CHAPTER-III

Review Relating to Statutory Corporation

3. Operational Performance and Material Management of Uttar Pradesh State Road Transport Corporation

HIGHLIGHTS

Uttar Pradesh State Road Transport Corporation (Nigam) was established (June 1972) to accelerate pace of development and provide adequate, efficient and economical road transport system in the State. However, the performance of the Nigam was marked by poor operational/inventory control resulting in continuous losses. The accumulated losses at the close of March 1999 aggregated Rs. 504.63 crore.

(Paragraph 3.1, 3.4 and 3.5)

Substantial number of Nigam's buses were old and uneconomical causing loss of Rs. 183.50 crore.

(Paragraph 3.5.3.1)

Fleet utilisation was low compared to targets due to inefficiencies of the workshops leading to loss of potential contribution of Rs. 85.10 crore.

(Paragraph 3.5.2)

Vehicle productivity was low and cancellation of scheduled kms. was highest in the country leading to loss of Rs. 97.77 crore and Rs. 404.55 crore respectively.

(Paragraph 3.5.3)

As a sequel to unauthorised operation of private buses and issue of permits to private operators on nationalised routes, the load factor was low and resulted in loss of Rs. 183.64 crore.

(Paragraph 3.5.4)

Assessment of economically viable routes to cross subsidise losses of uneconomical routes was absent. An analysis for 1998-99 revealed that 85.93 per cent routes were economically unviable leading to substantial drop in performance parameters. Further, induction of private buses on economical routes resulted in loss of Rs. 11.66 crore.

(Paragraph 3.5.5 and 3.5.6)

Maintenance cost of operation was high due to higher bus staff ratio. The Nigam also failed to avoid premature scrapping of new tyres. This resulted in extra cost on new tyres aggregating Rs. 14.92 crore.

(Paragraph 3.5.8, 3.5.10 and 3.6.1.2.5)

Staff productivity was low leading to a loss of Rs. 72.04 crore due to excess or shortfall of crew/staff.

(Paragraph 3.5.12)

Decision to use plywood chequered sheets as flooring material for buses despite low cost of aluminium chequered sheets resulted in increase in cost by Rs. 2.20 crore.

(Paragraph 3.6.1.2.1)

Nigam incurred loss of Rs. 0.22 crore in procurement of lubricants at higher rates.

(Paragraph 3.6.1.2.5)

3.1 Introduction

The erstwhile Government Roadways was reconstituted (June 1972) as Uttar Pradesh State Road Transport Corporation (Nigam) under Section 3 of Road Transport Corporations Act, 1950. The main object[32] of establishing the Nigam was to accelerate the pace of development and provide adequate, efficient and economical road transport system to the advantage of public, trade and industry and other modes of transport, coordinating with and extending/improving it in any area.

3.2 Organisational set-up

A Board of Directors consisting of Chairman, Managing Director (MD), and eight other Directors manage the activities of the Nigam. At the headquarters, MD is assisted by an Additional Managing Director, three Chief General Managers (each responsible for technical, operation and planning functions), 12 General Managers under them and a Financial Advisor-cum-Chief Accounts Officer. In the field, the operational activities were spread all over the State with 113 depots under 18 Regions and four Zones working under the administrative control of Depot Managers, Regional Managers and Zonal Managers, respectively. Besides two Central workshops at Kanpur (each headed by a General Manager), each region and depot have an attached workshop under the charge of a Service Manager and an Assistant Regional Manager (Technical), respectively, for day-to-day renovation of buses.

3.3 Scope of Audit

The operational performance including material management of the Nigam based on test check of six regions[33] (out of 18) and one Central Workshop at Kanpur (out of two workshops) for a period of five years up to 1998-99 was reviewed during November 1999 to March 2000 and the findings are set out in the subsequent paragraphs.

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[32] Section 3, 18 and 22 of Road Transport Corporations Act, 1950.

[33] Allahabad, Agra, Dehradun, Kanpur, Lucknow and Meerut.

Fund management of the Nigam was reviewed previously in the report of the Comptroller and Auditor General of India for the year 1995-96 (Commercial), Uttar Pradesh. Discussion of the review by the Committee on Public Undertakings was in progress (August 2000).

3.4 Financial position and working results

The financial position and working results of the Nigam for five years up to 1998-99[34] are given in Annexure-20.

A review of Annexure-20 revealed that the capital expenditure of the Nigam was mainly financed by borrowings. Capital expenditure consisted of expenditure on purchase of chassis and body building. The major application of fund was towards setting off of accumulated losses which have increased from Rs. 340.23 crore in 1994-95 to Rs. 504.63 crore in 1998-99 and have fully eroded the capital contribution.

It would further be seen from the working results that the Nigam was continuously incurring losses ranging from Rs. 20.40 crore to Rs. 48.14 crore during the last five years up to 1998-99. The main reasons for losses as analysed by audit were higher maintenance cost; higher staff cost; high procurement cost and material usage; heavy cancellation of scheduled kms.; premature scrapping of new tyres; inability to check unauthorised operation of private vehicles on nationalised routes; inadequate and inefficient structure of checking staff to curb leakage of revenue etc.

3.5 Operational performance

The operational performance of the Nigam under various operating parameters for the last five years up to 1998-99 is given in Annexure-21. As could be seen from Annexure-21, there was marginal decrease in average number of buses held but there was marginal increase in percentage of buses on road during the five years up to 1998-99. The vehicle productivity and bus staff ratio also show marginal improvement but expenditure incurred per km was much more than the revenue earned per km. As a result, the Nigam incurred loss during each of the five years up to 1998-99.

A review of performance for ten years (1989-99) revealed that the Nigam had achieved fleet utilisation of 89 *per cent* during 1989-90 to 1993-94. It, however, started declining up to 1997-98 and improved to 90 *per cent* during 1998-99. The load factor that was in the range of 66 to 72 *per cent* declined and was in the range of 64 to 69 *per cent* during the same period. The loss per km (paise) that ranged between 13.5 paise to 65.9 paise during 1989-90 to 1993-94 was in the range of 29 paise to 79 paise during 1994-95 to 1998-99. The Nigam has also not prepared any operation manual indicating norms for various operational parameters and systems which could serve as bench mark/guide to the field staff.

[34] Figures of 1998-99 are provisional throughout the review.

The data published by the Central Institute of Road Transport (CIRT), Pune for 1998-99 indicated that though the Nigam occupied fourth position in number of buses held but was comparatively poor in performance parameters (from 2nd to 40th) as detailed in Annexure-22. The performance of the Nigam assessed on the basis of important parameters is discussed in succeeding paragraphs.

3.5.1 Vehicular strength and age profile

As per the review published by Transport Research Wing of the Ministry of Surface Transport (September 1997), the desirable norm for scrapping of a bus is five lakh kms. or eight years of operation, whichever is earlier. Fleet operated after the useful life will have decreased utilisation and increased operational, maintenance and repair costs. Removal of bus, however, depends on its relative condition and availability of fund for replacement.

