CHAPTER II
DEPARTMENT OF SPACE

Performance Audit on Procurement of Stores and Inventory Control in Department of Space

Highlights

Planning for procurement

- **Out of a total procurement budget of Rs.8636.18 crore of Department of Space (DOS) during 2001-02 to 2006-07, the unutilised budget increased consistently from Rs.83.28 crore in 2002-03 to Rs.438.28 crore in 2006-07. The extent of savings was as high as 30 to 38 *per cent* in some years in certain Centres, indicating serious deficiencies in procurement planning and management.**

  [Para 2.6.1& 2.6.2]

- **Procurement planning of DOS was deficient as it placed orders on piecemeal indent basis. Assessment of requirement and cost estimations by indentors were inaccurate, leading to large number of indents not resulting in purchase orders and wide variations between indent value and order value. Non-consolidation of similar purchases also resulted in uneconomical purchases and extra expenditure of Rs.93.95 lakh.**

  [Para 2.7.2.1, 2.7.2.2 & 2.7.2.3]

Competitiveness in the tendering process

- **Procurement practices adopted by DOS did not ensure adequate transparency and competition as 67 *per cent* of procurements amounting to Rs.996 crore were made on proprietary/ single tender basis. There were instances of proprietary purchases being made for routine items and also in cases where more than one source of supply was available.**

  [Para 2.7.3.1]

Fairness and objectivity in the selection process and award of contract

- **In violation of codal provisions and CVC guidelines, negotiations were held with other than lowest bidders resulting in placement of irregular purchase orders in eight cases, amounting to Rs.44.58 crore.**

Non-award of contract to the lowest bidders resulted in extra expenditure of Rs.3.42 crore in two cases.

[Para 2.7.4.1]

- **ISAC awarded contract to a supplier who was not found technically suitable and thus, extended undue favour by awarding contract worth Rs.4.27 crore. In other two procurements, ISAC extended undue favour to the suppliers in award of contract worth Rs.9.99 crore by changing the selection criteria after invitation of bids. Changes in terms of purchase order/contracts in other three cases benefited suppliers to the tune of Rs.1.87 crore.**

[Para 2.7.4.2, 2.7.4.3 & 2.7.4.4]

- **Delay and inefficiencies in processing and finalisation of tenders resulted in avoidable additional expenditure of Rs.2.70 crore in two cases due to procurement of stores at higher rates, after expiry of initial validity of offer.**

[Para 2.7.4.4]

Efficiency in Post Contract Management

- **There were significant delays in inspection of the stores received. Non-replacement of rejected items at ISAC resulted in unfruitful expenditure of Rs.8.73 crore in five cases. Moreover, non-installation/ delayed installation of equipment in six cases for period ranging from 5 to 60 months at LPSC and ISAC resulted in blocking of funds and idling of equipment worth Rs.12.43 crore.**

[Para 2.7.5.1 & 2.7.5.2]

- **Advances in 1177 cases, worth Rs.437.73 crore, paid to foreign and indigenous suppliers were pending for 1 to 15 years and more. No interest was charged on these long pending advances by DOS.**

[Para 2.7.5.3]

- **There was lack of monitoring of adjustment of advances and renewal of Bank Guarantees. Non renewal of 147 cases of Bank Guarantees amounting to Rs.83.65 crore may expose the organisation to financial risks in cases where suppliers default in making supplies/executing work orders.**

[Para 2.7.5.4]

Inventory Control

- **ISAC did not revise its procurement policy for Bonded Stores since the last decade which resulted in blocking of funds worth Rs.600 crore.**

[Para 2.8.1]

- **There was overstocking in 9055 categories of electronic, electrical, electro-mechanical components (Bonded Stores) worth Rs.75.02 crore, resulting in infructuous expenditure due to obsolescence of items. No physical verification of Bonded Stores was conducted in ISAC after 1995-96.**

[Para 2.8.2, 2.8.4]

