organising, planning and controlling. In inventory management we basically study about all types of goods, their nature, their quality, quantity status, inflow and outflow, etc. We study about the opening stock, closing stock, stock of raw material stock of work in progress, stock of finished goods, which are purchased and sold during a period of time from the business.

The Inventory plays a significant role in the business. It is an important part of working capital. It is very important to analyse all types of stocks separately, so that it can be seen that the NEPA Limited is managing its stocks properly or not.

**NEPA Limited includes the following type of stock :**

1. Stock of Raw Material
2. Stock of Work in Progress
3. Stock of Stores, Spares & Loose Tools
4. Stock of Finished Goods

## **9. STOCK OF RAW MATERIAL**

The most important type of inventory is the Raw Material. Table 1.1 shows the Stock of Raw Material of NEPA Limited during its fifteen years of operation commencing from 2001-02 to 2015-16.

It can be observed from the table 1 that the Stock of Raw Material of NEPA Limited has gone down from Rs. 618.61 lakhs in the year 2001-02 to Rs. 464.59 lakhs, in the year 2015-16, indicating the decrease of Rs. (-) 154.02 lakhs, where as the percentage decrease being (-) 1.66. However the index number which was 100 during the year 2001-02 has gone down to 75.10 in the year 2015-16, showed the fall by 24.90.

**Table 1**  
**Stock of Raw Material of Nepa Limited**  
**(Rs. in lakhs)**

Year	Amount (in Rs.)	Absolute Change	Percentage Change	Index Number
2001-02	618.61	-	-	100
2002-03	833.53	214.92	34.74	134.74
2003-04	773.13	(-)60.40	(-)7.25	124.98
2004-05	600.20	(-)172.93	(-)22.37	97.02
2005-06	703.29	103.09	17.18	113.69
Changes From (2001-02 to 2005-06)		(A) Absolute Terms (B) Percentage	Rs. 84.68 2.74%	
2006-07	1273.98	570.69	81.15	205.94
2007-08	948.27	(-)325.71	(-)25.57	153.29
2008-09	1039.66	91.39	9.64	168.06
2009-10	1378.17	338.51	32.56	222.78
2010-11	2128.78	750.61	54.46	344.12
Changes From (2006-07 to 2010-11)		(A) Absolute Terms (B) Percentage	Rs. 854.80 13.42%	
2011-12	2405.43	276.65	12.99	388.84
2012-13	1024.25	(-)1381.18	(-)57.42	165.57
2013-14	836.99	(-)187.26	(-)18.28	135.30
2014-15	1834.79	997.80	119.21	296.60
2015-16	464.59	(-)1370.20	(-)74.68	75.10
Changes From (2011-12 to 2015-16)		(A) Absolute Terms (B) Percentage	Rs. (-) 1940.84 (-) 16.14%	
Changes From (2001-02 to 2015-16)		(A) Absolute Terms (B) Percentage	Rs. (-) 154.02 (-) 1.66%	

Source : Annual Reports of NEPA Limited from 2001-02 to 2015-16.

We can conclude that the Stock of Raw Material of NEPA Limited has shown many ups and downs during the fifteen year of operation commencing from 2001-02 to 2015-16. The Stock of Raw Material was purchased by the company from its suppliers in bulk as the suppliers have good faith upon the company. The company should manage the stock as much as it is required.

### 9.1. Stock of Work in Progress

Stock of work in progress represent semi - manufactured products which need further processing before they can be treated as finished products. Table 2 shows the Stock of Work in Progress of NEPA Limited during its fifteen years of operation beginning from 2001-02 to 2015-16.

It can be seen from the table 1.2 that the Stock of Work in Progress of NEPA Limited has moved down from Rs. 10.58 lakhs in the year 2001-02 to Rs. 2.46 lakhs in the year 2015-16, indicating the fall of Rs. (-) 8.12 lakhs.