As per study[35] conducted (April to September 1991) by the General Manager (Technical) of Gujarat State Road Transport Corporation (GSRTC), effect of ageing of a bus reduces the bus utilisation by 30 *per cent* after three lakh kms. and 65 *per cent* after seven lakh kms. of the original. It also increases the operational, maintenance and repairs (diesel, lubricant, tyres, batteries, assemblies, spare parts & consumable and labour) cost by eight *per cent*.

Substantially large number of overage buses resulted in loss of Rs. 183.50 crore due to drop in bus utilisation and high maintenance cost

The Nigam carried substantially large number of overage buses (26 to 41 *per cent* in terms of years and 62 to 72 *per cent* in terms of kms. run) during five years up to 1998-99 (details in Annexure-23) as tabulated on the next page :

Attributes	1994-95	1995-96	1996-97	1997-98	1998-99
Number of buses in the beginning	8014	7757	7730	7463	7005
Buses declared obsolete	740	711	447	1258	838
New buses introduced	483	684	180	800	415
Total buses at the end	7757	7730	7463	7005	6582
Average no. of buses	7920	7753	7570	7352	6859
Number of overage buses at the close	2117	2125	2831	2741	2800
Percentage of overage to uses:					
More than eight years of age	26	33	41	36	32
More than lakh kms .run	62	65	72	68	69
Average life of fleet:					
• In years	5.78	5.88	6.47	6.04	6.03
• In lakh kms	5.34	5.35	5.92	5.80	5.92

[35] Pages 536-540 of Journal of Transport Management of September 1993 published by CIRT, Pune.

Based on study conducted by the General Manager (Technical), GSRTC and taking into account the average life of the fleet of the Nigam, the reduction in bus utilisation in the Nigam during five years up to 1998-99 worked out to 1801.32 lakh kms. with consequential loss of potential contribution of Rs. 95.63 crore and high cost on maintenance of Rs. 87.87 crore during this period.

It was also seen in audit that during five years up to 1998-99, the replacement of buses against the targets could be met only to the extent of 15 to 53 *per cent* (except during 1994-95 and 1997-98) as detailed in Annexure-24. The overall augmentation in fleet was nil during all these years.

The main reason for failure to achieve the targets was Nigam's inability to generate enough surplus out of own sources or to earmark depreciation reserve as a separate fund[36] for the purpose (up to July 1999) as was done prior to formation of Nigam. Under the existing policy to induct fund only in profit making STUs, the Central Government did not infuse any fund from 1989-90 and the State Government contributed only marginally for Kumbh mela and Uttarakhand Vikas and others.

Due to this, the fleet of the Nigam that consisted of about 8000 buses during 1989-90 to 1993-94, started declining and was 6859 in 1998-99 as detailed in Annexure-22. To offset the balance, the Nigam started inducting private buses on hire basis to operate on nationalised routes. During five years up to 1998-99, the Nigam inducted private buses ranging from 310 (1994-95) to 982 (1998-99).

3.5.2 Fleet utilisation

Low fleet utilisation mainly due to inefficiency of the workshop resulted in loss of Rs. 85.10 crore

Fleet utilisation represents *percentage* of buses utilised on road to the number of buses held. As per the Association of Road Transport Undertaking (ASRTU) report of 1998-99[37], even "one *per cent* improvement in the overall fleet utilisation of STUs is equivalent to 1160 buses added to their total fleet". It was noticed that 25 STUs had achieved better fleet utilisation in the country with Coimbatore Division-I, Tamilnadu achieving the best 99.6 *per cent* fleet utilisation during 1998-99. However, the Nigam fixed targets ranging between 91 and 93 *per cent* against which the shortfall ranged between 1 and 7 *per cent* during the five years up to 1/998-99 as tabulated below :

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[36] To the extent of cash surplus (loss minus depreciation on bus).

[37] Page 11, Profile and Performance 1998-99 of CIRT.

[38] Per km contribution (operational income minus variable cost) was Rs. 4.05, Rs. 4.83, Rs. 5.17, Rs. 5.18 and Rs. 5.90 during 1994-95 to 1997-98 respectively.

[39] Not fixed, taken as 92 on previous year basis.

Year	Target (%)	Achieve-ment (%)	Short-fall (%)	Total kms. achieved (in lakh)	Average fleet (in nos.)	Total shortfall (kms. in lakh) (5 X 4 /3)	Equivalent no. of buses corresponding to the short-fall (7 X 6 /5)	Loss of potential contri-bution [36] (Rs. in crore)
1994-95	92	87	5	6006.47	7920	345.20	455	13.98
1995-96	92	85	7	5858.80	7753	482.49	638	23.30
1996-97	92[37]	85	7	5555.08	7570	457.48	623	23.65
1997-98	93	87	6	5689.70	7352	392.39	507	20.32
1998-99	91	90	1	5879.73	6859	65.33	76	3.85
					Total	**1742.89**		**85.10**

As indicated in the table above, the Nigam failed to add buses ranging from 76 to 638 to its fleet without any capital cost due to shortfall in achievement of target of fleet utilisation during last five years up to 1998-99. Considering load factor being constant, the loss of potential contribution worked out to Rs 85.10 crore during five years up to 1998-99 on shortfall of 1742.89 lakh kms. One of the main reasons for shortfall has been delay in repair of buses. Test check of the time taken in putting the buses on line and final despatch in respect of Central Workshop, Kanpur (out of two) alone for 1998-99 and 1999-2000 (up to December 1999) revealed that the workshop did not function in the desired manner leading to delays ranging from 1 day to more than 70 days affecting fleet utilisation adversely. These delays have contributed to a loss of potential contribution of Rs. 71.00 lakh. It was also noticed that the Nigam has not prepared any manual for workshop management in the absence of which efficiency of various operational parameters of the workshop could not be analysed in audit.

3.5.3 Vehicle productivity

Shortfall in vehicle productivity due to highest cancellation of scheduled kms. in the country due to controllable causes resulted in loss of Rs. 404.55 crore

Vehicle productivity denotes kms. done per bus held per day. Twenty seven STUs have achieved better vehicle productivity with State Express Transport Corporation Limited, Tamilnadu Division-II topping the performance at 595.9 kms. per bus held per day during 1998-99. The Nigam, however, fixed a moderate target of vehicle productivity of 235 kms. (1994-95) to 225 kms. (1998-99) and achieved 206 kms. (1996-97) to 243 kms. (1998-99) resulting in shortfall of 14 to 25 kms. (except higher performance by 18 kms. during 1998-99). On the shortfall, the Nigam lost contribution margin of Rs. 97.77 crore as detailed in Annexure-25.