Summary of Recommendations

- *To reduce delays, DOS should prescribe appropriate time frame for each stage of procurement viz., indenting, sanction, issue of purchase order, and supply. Such a time frame should be prescribed after taking into account the type of material to be procured and the sources of supply.*
- *DOS should streamline the system of assessment of requirement by the indentors by maintaining a centralised database of various items, their specifications, status of technology and availability in market, prevailing costs, sources of supplies etc, to ensure accurate projection of requirements and realistic estimation of cost.*
- *DOS should prepare annual procurement plans by consolidating requirements of all the end users in advance to avoid delays, repetitive procurements, maximise value for money by availing quantity discount and enhancing competition. DOS should strictly follow codal provisions in selection and award of contracts by placing orders on the lowest qualified bidder.*
- *To ensure transparency in the procurement process, DOS may consider going in for limited tendering for generic products where more than one supplier is available in the market.*
- *DOS may build up a database of vendors to bring in more competition in the procurement process and reduce proprietary/single tender procurements.*
- *DOS should ensure compliance to the CVC guidelines during evaluation of tenders.*
- *DOS should strictly follow codal provisions in selection and award of contracts by placing orders on the lowest qualified bidder.*
- *DOS should avoid inordinate delays in processing and finalisation of*

tenders to ensure timely procurement and avoid extra expenditure due to subsequent escalation in price.

- *DOS should avoid inordinate delays in the placement of purchase orders and ensure strict compliance to the codal provisions for relaxation of terms and conditions of contracts.*
- *DOS should streamline its system of inspection of materials as delayed/non inspection deprived DOS of the opportunity of preferring damage/warranty claims and seeking replacement of rejected items.*
- *DOS should avoid delays in installation/commissioning of equipment by ensuring timely availability of site, infrastructure, etc.*
- *DOS should ensure that advance payments to suppliers are made only in exceptional circumstances subject to payment of interest at appropriate rates.*
- *DOS should make efforts to recover long outstanding advances from the defaulting suppliers.*
- *DOS should closely monitor adjustment of advances and renewal of Bank Guarantees to minimise its financial risk in cases of default on part of the suppliers in meeting their obligations under the contract.*
- *DOS may consider revision of its purchase procedures so as to make it consistent with the provisions of General Financial Rules, 2005.*
- *DOS may review its policy to stock Bonded Stores items on actual need basis and past consumption pattern. The procurement policy drafted in 1995-96 needs be reviewed in the present scenario.*
- *DOS should ensure that physical verification of all types of stores is conducted periodically to reduce inventory cost and make inventory management more efficient.*
- *The items declared as obsolete/ surplus/ un-serviceable should be immediately disposed off to avoid their intrinsic value from diminishing and thus incurring avoidable carrying costs.*

2.1 Introduction

Department of Space (DOS) and its constituent units are responsible for planning and execution of national space activities. The main objectives of the space programme include development of satellites, launch vehicles, sounding rockets and associated ground systems. DOS is also involved in research activities for the development and application of space science and technology. The programmes taken up by DOS include:

- INSAT programme for telecommunications, broadcasting, meteorology and developmental education.
- Remote sensing programme for application of satellite imagery for various developmental purposes.

- Research and development in space sciences and technology.
- Launch vehicle programme for launching spacecraft indigenously.

DOS spends around 56 *per cent* of its overall budget on procurement of stores and equipment for implementation of the above programmes. The procurement budget of DOS ranged from Rs.905.43 crore in 2001-02 to Rs.1921.10 crore in 2006-07, aggregating to Rs.8636.18 crore over these six years.

The overall control of the procurement of stores and inventory control of the DOS rests with the Chairman, Indian Space Research Organisation(ISRO)/ Secretary DOS. There are nine Centres[1] of ISRO/DOS to execute the various programmes. As far as individual Centres are concerned, the control rests with their respective Directors, who are assisted by Associate Directors, Controller and Purchase and Stores Division at each Centre. Purchase and Stores Division of a Centre is headed by Head, Purchase and Stores who is assisted by Purchase/Stores Officers. Purchase proposals beyond the powers[2] of Directors of the Centres are approved/ sanctioned by DOS.