**Table 2**  
**Stock of work in progress of nepa Limited**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Amount (in Rs.)</i>	<i>Absolute Change</i>	<i>Percentage Change</i>	<i>Index Number</i>
2001-02	10.58	-	-	100
2002-03	10.32	(-) 0.26	(-) 2.46	97.54
2003-04	13.12	2.80	2.71	124.01
2004-05	9.37	(-) 3.75	(-) 28.58	88.56
2005-06	13.64	4.27	45.57	128.92
Changes From (2001-02 to 2005-06)		(A) Absolute terms (B) Percentage	Rs. 3.06 5.78%	
2006-07	16.64	3.00	21.99	157.28
2007-08	21.97	5.33	32.03	207.66
2008-09	17.08	(-) 4.89	(-) 22.26	161.44
2009-10	17.98	0.90	5.27	169.94
2010-11	16.71	(-) 1.27	(-) 7.06	157.94
Changes From (2006-07 to 2010-11)		(A) Absolute Terms (B) Percentage	Rs. 0.07 0.08%	
2011-12	13.21	(-)3.50	(-) 20.95	124.86
2012-13	5.89	(-) 7.32	(-) 55.41	55.67
2013-14	3.21	(-) 2.68	(-) 45.50	30.34
2014-15	11.44	8.23	256.39	108.13
2015-16	2.46	(-) 8.98	(-) 78.50	23.25
Changes From (2011-12 to 2015-16)		(A) Absolute Terms (B) Percentage	Rs. (-) 10.75 (-) 16.28%	
Changes From (2001-02 to 2015-16)		(A) Absolute terms (B) Percentage	Rs. (-) 8.12 (-) 5.12%	

Source : Annual Reports of NEPA Limited from (2001-02 to 2015-16)

We can conclusively say that the Stock of Work in Progress of NEPA Limited during the fifteen years of operation was not as much high as the stock of raw material was.

## 9.2. Stock of Stores, Spares and Loose Tools

These represent that part of the inventory which does not become a part of final product but are required for production process. The Stock of Stores, Spares and Loose Tools may also be in the form of cotton waste, oil and lubricants, soaps, brooms, light bulbs etc. Table 3 Shows the Stock of Stores, Spares & Loose Tools of NEPA Limited during its fifteen years of operation commencing from 2001-02 to 2015-16.



**Table 3**  
**Stock of Stores, Spares and Loose Tools of Nepa Limited**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Amount (in Rs.)</i>	<i>Absolute Change</i>	<i>Percentage Change</i>	<i>Index Number</i>
2001-02	1121.65	-	-	100
2002-03	1046.98	(-) 74.67	(-) 6.66	93.34
2003-04	1287.77	240.79	23.00	114.81
2004-05	1594.51	306.74	23.82	142.16
2005-06	1609.97	15.46	0.97	143.54
Changes From (2001-02 to 2005-06)		(A) Absolute Terms (B) Percentage	Rs. 488.32 8.71%	
2006-07	1797.56	187.59	11.65	160.26
2007-08	1741.45	(-) 56.11	(-) 3.12	155.26
2008-09	1818.83	77.38	4.44	162.16
2009-10	1810.70	(-) 8.13	(-) 0.45	161.43
2010-11	1654.56	(-) 156.14	(-) 8.62	147.51
Changes From (2006-07 to 2010-11)		(A) Absolute Terms (B) Percentage	Rs. (-) 143.00 (-) 1.59%	
2011-12	1669.89	15.33	0.93	148.88
2012-13	1482.82	(-) 187.07	(-) 11.20	133.00
2013-14	1502.22	19.40	1.31	133.93
2014-15	1454.26	(-) 47.96	(-) 3.19	129.65
2015-16	1433.47	(-) 20.79	(-) 1.43	127.80
Changes From (2011-12 to 2015-16)		(A) Absolute Terms (B) Percentage	Rs. (-) 236.42 (-) 2.83%	
Changes From (2001-02 to 2015-16)		(A) Absolute Terms (B) Percentage	Rs. 311.82 1.85%	

Source : Annual Reports of NEPA Limited from 2001-02 to 2015-16.

We conclusively say that the Stock of Stores, Spares & Loose Tools of NEPA Limited during the fifteen years of operation from 2001-02 to 2015-16 has shown many ups and down.

### 9.3. Stock of Finished Goods

Stock of finished goods are completed products awaiting sale, they are the final out put of the production process in a manufacturing firm. In case of whole sellers and retailers, they are generally referred to as merchandise inventory.

It can be seen from the table 1.4 that the Stock of Finished Goods of NEPA Limited has gone up from Rs. 264.91 lakhs in the year 2001-02 to Rs. 2204.37 lakhs in the year 2015-16, indicating an increase of Rs. 1939.46 lakhs while the percentage increase being 48.81.