Further analysis of shortfall revealed that the cancellation of scheduled kms. in the Nigam was highest in the country during all the five years reviewed by audit. A comparison for three years up to 1998-99 in respect of four STUs (Gujrat, Maharashtra, Andhra Pradesh and Kerala) with the Nigam revealed that despite almost comparable per bus schedules, the cancellations (in kms.) were highest in case of the Nigam (except for Kerala during 1997-98) as detailed in Annexure-26.

As detailed in Annexure-27, majority of cancellations of scheduled kms. (65.45 to 70.33 *per cent*) were for want of buses from the workshops that were avoidable and accounted for a loss of potential contribution of Rs. 344.60 crore. The second contributory and avoidable reason was for want of crew (9.64 to 14.34 *per cent*) accounted for loss of contribution of Rs. 59.95 crore. Thus, the Nigam failed to take corrective measures to minimise cancellations of scheduled kms. by addressing inefficiencies of the workshops and making best use of the available crew.

In this connection, the following further points were noticed:

- For prevention of cancellation of bus services, the Nigam decided (December 1996/September 1998) to impose penalty of Re. 1 per km (i) on drivers/conductors and other staff who were absent or came late and did not perform duties; (ii) Re. 1 per km from workshop staff including Junior Foreman of the respective groups; (iii) one paise per km on Assistant Regional Managers (ARMs-Depot) and (iv) 1/4 paise per km on Regional Managers (RMs)/Service Managers (SMs). Zonal Managers were made accountable to enforce the recoveries. Such recoveries worked out to Rs. 29.12 crore for 1997-98 and 1998-99 (drivers and conductors : Rs. 3.36 crore, ARMs : Rs. 3.00 lakh, RMs : Rs. 0.10 lakh, workshop staff: Rs. 25.67 crore and SMs : Rs. 6.00 lakh). Whether these amounts were recovered or not from concerned staff was not intimated to audit by the Management.

- In the case of hired services, the cancellation aggregating 792.89 lakh kms. resulted in loss of administrative charges valued at Rs. 15.85 crore during five years up to 1998-99. However, the Nigam did not develop any mechanism to make good such losses from the private operators.

3.5.4 Load factor

Load factor is the percentage of actual passenger earnings to expected passenger earnings at full load including standees allowed (if any). It was noticed by audit that 39 STUs of the country fared better than the Nigam's performance during 1998-99 with Metropolitan Transport Corporation Limited, (Chennai Division II), Tamilnadu topping the performance at 130.722 *per cent*. However, the Nigam targetted load factor between 70 and 72 *per cent* and the actual performance achieved was only between 64 and 69 *per cent*. This resulted in revenue loss of Rs. 183.64 crore during five years up to 1998-99 as detailed in Annexure-28.

The Nigam attributed[40] the shortfall in load factor to chaotic unauthorised and illegal operation of buses, mini-buses, Tata 407, Swaraj Mazda, Matador, Tempo, Jeep, Cars and Taxis etc. on nationalised routes by private operators. This was the consequence of liberalised permits granted by the Transport Department. The modus operandi adopted was to (i) operate buses on nationalised routes without permit; (ii) operate as stage carriage against permit

[40] Annual activity report of the Nigam for the year 1998-99, page 54.

Shortfall in load factor was due to unauthorised private operation of buses and grant of permits to them on nationalised routes which resulted in loss of Rs. 183.64 crore

of contract carriage; (iii) load more than the prescribed load by the taxis, tempos etc. on the nationalised routes; (iv) operate large numbers of private jeeps/cars on nationalised routes without permit; (v) carry passengers by trucks and (vi) operate Mahanagar bus services on nationalised routes i.e. other than authorized routes. These unauthorised services operate from the vicinity of Nigam's loading points at low fare during prime time causing either operation of Nigam's buses at low load or cancelling of the entire schedule altogether due to negligible passenger load.

The Transport Commissioner and the Government were requested (February 2000) to intimate reasons for their failure in tackling the menace. However, the response from these agencies has not been received so far (July 2000).

3.5.5 Assessment of economically viable routes

Eighty six *per cent* routes were not able to break even as analysed by audit. This was due to lack of assessing economically viable routes to plan proper service mix

Nigam does not have a system to assess the most economical mix of services through operational research and quantitative analysis techniques. Based on such assessment and periodical review and corrective measures to curtail negative causes, an STU should plan its service mix such that the losses on un-economical routes are cross subsidised by margin from others. An analysis by audit revealed that the Nigam operates nearly 4008 services (own:3570 and hired:438) on five lakh route kms. Economic viability calculated on the marginal costing concept for 1998-99[41] revealed that the Nigam (which normally operates a 54 seater bus) meets variable cost at 35 *per cent* load factor and breaks even the total cost at 73 *per cent* load factor. Analysis of individual routes, as detailed in Annexure-29 indicated that 57 services (own:54 and hired:3) operate at a load factor below 35 *per cent*, (carrying just about 8 to 18 passengers per bus) not being able to recover even variable cost and 3387 services (own:3058 and hired:329) operate at load factor ranging from 35 to 72 *per cent*, (carrying about 19 to 39 passengers per bus) capable of partially recovering the fixed cost. Only 564 services (own: 458 and hired:106) were operated at load factor of 73 or more (carrying about 39 to 54 passengers per bus) and were contributing positive margin.

Thus, 85.93 *per cent* of the routes are not able to break even and only 14.07 *per cent* of the routes are recovering total cost, contributing margin to some extent to the Nigam's operation. The Management has not undertaken any study of the causes of economically disadvantageous routes with a view to take remedial measures. As a result, the Nigam was not able to act on general commercial/business principles of finance. It also failed to deploy its own buses on 142 economical routes that were left over to be utilised by private hired buses resulting in denting of its own income to the extent of Rs. 11.66 crore as discussed in paragraph 3.5.6 *infra*.

3.5.6 Deployment of hired buses on economical routes

The Nigam introduced 88 hired buses in its fleet first time during 1977-78 with the object of increasing its capacity to match the need of passenger traffic. It was then decided to operate such buses only on nationalised routes of

[41] Position of earlier years not made available.

not more than 100 kms. as shuttle operation. The fleet strength of hired buses that were 23 during 1989-90 rose to 982 during 1998-99.

Following deficiencies in the system of hiring of buses were noticed:

Deployment of hired buses on economical routes resulted in loss of Rs. 11.66 crore

- Without reviewing or modifying the earlier policy, the Nigam issued (March 1997) acceptance letters for hiring of buses for three years as "Express service" on 142 selected prime routes notified for the purpose. Later, it identified 76 non-prime routes to replace the 142 routes. However, the Nigam was estopped from deploying the buses on revised 76 routes as it had already issued acceptance letters to the owners of the buses. Further, the deployment of hired buses on main routes in Moradabad, Bareilly, Etawah, Lucknow and Dehradun regions (where hired buses were mainly engaged) affected the income of the Nigam as load factor of the Nigam's buses generally declined in these regions from 1997-98 when the maximum buses were hired compared to the load factor achieved earlier. This resulted in loss of Rs. 11.66 crore during 1997-99. Nigam could have decided to use these routes for its own fleet to cross subsidise losses of un-economical routes.