2.2 Scope of Audit

The Performance Audit of procurement of stores and inventory control in DOS was conducted during July to October 2006 and October to November 2007, covering a period of six years 2001-02 to 2006-07. Following four out of nine Centres of DOS were selected based on materiality:

- ISRO Satellite Centre (ISAC), Bangalore including Laboratory for Electro-Optics Systems (LEOS), Bangalore. ISAC is a lead centre for satellite technology development programmes. LEOS working under the overall umbrella of ISAC is responsible for R&D and production of electro-optic sensors and optics for satellites.
- Space Application Centre (SAC), Ahmedabad is responsible for development of communication, meteorological and remote sensing payloads, besides R&D in space applications.
- ISRO Telemetry, Tracking and Command Network (ISTRAC), Bangalore is responsible for providing spacecraft, telemetry tracking and command network and mission control services to major launch vehicle and space craft mission.

[1] Vikram Sarabhai Space Centre (VSSC) Trivandrum, ISRO Satellite Centre (ISAC) including Laboratory for Electro-Optics Systems (LEOS), Satish Dhawan Space Centre-SHAR (SDSC-SHAR), Liquid Propulsion System Centre (LPSC) with its Centres at Valiamala, Mahendragiri and Bangalore, Space Application Centre (SAC) Ahmedabad, Development and Educational Communication Unit (DECU) Ahmedabad, ISRO Telemetry Tracking and Command Network (ISTRAC) Bangalore, Master Control Facility (MCF) Hassan, ISRO Inertial system Unit (IISU) Trivandrum.

[2] Prescribed in DOS Book of Financial Powers and DOS Purchase Procedure.

- Liquid Propulsion Systems Centre (LPSC), Valiamala (including Centres at Bangalore and Mahendragiri). LPSC is the lead centre in the area of liquid and cryogenic rocket engine and stages for launch vehicle and small thrust engines for launch vehicle and space craft control.

Audit examined 37 *per cent of* the procurement expenditure of DOS during 2001-06, which was 72 *per cent* of the total procurement expenditure of the selected Centres during the same period.

2.3 Audit Objectives

The aim of audit was to examine and assess whether:

- Planning for procurement was efficient and the requirements were determined realistically;
- Procurements were made in a transparent, competitive and fair manner to secure best value for money;
- Adequate efforts were made to exploit available alternatives and broaden vendor base to maximise competition, especially in respect of single tender/ proprietary items;
- The system of evaluation of tenders was fair and objective giving equal opportunity to all the participating bidders and the selection of vendors was made in a transparent manner, following laid down criteria as per codal provisions.
- System of processing and finalisation of tenders was efficient ensuring timely placement of orders at most economic rates;
- A sound mechanism of post contract management was in place in the context of inspection of materials, monitoring of rejected items & their replacement, adjustment of outstanding advances etc;
- Inventory control was effective and there were no cases of overstocking/ shortages, of bonded/ non-bonded stores; and
- Physical verification of stores was carried out on a regular basis and surplus, obsolete & unserviceable stores were disposed off timely.

2.4 Audit Criteria

The main criteria for audit were adherence to:

- Norms for indenting, tendering, ordering and post contract management contained in the DOS purchase procedure, DOS Book of Financial Powers and General Financial Rules;
- Terms and conditions stipulated in the purchase orders/ contracts;
- Codal provisions relating to receipt, stock, custody, issue and disposal of bonded and non-bonded stores contained in the DOS stores procedure; and

- Policy of the Centre in respect of Bonded Stores.

2.5 Audit Methodology

The audit methodology involved selection of procurement contracts on the basis of materiality, examination of procurement proposals, sanctions, purchase orders, payments, store accounts etc., and discussions with the auditee at different stages of the Performance Audit. The audit scope, criteria and objectives were discussed with DOS in the Entry Conference held on 30 June 2006 at DOS Secretariat. The economy and efficiency of the system of procurement of stores and inventory in DOS and its transparency/ accountability were assessed with reference to the performance benchmarks specified in the audit criteria. Important audit findings were issued to the Management to seek their response. DOS furnished their reply in November 2007. Audit observations were discussed in the Exit Conference held on 30 January 2008.