**Table 4**  
**Stock of Finished Goods of Nepa Limited**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Amount (in Rs.)</i>	<i>Absolute Change</i>	<i>Percentage Change</i>	<i>Index Number</i>
2001-02	264.91	-	-	100
2002-03	22.35	(-) 242.56	(-) 91.56	8.44
2003-04	62.48	40.13	179.55	23.59
2004-05	481.18	(-) 418.70	(-) 670.13	181.64
2005-06	525.77	44.59	9.27	198.47
Changes From (2001-02 to 2005-06)		(A) Absolute terms (B) Percentage	Rs. 260.86 19.69%	
2006-07	2000.46	1474.69	280.48	755.15
2007-08	1225.44	(-) 775.02	(-) 38.74	462.59
2008-09	259.78	(-) 965.67	(-) 78.80	98.06
2009-10	1276.50	1016.73	391.40	481.86
2010-11	694.70	(-) 581.80	(-) 45.58	262.24
Changes From (2006-07 to 2010-11)		(A) Absolute terms (B) Percentage	Rs. (-) 1305.76 (-) 13.05%	
2011-12	1075.74	381.04	54.85	406.08
2012-13	1788.27	712.53	66.24	675.05
2013-14	1690.85	(-) 97.42	(-) 5.45	638.27
2014-15	1820.12	129.27	7.65	687.07
2015-16	2204.37	384.25	21.11	832.12
Changes From (2011-12 to 2015-16)		(A) Absolute terms (B) Percentage	Rs. 1128.63 20.98	
Changes From (2001-02 to 2015-16)		(A) Absolute terms (B) Percentage	Rs. 1939.46 48.81%	

Source: Annual Reports of NEPA Limited from (2001-02 to 2015-16).

This shows the effective management of inventory by NEPA Limited as stock of finished goods was available in bulk during these years, so that the customers can purchase it at any time.

### 10. RAW MATERIAL CONSUMED

Raw Material is required by every manufacturing unit to start its production. During any financial year the Stock of Raw Material which is consumed by the unit is called as Raw Material Consumed. The Raw Material Consumed can be calculated by adding the opening.

Table 5 shows the Raw Material Consumed of NEPA Limited during its fifteen years of operation commencing from 2001-02 to 2015-16.



It can be seen from the table 5 that the Raw Material Consumed of NEPA Limited has moved up from Rs. 1677.43 lakhs in the year 2001-02 to Rs. 5703.31 lakhs in the year 2015-16, indicating an increase of Rs. 4025.88 lakhs, the percentage increase being 16.00.

**Table 5**  
**Raw Material Consumed of Nepa Limited**  
**(Rs. in lakhs)**

Year	Amount (in Rs.)	Absolute Change	Percentage Change	Index Number
2001-02	1677.43	-	-	100
2002-03	1923.25	245.82	14.65	114.65
2003-04	1677.26	(-)245.99	(-) 12.79	99.99
2004-05	3207.88	1530.62	91.26	191.24
2005-06	3690.70	482.82	15.05	220.02
Changes From (2001-02 to 2005-06)		(A) Absolute terms (B) Percentage	Rs. 2013.27 24.00%	
2006-07	4623.05	932.35	25.26	275.60
2007-08	4542.06	(-) 80.99	(-) 1.75	270.77
2008-09	4382.17	(-) 159.89	(-) 3.52	261.24
2009-10	5525.94	1143.77	26.10	329.43
2010-11	1490.52	(-) 4035.42	(-) 73.03	88.86
Changes From (2006-07 to 2010-11)		(A) Absolute terms (B) Percentage	Rs. (-) 3132.53 (-) 13.55%	
2011-12	4097.41	2606.89	174.90	244.27
2012-13	4858.98	761.57	18.59	289.67
2013-14	4831.42	(-) 27.56	(-) 0.57	288.03
2014-15	6635.53	1804.11	37.34	395.58
2015-16	5703.31	(-) 932.22	(-) 14.05	340.00
Changes From (2011-12 to 2015-16)		(A) Absolute terms (B) Percentage	Rs. 1605.90 7.84%	
Changes From (2001-02 to 2015-16)		(A) Absolute terms (B) Percentage	Rs. 4025.88 16.00%	

Source : Annual Reports of NEPA Limited from (2001-02 to 2015-16).