- The Nigam had decided to hire buses maximum up to 25 *per cent* of its fleet in a region. This limit was, however, exceeded in Moradabad, Etawah and Meerut regions where it ranged from 25.49 to 42.42 *per cent*. Many routes on which hired buses were engaged were of the length of more than 100 kms. which disproves the Nigam's proposed objective of hiring buses as shuttle.

- Out of 519 nationalised routes covering 18858 routes kms. at the close of February 2000, the Transport Department had declared 87 routes, including 49 complete route profile (route length not available) as non-nationalised and issued permits to the private operators. This not only adversely affected the load factor but also defeated the whole purpose of nationalisation.

3.5.7 Tariff revision

The operational cost of passenger buses depends on the cost of various inputs including increases due to increase in price index (like chassis, tyres, diesel, spare parts etc., pay and allowances of staff) that are not controllable except by optimal use thereof. These increases, therefore, need to be absorbed to some extent by reasonable/timely fare revision. The operation cost that was Rs. 4.68 per km in 1989-90 increased to Rs. 9.82 per km (increase of 209.83 *per cent*) in 1998-99.

Delayed tariff revision resulted in loss of Rs. 223.72 crore

The proposals for fare revision sent in January 1989 (20 *per cent*) and May 1989 (25 *per cent*) were delayed and notified in August 1990 by the State Government. Similarly, the proposals for increase sent in October 1990 (15 *per cent*), April 1991 and September 1991 were delayed and notifications issued in June 1992. Further, proposals for increase from July 1993 (10 *per cent*), February/March 1994 (17.5 *per cent*) were notified from June 1994.

Further, until May 1996, the State Government did not lay down any policy regarding fixation of fare and freight or any formulae for its revision based on input cost to enable the Nigam to revise it in time. The State Government prescribed (May 1996) formulae for increase in the passenger fare consequent on the increase in the prices of input but confined to only two elements viz. diesel and dearness allowance (increase was allowed at the rate of 0.20 and 0.18 *per cent* in the fare for every increase of 1 *per cent* each in the prices of diesel and dearness allowance). Based on these formulae, the Nigam increased passenger fare from time to time from May 1996 by adding surcharge on the fare to cover increase in the prices of diesel and dearness allowance.

The Government further revised the fare in November 1998 merging the surcharge added up to August 1998 by the Nigam and allowed to increase the fare up to 10 *per cent* per annum on the increase in the prices of diesel and dearness allowance as per the formulae of May 1996. The Nigam increased fare by 10 *per cent* from March 1999.

It was noticed by audit that:

- The Nigam incurred loss of Rs. 223.72 crore during 1990-91 to 1998-99 due to time lag in issue of notification for fare revision by the State Government;

- The Bajaj Committee (Resource Mobilisation and Taxation Reforms Committee) recommended (1995) for inclusion of the elements of tyre and tubes also besides diesel and dearness allowance in the formulae prescribed by the Government in May 1996. This has not been approved by the Government so far (July 2000);

- The Nigam increased the fare excessively in respect of Express, Semi-deluxe and Deluxe buses from 7 March 1997 (against the Government approved norms of 1.10, 1.25 and 1.70 time of the fare of ordinary buses for Express, Semi-deluxe and Deluxe buses, it was increased by 1.39, 1.90 and 3.16 times respectively). This resulted in decline of load factor in the month of March and April 1997 by 8.17 and 5.83 *per cent* and loss of revenue of Rs. 10.69 crore[42]. The increase was restored to normal from 28 April 1997.

3.5.8 Maintenance cost of operation

Given the similar operating conditions and the environment, there should not be significant variations in maintenance parameters of performance. Maintenance cost (only wage bill of maintenance staff and cost on spare parts considered) for five comparative STUs i.e. Maharashtra SRTC, Andhra SRTC, Kerala SRTC, Gujarat SRTC, and Uttar Pradesh SRTC with a fleet strength ranging from 3750 to 18749 buses during three years up to 1998-99 are detailed in Annexure-30.

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[42] Comparison made with the average of corresponding months in remaining years from 1992-93 to 1998-99.

Maintenance cost of operation per bus per annum was highest compared to other STUs

A perusal of Annexure-30 reveals that huge sums of money were spent on maintenance work by the Nigam as compared to other STUs and even a small percentage of reduction in expenditure on this account would have resulted in large savings. The bus staff ratio, maintenance cost per effective km. and maintenance cost per bus per annum was highest in case of the Nigam amongst all the five STUs considered in the analysis.

3.5.9 Consumption of High Speed Diesel (HSD) and engine oil

The HSD and engine oil cost account for the highest component of the total cost of operation, necessitating their use in most economic and efficient manner. The main recommendations of CIRT[43], include (i) control over speed and driving habits leading to fuel saving from 10 to 15 *per cent*; (ii) manufacture of aerodynamic type of bus body leading to saving of fuel by 6 to 8 *per cent*; (iii) timely replacement of old buses leading to saving of fuel/oil by 2 to 3 *per cent*; (iv) use of fuel efficient engine (like Hino) leading to saving of fuel by 20 *per cent*; and (v) proper inflation of tyre/tube leading to saving of fuel.

Among the five comparable STUs (including Nigam) whose data have been examined in detail, consumption of HSD and engine oil in all other STUs (except Kerala for HSD) are better than that in the Nigam as indicated in Annexure-31.

Salient deficiencies noticed are detailed below:

High consumption of HSD compared to target resulted in excess consumption of HSD valued at Rs. 10.72 crore

- Against the targetted consumption of HSD ranging from 4.60 km per litre (KMPL) to 4.65 KMPL, the actual consumption in the Nigam ranged from 4.51 KMPL to 4.60 KMPL during the last five years up to 1998-99 which resulted in excess consumption of HSD valued at Rs. 10.72 crore during this period;

- The number of overage buses has gone up from 2117 (1994-95) to 2800 (1998-99) affecting adversely the fuel efficiency;

- The Nigam has not manufactured aerodynamic type of bus body though it contemplated in the Annual Activity Reports to manufacture such buses;

- System of inflating tyres/tubes properly was deficient leading to decline in fuel efficiency besides avoidable scrapping of 219 tyres i.e. 40 *per cent* (out of 540) in Agra, Allahabad, Dehradun and Meerut regions alone during 1998-99 as discussed in paragraph 3.5.10 infra.

3.5.10 Performance of new tyres

Excessive scrapping of new tyres due to negligence resulted in loss of Rs. 0.21 crore

An analysis in four regions for 1998-99 for the causes of scrapping of new tyres revealed that out of 540 new tyres scrapped, 530 tyres valued at Rs. 32.00 lakh had to be scrapped prematurely due to controllable causes such as

[43] Fuel and oil economy, 1995-96.

burst due to hit, run flat, run to death, tread separation etc. The details are given in Annexure-32.