2.5.1 Acknowledgement

Audit acknowledges the satisfactory level of cooperation and assistance extended by the management at various stages for completion of the performance audit.

Audit findings

Audit observed non-utilisation of procurement budget at selected Centres as well as at the organisational level. The procurement system was found to be lacking in efficiency, as there were in-ordinate delays at all the stages viz., indenting, tendering, sanctioning, ordering, post receipt and installation, thus impacting on the efficiency of the process. There were cases of extra expenditure incurred due to non-clubbing of indents, contravention of Central Vigilance Commission (CVC) guidelines and restrictive tendering. Advance payments to indigenous as well as foreign suppliers were made in a routine manner. Non-review of procurement policy of Bonded Stores[3] by some Centres for a long time led to overstocking of components, indicating inefficient management of inventory.

These observations indicated lack of requisite level of efficiency and economy coupled with lack of transparency and accountability in the procurement system and inventory management, which may have a significant impact on the fiscal management of the organisation.

These deficiencies are discussed in the succeeding paragraphs.

2.6 Utilisation of Procurement Budget

[3] Bonded stores are Hi-rel, Hi-tech space qualified EEE components to be stored in specified storing condition.

2.6.1 By Department of Space

The budget and expenditure of DOS during the period 2001-02 to 2006-07 was as under:

(Rupees in crore)

TABLE-I EXPENDITURE AGAINST BUDGET: DOS							
No	**Description**	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**
1.	Budget	2034.95	2264.99	2368.89	2731.02	2848.60	3270.42
2.	Expenditure	1900.97	2162.22	2268.80	2533.48	2667.60	2988.67
3.	Procurement Budget	905.43	1025.22	1433.96	1715.19	1635.28	1921.10
4.	Procurement Expenditure	784.25	941.94	1332.56	1583.12	1396.16	1482.82
5	Un-utilised Procurement Budget	121.18	83.28	101.4	132.07	239.12	438.28
6	Procurement Budget not utilised (%)	13	8	7	8	15	15

During the period under review, DOS could not utilise 7 to 15 *per cent* of its procurement budget. This became even more significant as the procurement budget was, on an average, 56 *per cent* of the overall budget of DOS over these six years and thus constituted the major activity of DOS. The amount of procurement budget remaining unutilised increased consistently from Rs.83.28 crore in 2002-03 to Rs.438.28 crore in 2006-07, indicating declining efficiency of the procurement system in ensuring timely delivery of stores and equipment.

2.6.2 By selected Centres

Expenditure of the selected Centres on procurement for the period 2001-02 to 2006-07 is given below:

(Rupees in crore)

TABLE-II Expenditure against Budget: CENTRES				
Description	**ISAC**	**SAC**	**LPSC**	**ISTRAC**
Procurement Budget	3027.63	525.33	283.4	132.61
Procurement expenditure	2550.51	425.11	260.47	105.88
Savings	477.12	100.22	22.93	26.73
Procurement Budget not utilised (%)	15.76	19.08	8.09	20.16

Year wise position of budget allocation, expenditure and savings of these Centres is given in **Annexure 1.**

The selected Centres did not utilise their procurement budget and had significant savings at the end of each financial year. The extent of savings was as high as 30 to 38 *per cent* in some years for certain Centres, indicating serious deficiencies in procurement planning and management. Non-utilisation was mainly due to postponement of committed expenditure/ milestone payments in procurement, due to slippage in delivery schedule of items; especially in foreign purchase orders/ contracts.

2.7 Procurement

Procurement is an important activity which should facilitate availability of stores/ equipment at the optimal level and in a timely manner for carrying out various organisational activities and programmes. A procurement process should be economical, efficient and effective. In addition, it should ensure transparency and fairness. Audit observed absence of procurement plans and time frame for various stages of procurement. Besides, Audit also observed cases indicating lack of competitiveness of the tendering process and fairness & objectivity in the selection of vendors and award of contract. Inefficiencies in post contract management were also observed. These findings are discussed in detail below:

2.7.1 Absence of time frame for various stages of procurement

As per General Financial Rules (GFR), public procurement procedure should ensure efficiency, economy and accountability in the system. To achieve the same and to avoid delays, the Ministry or Department should prescribe appropriate time frame for each stage of procurement. Rule 161 of GFR, 2005 also emphasises the importance of fixing time frame at different stages of procurement. Such a time frame will also make the concerned purchase officials more alert.