Conclusively we can explain that the Raw Material Consumed of NEPA Limited has shown an increasing trend during the fifteen years of operation commencing from 2001-02 to 2015-16. This table reflects that the consumption of Raw Material by NEPA Limited has increased year by year.

It is very important to divide the Stock of NEPA Limited to calculate and compare the percentage share also. For this purpose table 6 has been prepared to study the Percentage share in Stock of NEPA Limited during the fifteen years of the study from 2001-02 to 2015-16.

It can be observed from the table 1.6 that the Stock of Raw Material of NEPA Limited which was Rs.618.61 lakhs during the year 2001-02, has gone down to Rs. 464.59 lakhs during the year 2015-16 indicating the fall of Rs.154.02 lakhs.

**Table 6**  
**Percentage Share in Stock of Nepa Limited**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Stock of Raw Material</i>	<i>Percentage</i>	<i>Stock of Work in Progress</i>	<i>Percentage</i>	<i>Stock of Sto., Spr., &amp; Loose Tools</i>	<i>Percentage</i>	<i>Stock of Finished Goods</i>	<i>Percentage</i>	<i>Total</i>
2001-02	618.61	30.69	10.58	0.52	1121.65	55.64	264.91	13.15	2015.75
2002-03	833.53	43.57	10.32	0.54	1046.98	54.72	22.35	1.17	1913.18
2003-04	773.13	36.19	13.12	0.61	1287.77	60.27	62.48	2.93	2136.50
2004-05	600.20	22.35	9.37	0.35	1594.51	59.38	481.18	17.92	2685.26
2005-06	703.29	24.65	13.64	0.48	1609.97	56.44	525.77	18.43	2852.67
2006-07	1273.98	25.04	16.64	0.33	1797.56	35.32	2000.46	39.31	5088.64
2007-08	948.27	24.09	21.97	0.56	1741.45	44.23	1225.44	31.12	3937.13
2008-09	1039.66	33.16	17.08	0.54	1818.83	58.01	259.78	8.29	3135.35
2009-10	1378.17	30.74	17.98	0.40	1810.70	40.39	1276.50	28.47	4483.35
2010-11	2128.78	47.36	16.71	0.37	1654.56	36.81	694.70	15.46	4494.75
2011-12	2405.43	46.58	13.21	0.26	1669.89	32.34	1075.74	20.82	5164.27
2012-13	1024.25	23.81	5.89	0.14	1482.82	34.47	1788.27	41.58	4301.23
2013-14	836.99	20.75	3.21	0.08	1502.22	37.25	1690.85	41.92	4033.27
2014-15	1834.79	35.83	11.44	0.22	1454.26	28.40	1820.12	35.55	5120.61
2015-16	464.59	11.32	2.46	0.06	1433.47	34.92	2204.37	53.70	4104.89

*Source* : Annual Reports of NEPA Limited from (2001-02 to 2015-16)

The Percentage share in Stock of Finished Goods of NEPA Limited has been recorded 13.15, which has gone up to 53.70% during the year 2015-16, indicating an increase of 40.55%.

Conclusively we can say that the Percentage Share in Stock of NEPA Limited has played an important role in the management of NEPA Limited. The Stock of Stores, Spares & Loose Tools of NEPA Limited was more than Rs. 1100.00 lakhs during the fifteen years of study commencing from 2001-02 to 2015-16.

It was essential to calculate ratios with the help of material of NEPA Limited. So an attempt has been made for this purpose. In table 7 an attempt has been made to calculate the Raw Material turnover ratio during the fifteen years of operation commencing from 2001-02.

Raw Material Turn over Ratio has been computed by using the following formula-

Raw Material Turn over Ratio = Raw Material Consumed / Average Stock  
of Raw Material

**Table 7**  
**Raw Material Turn Over Ratio of Nepa Limited**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Raw Material Consumed</i>	<i>Average Stock of Raw Material</i>	<i>Raw material Turn over ratio</i>
2001-02	1677.43	524.08	3.20
2002-03	1923.25	726.07	2.65
2003-04	1677.26	428.33	3.92
2004-05	3207.88	686.67	4.67
2005-06	3690.70	651.75	5.66
2006-07	4623.05	988.64	4.68
2007-08	4542.06	1111.13	4.09
2008-09	4382.17	993.97	4.41
2009-10	5525.94	1208.92	4.57
2010-11	1490.52	1753.48	0.85
2011-12	4097.41	2267.11	1.81
2012-13	4858.98	1714.84	2.83
2013-14	4831.42	930.62	0.19
2014-15	6635.53	1335.89	4.97
2015-16	5703.31	1149.69	4.96

*Source* : Annual Reports of NEPA Limited from (2001-02 to 2015-16).