Further analysis of the performance of the above new tyres suggested that these were not removed in time for retreading and were allowed to run excessively from 60000 kms. to 115107 kms. causing them to die due to excessive run. Some of the tyres performed even less than 5000 kms. or 10000 kms. due to other kind of neglects like burst due to hit, wrong wheel alignment, run flat. The loss on account of premature scrapping of 530 new tyres due to controllable causes worked out to Rs. 21.00 lakh[44] on the shortfall of 5.65 crore kms. of expected run considering retreadibility factor as three. This loss is only relating to four regions test checked in audit for one year. The loss as a whole for the 18 regions of the Nigam would be much more.

These findings indicate that the Nigam has not evolved a mechanism to avoid main causes of premature failure of even new tyres.

3.5.11 Failure of engines and gear box assemblies

Staff productivity was low and further marked by excessive staff, lack of optimal deployment of crew etc. resulting in loss of Rs. 72.04 crore

The Nigam has not introduced any system to monitor and analyse causes of failure of major assemblies including engines. Analysis of breakdowns in Lucknow region for the period from June 1999 to January 2000 (details of other period and other regional offices not made available) revealed that 103 engines failed during this period. Out of these, 33 engines (including seven new engines) failed on account of avoidable reasons like (i) coolant not used/shortage of water (10 nos.), (ii) shortage of engine oil (11 nos.), and (iii) bad quality of engine oil (10 nos.). Besides, failures of other 72 engines were due to over heating on account of mechanical faults that were not analysed in detail by the workshop. The workshop also did not carry out even the routine "blotter spot test"[45] as stipulated by the CIRT. This resulted in cases of avoidable failure remaining undetected and unremedied. The Nigam did not intimate expenditure incurred on such repairs.

3.5.12 Manpower

The staff strength, expenditure incurred, percentages of expenditure to total expenditure and bus staff ratio for a period of three years up to 1998-99 are given in the table below:

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[44] Expected run of a new tyre (60000 kms) plus three times retreads (34000X3) i.e. 162000 kms for one tyre or 8.58 crore kms for 530 tyres minus actual run (2.93 crore kms)/162000 kms equivalent to 349 new tyres valued at Rs. 21.00 lakh (at the rate of Rs. 6000 per tyre).

[45] A drop of oil from the failed engine is invariably left on a blotting paper and kept for analysis. This usually provides valuable information about oil and its usage characteristics. (Page 130, Fleet Maintenance Management 1996).

	1996-97			1997-98			1998-99		
1. Staff Strength	**Workers**	**Officers**	**Total**	**Workers**	**Officers**	**Total**	**Workers**	**Officers**	**Total**
(a) Administrative	2816	22	2838	2810	24	2834	2751	26	2777
(b) Accounts	384	71	455	397	68	465	390	70	460
(c) Technical	14204	111	14315	13822	126	13948	13362	118	13480
(d) Operation	35786	145	35931	35137	153	35290	33686	149	33835
Total			**53539**			**52537**			**50552**
2. Bus/ staff ratio			7.52			7.26			7.10
3. Staff productivity per km per day			31.07			34.21			37.87
4. Total expenditure (Rs. in crore)			588.75			644.72			686.02
5. Expendi-ture on staff (in crore Rs.)			273.81			288.88			303.10
6. Percentage of expenditure on staff			46.48			44.75			44.14

The salient deficiencies noticed in the existing staff structure are indicated below:

- As evident from the table above, the staff cost was around 45 *per cent* of the total expenditure. This was due to excessive maintenance staff as discussed in paragraph 3.5.12 supra, higher bus/staff ratio compared to some other STUs[46] and to incapable[47] crew on its rolls.
- It would be observed from Annexure-20 that expenditure on staff went up by Rs. 81.96 crore from Rs.221.14 crore to Rs.303.10 crore during the period 1994-95 to 1998-99. However, it was seen that staff cost had increased even though the number of buses and staff was steadily reducing. The sharp increase in staff cost was one of the important reasons for the recurring losses suffered by the Nigam.
- Against the targets of staff productivity ranging from 33.30 to 35.88 kms. per staff per bus per day, the same ranged between 31.07 and 37.87 kms. per staff per bus per day during five years up to 1998-99 resulting in loss of Rs. 72.04 crore due to shortfall in productivity.
- Crew (drivers and conductors) are the backbone of a transport industry. The bus/staff ratio in respect of drivers was 2.17, 2.13 and 2.10 and conductors 2.13, 2.10 and 2.10 respectively during three years up to 1998-99. The Nigam carried 12965 conductors (including 161 incapable) and 12904 drivers (including 582 incapable) at the close of March 1999.
- The sanctioned strength of staff has not been revised after 1994-95. Compared to the sanctioned strength, the staff in technical side was short in some categories and excess in others. The excess (1771) in technical cadre (group D) was decided (December 1997) to be absorbed as drivers/conductors after imparting suitable training but such course of action was not adopted for non-technical cadre (group D). As of now (March 1999), the Board's decision of December 1997 has not been implemented fully as 1000 excess technical cadre (group D) staff members were still not absorbed as drivers/conductors. The Nigam has no scheme to utilise surplus (1698 as on 31 March 1999)

[46] Bus/staff ratio ranged from 5.14 (Himachal RTC during 1998-99) to 6.81 (Karnataka SRTC during 1996-97) during three years up to 1998-99 in respect of Karnataka SRTC, Rajasthan SRTC, Haryana State Transport, Punjab State Transport, Pepsu Road Transport Corporation , Himanchal Road Transport Corporation and Chennai Transport Undertaking.

[47] Such of the crew members who do not meet the physical standards any more.

group D, non-technical in some productive work to reduce unproductive burden on operational cost.

- As standard man hours for preventive maintenance were not prescribed, the Nigam was not able to identify the extent of idle man power with a view to avoid delays in maintenance. It is, however, an admitted fact that man power for maintenance was highest amongst the five comparable STUs as discussed in paragraph 3.5.8 supra.

3.5.13 Payment of accident claims

As could be seen from Annexure-21, the number of accidents per lakh kms. during 1994-95 to 1998-99 ranged between 0.20 and 0.22, as a result the Nigam had to pay Rs. 39.69 crore as claims for accidents during the period. For suggesting preventive maintenance measures, the Nigam asked (1998-99) all its Regional Managers to submit the inquiry report to Rajya Parivahan Anusandhan Evam Niyojan Sansthan (RPANS). However, the records made available to audit did not indicate any action taken in the matter by the Regional Managers and RPANS. The Nigam did not furnish details of control devices and other measures taken for reducing the occurrence of accident. It also did not intimate cause-wise analysis of the accidents and expenditure incurred on repair and maintenance of accidental vehicles.

3.5.14 Concession/free transport facility to specified class of citizens

The Nigam provides free transport facility to certain class of citizens such as Members of Parliament, Members of Legislative Assembly, Members of Legislative Council along with one associate, physically handicapped persons, recognised journalists, freedom fighter with one associate etc. in respect of which cost of transport is reimbursed by the Government. Besides this, free transport facility to children below the age of five years and concessional transport facility to children of the age group of 5 to 12 years and students, the cost of which are borne by the Nigam itself.

It was noticed by audit that the Nigam had to incur loss on this account as detailed below:

- Loss of interest of Rs. 24.00 lakh (approximately) due to annual issue of bills for reimbursement by the Government instead of monthly during 1996-97 to 1998-99; the Nigam is incurring such expenditure on day-to-day basis;

Lack of system to document or evidence free journeys resulted in non-recovery of a claim of Rs. 5.19 crore

- The Nigam does not have a system to document or evidence (coupons or otherwise) the claims for the journeys performed in any case. Due to this, a claim of Rs. 5.19 crore (out of Rs. 5.91 crore) for free journeys allowed to candidates of specified examinations/interviews pertaining to the period from February 1995 to January 1997 was not reimbursed by the Government.

3.6 Material Management and Inventory Control

3.6.1 Material Management

The details of opening balance, purchases, consumption, closing balance and range of closing balance (fuel, lubricants, spare parts, tyre and tubes, batteries, uniforms and other general items) during five years up to 1998-99, as furnished by Material Management Wing of the Nigam, are detailed below:

(Rupees in crore)

Items	1994-95	1995-96	1996-97	1997-98	1998-99
Opening balance	12.22	13.50	11.89	14.09	14.99
Receipts/transfers	196.90	174.74	217.85	261.61	234.05
Issue/consumption	195.61	176.35	215.65	260.79	234.09
Closing balance	13.50	11.89	14.09	14.91	14.95
Closing balance in terms of days consumption (Range in days)	4 to 84	4 to 82	5 to 70	5 to 47	5 to 80

It was noticed that the figures of closing stock as per accounts were Rs. 15.01 crore, Rs. 14.36 crore, Rs. 17.25 crore, Rs. 15.73 crore and Rs. 16.36 crore at the close of five years up to 1998-99 respectively. It did not tally with the above figures furnished by the Material Management wing. The Management promised (May 2000) to furnish the reconciled figures which were awaited (June 2000).

3.6.1.1 Purchase procedure

The Nigam does not have a purchase and inventory control manual. The purchases were made on the basis of ASRTU rate contracts (68 *per cent*), limited enquiry from selected firms (tyre and tyre retreading material to the extent of 30 *per cent*) and local purchases in two *per cent* cases. There are two Purchase Committees (PC) I & II. PC I is headed by Assistant Managing Director who is responsible for recommending purchases of all items without any financial limits. PC II is headed by Chief General Manager (Technical), responsible for recommending purchases up to a financial limit of Rs. 50.00 lakh for individual order, subject to a monthly ceiling of Rs. 15.00 lakh and bus body material up to Rs. 2.00 lakh. Purchases by these committees are made after the approval of the MD. The purchase committees have also been established at workshops, regions and depots for purchase of material upto a specified limit.

3.6.1.2 Deficiencies in material management

3.6.1.2.1 Increase in cost of bus body renovation due to change of flooring material

In view of tight financial position, the Nigam decided (August 1995), as a short term measure, to switch over from use of aluminium chequered sheets to plywood chequered sheets for flooring of both new and renovated bus bodies. However, without considering the overall comparative techno-economic feasibility either at the time of decision making or after test use of the material, the Nigam continued to use plywood chequered sheets upto July 1998.

Failure to carry out cost benefit analysis of the alternatives of flooring material resulted in loss of Rs. 2.20 crore

An analysis of the economics of the two alternatives carried out by audit (May 1998), as detailed in Annexure-33, revealed that due to durability and high scrap value, the cost of flooring by aluminium chequered sheets was less resulting in extra expenditure of Rs. 2.20 crore during 1996-97 and 1997-98. The Nigam decided to revert to use of alumunium sheets in view of cost difference, but the orders to that effect were issued only in August 1998.

The reply of the Management that flooring by plywood sheets was not costly is not tenable as it did not consider the longer time span of aluminium sheets and its scrap value. Further, the contention of audit is proved by the fact that the Management reversed (July 1998) its earlier decision of August 1995 and advised for use of aluminium chequered sheets as the same were economical.

3.6.1.2.2 Loss due to non-reclamation of lubricating oil

Non-reclamation of lubricating oil resulted in loss of Rs. 7.20 crore

Based on the fundamental concept[48] that " lubricating oil never wears out" and technical know-how of reclamation provided by Indian Institute of Petroleum (IIP), Dehradun through the National Research and Development Corporation of India, New Delhi, Cholan Transport Corporation, Tamilnadu[49] erected and commissioned the first plant in the country at Methupalayam with a capacity to reclaim 200 tonnes of crank case lubricating oil. Need for reclamation was felt on account of high prevailing prices, periodic shortage of critical grade, high cost of import content of base stock and additives requiring huge foreign exchange, pollution from disposal of used lubricants and likely misuse of used oil by un-scrupulous parties for adulteration. Further, it was well established by scientific tests and trials by IIP, Dehradun that thermal and oxidation stability characterisation are even superior to virgin stocks and no fundamental difference could be detected in physio-chemical or engine performance characteristics in them. Compared to the per litre savings of Rs. 14 between the virgin and reclaimed oil after considering capital cost on establishment of

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[48] Source : Article "Oil Reclamation Plant" published in Fuel and Oil Economy–1995-96 by CIRT. The article was contributed by General Manager (Engineering) of Cholan Transport Corporation, Tamilnadu.

[49] Reclaimed oil was being used in air cleaners by Gujrat SRTC and in air cleaner and for topping up by Andhra Pradesh SRTC. The Purchase Committee of Karnataka SRTC has also found the reclaimed oil as cheaper and fit for both in place of virgin oil and for topping up.

the plant, the loss to Nigam during three years up to 1998-99 worked out to Rs. 7.20 crore on 36 lakh litres of reclaimable oil.

The Management stated (May 2000) during discussion that they have not considered the option on account of credibility of use of reclaimed oil having not been established and that further information from other STUs is being collected.

3.6.1.2.3 Loss in procurement of tyre retreading material

(a) Loss due to non-consideration of price reduction in rubber

Failure to avail benefit of cost reduction of input material resulted in loss of Rs. 0.26 crore

In view of downward market trends, the rates of firms on ASRTU rate contracts were reduced by four *per cent* from 1 October 1996 and eight *per cent* from January 1998 in case of Elgi and four *per cent* from January 1998 in case of Sundaram, the benefit of which were passed on to the Nigam by these firms. However, non-inclusion of a suitable clause regarding price variation in respect of other non-ASRTU suppliers resulted in a loss of Rs. 26.00 lakh on supply of 417.54 tonnes of tyre retreading material (TRM) during October 1996 to August 1998.