It can be observed that the Raw Material turn over ratio of NEPA Limited which has 3.20 times during the year 2001-02 has moved up to 4.96 times in the year 2015-16.

Conclusively we can say that the Raw Material Consumed of NEPA Limited has shown an increase in almost each and every year of research.

Stores Spares & Loose Tools Turnover ratio can be calculated as follows

Stock of Stores, Spares & Loose Tools Consumed / Average Stock of Stores, Spares & Loose Tools

After calculating Raw Material Turn over ratio it was felt that the ratio of Stores, Spares & Loose Tools Turn over ratio should also be calculated. For this purpose an attempt has been made in the table 1.8 during the fifteen years of the study from 2001-02 to 2015-16.

**Table 8**  
**Stores, Spares and Loose Tools Turn Over Ratio**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Stock of Stores, Spares Consumed and Loose Tools (a)</i>	<i>Average Stock of Stores, Spares and Loose Tools (b)</i>	<i>Stores, Spares and Loose Tools Turnover Ratio = (a/b)</i>
2001-02	1121.65	1098.43	1.02
2002-03	1046.98	1084.32	0.97
2003-04	1287.77	1167.38	1.10
2004-05	1594.51	1441.14	1.11
2005-06	1609.97	1602.24	1.00
2006-07	1797.56	1703.77	1.06
2007-08	1741.45	1769.51	0.98
2008-09	1818.83	1780.14	1.02
2009-10	1810.70	1814.77	1.00
2010-11	1654.56	1732.63	0.95
2011-12	1669.89	1662.23	1.00
2012-13	1482.82	3152.71	0.47
2013-14	1502.22	1492.52	1.01
2014-15	1454.26	1478.24	0.98
2015-16	1433.47	1443.87	1.00

*Source:* Annual Reports of NEPA Limited from (2001-02 to 2015-16).

Cost of goods sold, which is also known as the cost of sales is the cost of the Goods that has been sold by the business.

It is very important to analyse the Work in Progress Turn over ratio of NEPA Limited during its fifteen years of operation commencing from 2001-02 to 2015-16.

**Table 9**  
**Work In Progress Turnover Ratio of Nepa Limited**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Cost of goods sold (a)</i>	<i>Average stock of work in progress (b)</i>	<i>Work in progress turn over ratio (a/b)</i>
2001-02	4079.47	10.40	392.26
2002-03	4512.12	10.45	431.78
2003-04	4376.55	11.72	373.43
2004-05	6818.46	11.25	606.09
2005-06	8187.62	11.51	711.35
2006-07	10201.59	15.14	673.82
2007-08	10141.42	19.31	525.19

*Study on the Inventory Management of Nepa Limited*

<i>Year</i>	<i>Cost of goods sold (a)</i>	<i>Average stock of work in progress (b)</i>	<i>Work in progress turn over ratio (a/b)</i>
2008-09	10116.99	19.53	518.02
2009-10	11768.90	17.53	671.36
2010-11	5271.23	17.35	303.82
2011-12	6456.97	14.96	431.62
2012-13	8254.16	9.55	864.31
2013-14	8212.60	4.55	1804.97
2014-15	10152.00	7.33	1384.99
2015-16	9339.82	6.95	1343.86

*Source:* Annual Reports of NEPA Limited from (2001-02 to 2015-16).

It can be seen from the table 1.9 that the Cost of Good Sold of NEPA Limited which was Rs. 4079.47 lakhs during the year 2001-02 has gone up to Rs. 9339.83 lakhs during the year 2015-16 which reflects an increase of Rs. 5260.36 lakhs.

Conclusively we can say that the Cost of Good Sold of NEPA Limited has increased in few years and decreased in remaining years of the study. Average Stock of Work in Progress of NEPA Limited remained in the range from Rs. 6.00 lakhs to Rs. 20.00 lakhs. However the Work in Progress Turn over ratio of NEPA Limited has shown an increasing trend in most of the years.

**Table10**  
**Finished Goods Turnover Ratio of Nepa Limited**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Cost of Goods Sold (a)</i>	<i>Average Stock of Finished Goods (b)</i>	<i>Finished Goods Turn Over Ratio (a/b)</i>
2001-02	4079.47	177.49	22.98
2002-03	4512.12	143.63	31.41
2003-04	4376.55	42.42	103.17
2004-05	6818.46	271.83	25.08
2005-06	8187.62	503.48	16.26
2006-07	10201.59	1263.12	8.08
2007-08	10141.42	1612.95	6.29
2008-09	10116.99	742.61	13.62
2009-10	11768.90	768.14	15.32
2010-11	5271.23	985.60	5.35
2011-12	6456.97	885.22	7.29
2012-13	8254.16	1432.01	5.76
2013-14	8212.60	1739.56	4.72
2014-15	10152.00	1755.49	5.78
2015-16	9339.83	2012.25	4.64

*Source:* Annual Reports of NEPA Limited from (2001-02 to 2015-16).

The Average Stock of Finished Goods is that stock which can be calculated by dividing the opening stock of finished goods and closing stock of finished goods by two. Finished Goods Turn over ratio is calculated by dividing the cost of goods sold with Average stock of finished goods. The Finished Stock Turn over ratio has been calculated in table 10 during the fifteen years of period from 2001-02 to 2015-16.

It can be seen in table 10 that the Cost of Goods Sold of NEPA Limited which was Rs. 4079.47 lakhs during the year 2001-02 has gone up to Rs. 9339.83 during the year 2015-16, the increase of Rs. 5260.36 lakhs has been calculated.

It is very essential to make a comparison between the Current Assets and Inventories of NEPA Limited during the fifteen years of analysis from 2001-02 to 2015-16. So Current Assets and Inventory of NEPA Limited have been compared by calculating the Ratio of Inventory to Current Assets of NEPA Limited. Moreover the trend values have also been compared by calculating Ratio of Inventory to current Assets.

**Table 11**  
**Ratio Of Inventory To Current Assets Of Nepa Limited**  
**(Rs. in lakhs)**

<i>Year</i>	<i>Current Assets</i>	<i>Inventories</i>	<i>Ratio (in percentage)</i>	<i>Trend Values</i>
2001-02	2996.69	2015.75	67.27	64.32
2002-03	2619.16	1913.18	73.05	64.19
2003-04	3122.45	2136.50	68.42	64.06
2004-05	4365.62	2685.26	61.51	63.93
2005-06	5495.91	2852.67	51.91	63.80
2006-07	7730.62	5088.64	65.82	63.67
2007-08	7247.91	3937.13	54.32	63.54
2008-09	6715.01	3135.35	46.69	63.41
2009-10	7233.32	4483.35	61.98	63.28
2010-11	6099.14	4494.75	73.69	63.15
2011-12	6937.37	5164.27	74.44	63.02
2012-13	6186.48	4301.23	69.53	62.89
2013-14	6444.71	4033.27	62.58	62.76
2014-15	8590.10	5120.61	59.61	62.63
2015-16	6804.45	4104.89	60.33	62.50

*Source:* Annual Reports of NEPA Limited from (2001-02 to 2015-16).

However the Inventories which was Rs. 2015.75 lakhs during the year 2001-02, has also increased to Rs. 4104.89 lakhs, it clearly showed the increase of Rs. 2089.14 lakhs.

## **11. SUMMARY AND FINDINGS**

1. In this analysis we have emphasized on the Inventory Management of NEPA Limited during the fifteen years of the study from year 2001-02 to 2015-16.
2. During the fifteen years of the study we have studied and analyzed different inventories of NEPA Limited with the help of Index Numbers and Trend values.

## **12. PROBLEMS AND SUGGESTIONS**

1. The main problem of the company is the unavailability of adequate raw material used for producing the paper and newsprint.
2. Present age is the age of Computer. The success of any business and organization largely depends upon Computer. Being a public company most of the work is done here manually which does not prove much effective and takes too time and money. So NEPA Limited should install advanced Computer system with advanced technology to improve its work.
3. For the betterment and effective planning different committees can be formed by any business or organization. So a committee should be established by the company for the improvement, progress and look in to the Inventory Management of NEPA Limited.
4. The Central and State Government should provide adequate grants to the Company so that the financial requirements can be fulfilled.

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