The Management stated (October 1999) that it had saved more by not including a price variation clause due to change in input cost. The reply is not acceptable as ASRTU registered firm have reduced their rates.

(b) Non-placement of orders on firms with better performance

Failure to procure TRM from economically cheaper source of supply resulted in loss of Rs. 0.43 crore

In order to ensure quality and introduce fair competition among A (Indag, Elgi and Sundram) and B (others) sources of TRM suppliers, the Nigam decided (September 1994) to procure it on 50:50 *per cent* basis respectively. This system was introduced as performance data of B sources of supply, being new, were not available. It further decided to maintain performance data of all the sources henceforth to serve as a bench mark for availing of cheaper supplies subsequently. It was noticed in audit that the cost per km run of retreaded tyres by using TRM from A category sources ranged from 2.693 paise to 2.900 paise as against 2.982 paise to 4.324 paise from B category sources during the period from April 1995 to March 1996. However, despite economical performance of retreaded tyres by using TRM from A category sources, the Nigam did not modify mix of procurement subsequently and placed (October 1996) orders for TRMs almost on 50:50 basis to A category (405 tonnes) and B category (385 tonnes) valued at Rs. 6.05 crore. Had the Management adopted supply mix of 75:25[50] (A: 580 tonnes and B: 210 tonnes), the extra cost on procurement of 175 tonnes (Elgi process: 105 tonnes and Indag process: 70 tonnes) of TRM from B sources having higher cost per km run of retreaded tyres amounting to Rs. 43 lakh[51] could have been avoided.

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[50] To ensure availability of alternative sources.

[51] Worked out by distributing 105 tonnes between Elgi (60 tonnes) and Sundram (45 tonnes) for Elgi process (extra cost: Rs. 22.00 lakh) and 70 tonnes between Indag and Sundram for Indag process (extra cost: Rs. 22.00 lakh). The calculation of extra cost is based on the rates of A and B sources with reference to kms achieved and consumption per tyre.

The Nigam should explore the possibility of procurement mix from suppliers keeping in view the cost economics.

3.6.1.2.4 Extra cost due to excessive consumption of new tyres

In view of incidence of heavy expenditure on purchase of new tyres, the Board decided (March 1993) to use new tyres in front wheels only and retreaded tyres in rear wheels. To meet the demand of 7050 retreaded tyres per month, considering the estimated mileage of six crore per month and average life of 34000 kms. of retreaded tyres, it decided to increase the in-house capacity of tyre retreading (cold process). Accordingly, the retreading capacity of 31800 tyres per annum in three tyre retreading plants (Kanpur, Ghaziabad and Gorakhpur) during 1993-94 was increased to 84000 tyres in 1995-96 by introducing three more shops at Bareilly, Allahabad and Saharanpur at a total cost of Rs. 25.00 lakh[52].

As a sequel to premature scrapping, new tyres were consumed in excess resulting in extra cost of Rs. 14.92 crore

With induction of tyre retreading plants, consumption of new tyres should have decreased. However, the actual consumption of new tyres was more than the required consumption as would be seen from the details in Annexure-34. This entailed extra cost of Rs. 14.92 crore during five years up to 1998-99.

Test check of four tyre shops (Allahabad, Agra, Dehradun and Meerut) revealed that during 1998-99, 530 new tyres had to be prematurely scrapped due to controllable causes as discussed in paragraph 3.5.10 supra.

The Management stated (October 1999) that the matter was under detailed investigation.

3.6.1.2.5 Excess payment in comparison to the lower rates of ASRTU firms

The agreement entered into in July 1997 with Indian Oil Corporation (IOC) for a period of three years from 16 January 1997 for procurement of lubricants stipulated that the prices prevailing on the date of supply were subject to variation on account of statutory levies, excise duty or the cost of base oil or additives and the supplies shall be made on the basis of such revised order. Accordingly, the Nigam was required to review the price index of lubricants and prices of other suppliers to identify any downward revisions in prices offered.

Failure to avail benefit of cost reduction of lubricants resulted in extra expenditure of Rs. 0.22 crore

It was noticed by audit that while in case of Castrol India Limited (Castrol) and Gulf Oil India Limited (Gulf), both ASRTU firms, the prices were reduced by 4.34 *per cent* from 1 January 1998 and 3 *per cent* from 1 April 1998 respectively, the Nigam failed to avail the benefit of downward revision in prices from IOC. Compared to these rates, the Nigam had to incur extra expenditure of Rs. 22.00 lakh on the supplies during January to November 1998.

[52] Cost of Bareilly shop was not available.

Further, information collected by Audit revealed that the discount of Rs. 37.00 lakh as provided in the above agreement for the period from 16 January to 25 July 1997 was recovered belatedly after 24 months mainly in July 1999 at the instance of Audit. However, no responsibility for delay in recovery was fixed by the Management.

3.6.1.2.6 Extra expenditure in procurement of spare parts

The Nigam had not spelt out a clear cut system regarding splitting up of required quantities of items amongst the eligible firms after evaluating cost benefit of the offers received. A review of 232 purchase orders pertaining to the period from December 1997 to November 1998 valued at Rs. 7.06 crore revealed that the Nigam without assigning sufficient reason in many cases distributed the requirement amongst 3 to 4 suppliers at their offered rates without negotiating at lowest rates and/or restricting the same to lesser number of firms to avail benefit of lowest rates. This resulted in extra cost of Rs. 23.00 lakh.

The Management stated (October 1999) that the procurement was made at higher rates to ensure/maintain the quality, production and operational services as otherwise operational losses would have been more than the cost difference. The reply is not tenable as the Nigam has neither maintained any source-wise data bank indicating performance of different suppliers nor was anything on record indicating that the performance of lowest ignored firm was poor.

3.6.1.2.7 Absence of adequate quality control and testing mechanism

The Nigam does not have a laid down procedure for testing store items and spare parts as done by Maharashtra SRTC. Further, despite Managing Director's suggestion of July 1995 to establish testing and quality control cell in the two workshops as per recommendations (May 1991) of Tata Consultancy Services, no such cell was established (July 2000). The Nigam continued to accept supplies despite knowing the failure of samples from CIRT and as such possibility of acceptance of sub-standard material could not be ruled out. A few illustrative cases are given below:

There was absence of adequate quality control and testing mechanism

(i) The test results of samples from first consignment (Rs. 2.00 lakh) indicated (May 1998) failure of supplies received from Mayur Glass Industries, New Delhi. However, the Nigam continued to accept subsequent supplies without further testing. The Central Workshop attributed its failure to send samples from every consignment for testing due to lack of specific procedure. The Management stated (October 1999) that on receipt of adverse test reports supplies were stopped from August 1998. The reply is not acceptable since the firm was belatedly asked to stop supplies even though test report was received in May 1998.

(ii) Similarly, samples from three consignments (Rs. 1.00 lakh) of PVC leather cloth received from Rado Industries and Rado Raxene Limited, Faridabad were not meeting critical parameters (June 1995). However, further supplies (Rs. 10.00 lakh) were accepted between October 1996 and February 1997 without any further testing.

(iii) In another case, despite being aware of adverse report on the samples (December 1996) drawn from the supply of plywood chequered sheets from Doors India Limited, Kanpur, the Nigam continued procurement of material (Rs. 66.00 lakh) up to July 1998.

3.6.1.2.8 Excessive dependence on Original Equipment Manufacturer

Tata Consultancy Services while pointing out the system deficiencies suggested (May 1991) to identify alternative sources of supply to derive benefits of lesser dependence on original equipment manufacturer (OEM) and minimise cost of procurement. However, the efforts of the Nigam in identifying such sources were lacking as it could not develop data base of performance of the firms against trial orders.

A few cases of deficiency are discussed below:

- The Nigam placed bulk purchase orders for purchase of spare parts during February 1997 to October 1998 on Ashok Leyland and Telco at much higher rates, up to 100 *per cent*, resulting in extra cost of Rs. 22.00 lakh.

- In other cases, where bulk orders ranging between 70 and 80 *per cent* were placed on alternate sources indicated that the supplies obtained from them were meeting the operational requirements, eleven purchase orders were placed for quantities ranging from 20 to 30 *per cent* on these two original suppliers at much higher rates without negotiation during May 1997 to August 1998 resulting in extra cost of Rs. 10.00 lakh.

- The validity of 37 purchase orders of Telco and 18 purchase orders of Ashok Leyland, placed between January 1995 and October 1998 had to be extended many times ranging from 3 to 34 months[53]. As a result adequate number of engines could not be reconditioned in its in-house facilities due to non-availability of crankshafts leading to procurement of fresh engines valued at Rs. 12.30 crore during 1994-95 to 1996-97. Compared to the unit cost of Rs. 0.50 lakh on reconditioning, the extra expenditure worked out to Rs. 6.34 crore on purchase of 845 new engines.

The Management stated (October 1999) that the matter was under detailed investigation.

3.6.2 Inventory control

Except for the Central Stores (abolished from September 1998), the Nigam has not specified stocking norms for field units for various categories of inventory based on control parameters such as maximum and minimum stock, reorder level etc. for better inventory control. Cases test checked in audit indicating poor inventory control are discussed below:

[53] Up-to-date position of supplies not available.

3.6.2.1 Lack of inventory control in Central Stores

Substantial items fell below the minimum level or were in excess of maximum level due to absence of adequate inventory control mechanism

In respect of Central Stores, where norms for inventory control have been designed for vital (V), essential (E), and desirable (D) category, it was noticed that during 1997-98, 1197 items, 1836 items and 19 items fell below the minimum level. This included inventory levels in respect of 323 items of V category, 507 items of E category and 15 items of D category where there was no inventory for a period ranging from 1 day to 365 days. This indicated that minimum level of inventory was not maintained. Further analysis revealed that the fall in inventory level below the minimum was due to issue of 7328 items valued at Rs. 20.03 crore to 20 field units in excess of monthly requirements (called MCF or Monthly Consumption Factor).

On the other hand, 384 items of V category, 520 items of E category and 19 items of D category were procured in excess of maximum level resulting in blocking of inventory (value not intimated) for 1 day to 365 days. This included 21 items of V category, 16 items of E category and 2 items of D category which were in excess of more than 175 *per cent* of maximum level almost during the whole year.

Thus, the Material Management wing failed to fulfill its objectives of minimising inventory cost or resource utilisation by optimising inventory holdings in the centralised system of stores.

The Management stated (October 1999) that the inventory control mechanism was in the process of development and some more details are yet to be collected and implemented in the computer programme. Further, the inventory control mechanism was good as it resulted in increase of percentage of buses on road. The reply is not tenable as it never collected vital data available in the inventory package before undertaking procurement decisions. The Managing Director had instructed as far back as in July 1995 to conduct an exercise for designing inventory package which could not be streamlined even after lapse of more than four years.

3.6.2.2 Accumulation of empty drums due to non-disposal

The empty drums of 210 litres, used to store engine oil, other lubricants, greases etc., accumulates annually at the rate of 10000 drums approximately. Disposal of these drums are made through auction. The Nigam fixed (September 1996) a reserve price of Rs. 396 per drum for delivery to the Government departments and others. As there were very few takers of these drums at this rate, the pace of disposal was very slow. The records furnished to audit for two years (1998-99 and 1999-2000) revealed that 2050 and 3630 drums respectively could only be disposed off leading to accumulation of 18310 drums (value : Rs. 66.00 lakh) at the close of January 2000.

By lapse of time and stocking in the open, exposed to vagaries of nature, the conditions of these drums had deteriorated due to rusting affecting their marketing capabilities. A policy of quick disposal at comparable marketable prices each year would have saved the Nigam from locking up of fund on the undisposed stock.

3.6.2.3 Loss due to excess delivery of scrap

The Nigam has not prescribed any system for periodical collection and accountal of scrap generated in the workshops. It was, therefore, not possible to vouchsafe the physical quantities of receipts, issues and closing balances of scrap.

Due to recording of tare (empty) weight of trucks, used for transportation of scrap, higher than the actual weight, the Nigam sustained a loss of Rs. 10.00 lakh in the disposal of scrap at Central Workshop during February 1996 to April 1998.

The Management stated (October 1999) that from June 1998, the system for weighment of aluminium scrap was streamlined. It further stated that trucks deployed for transportation of mixed type of stores carried "*patre, tasle and belche* etc." which accounted for higher weight and that there does not seem to be a motive of defalcation. The reply is not tenable as the truck should have been weighed without these items to give a correct weight of the scrap carried.

Conclusion

The operation of the Nigam is characterised by continuous losses and poor operational performance due to increase in expenditure on account of overage buses, huge expenditure on payment of accident claims, premature failure of engines and gear boxes, high maintenance cost of operation, excess consumption of HSD and engine oil and low staff productivity leading to high staff cost. The loss was further compounded by low fleet utilisation, low vehicle productivity, low load factor, lack of assessment of economically viable routes, delay in tariff revision, deployment of hired buses on economical routes and non-reimbursement of full cost of concession/free transport facility to specified class of citizens. The Nigam also incurred extra expenditure on procurement and usage of materials and suffered loss on account of poor material management and inventory control. Unless a proper mechanism for control over operational, material and inventory control system are devised and meticulously followed, the losses of the Nigam would continue to mount.

The above matters were reported to the Nigam and the Government in May 2000; the replies were awaited (July 2000).