Audit observed that DOS purchase procedure does not prescribe any time frame for various stages of procurement, which adversely impacted efficiency and economy of the procurement system.

Audit studied lead time taken from the date of indent to the date of placement of purchase order in three major Centres. The lead time taken by these Centres was as under:

Table-III Time taken by Centres to process indents into Purchase Orders

No	Centre	Purchase Orders test checked	Time taken in months
1	ISAC	13680 [4]	1 - 40
2	SAC	89	7 - 30
3	LPSC	36	4 - 49

In the absence of any lead time prescribed by DOS, it was difficult to assess performance of DOS and its Centres in completing the procurement process in a timely manner. If a lead time of two months in respect of foreign procurements and one month in respect of indigenous procurements is allowed, especially in view of the fact that most of the procurements made by these Centres were single/ proprietary purchases, audit observed significant delays as detailed below:

[4] As the procurement level is very high at ISAC, being the major centre, 100 *per cent* of purchase order figures have been taken.

- In ISAC, out of total (3069 foreign and 10611 local) contracts/ orders issued, more than 40 *per cent* of the foreign contracts were delayed by more than three months and 18 *per cent* were delayed by more than six months. Similarly, in indigenous contracts, more than 20 *per cent* of the contracts were delayed by more than three months.
- In SAC, out of 49 foreign contracts and 40 indigenous contracts test checked, all contracts except one local contract were delayed by more than six months.
- In LPSC, out of 36 contracts test checked, 61 *per cent* were delayed by more than six months.

DOS replied in November 2007 that for ISAC and SAC, based on the nature of items, specifications etc., lead time will vary from item to item and cannot be avoided. The reply is not acceptable as in the absence of any time frame, monitoring of the procurement process may not be possible, thus impacting supply of stores for important projects. In the case of LPSC, DOS stated that the audit point is noted for compliance.

DOS, in its reply of November 2007, stated that action is being taken to suitably change the relevant provisions in purchase and stores procedures and incorporate, *inter alia*, prescription of appropriate time frame for each stage of procurement.

Recommendation

To reduce delays, DOS should prescribe appropriate time frame for each stage of procurement viz., indenting, sanction, issue of purchase order, and supply. Such a time frame should be prescribed after taking into account the type of material to be procured and the sources of supply.

2.7.2 Planning for procurement

Planning for procurement involves realistic and timely assessment of requirements, making proper cost estimates, conducting market surveys to identify the possible sources of supply, clubbing similar requirements to avoid repetitive tendering and obtain quantity discounts, selecting appropriate mode of procurement and formulating most suitable strategy to ensure timely availability of goods and services, as per the requirements of end users. Audit observed that procurement planning was weak as requirements were not accurately assessed by the indentors, cost estimates were not realistic and requirements of different users were not clubbed, leading to inefficiencies and uneconomical purchases as discussed below:

2.7.2.1 Inaccurate assessment of requirement by indentors

According to DOS purchase procedure[5], all indents should be prepared suiting the requirements of the projects. During the period 2001-06 at ISAC, out of 15478 indents raised, 1798 indents (12 *per cent*) amounting to Rs.682.50 crore did not result in purchase orders. Similarly, at SAC, random test check revealed that 83 indents valuing Rs.63.42 crore did not result in purchase orders.

DOS assigned reasons such as (i) no response for the tender necessitating change in specifications (ii) incorporating latest scientific improvements (iii) change in specification subsequent to raising indent and (iv) careful examination of the indents/suppliers by high power committees.

This indicated inadequate planning at the indenting stage without properly assessing actual requirement of items and specification thereof, consequently impacting provisioning of stores.

2.7.2.2 Improper estimation of cost by the indentors

According to DOS purchase procedure[6], the estimated cost and delivery dates mentioned in the indent should be realistic. As the estimated rate is a vital element in establishing the reasonableness of prices, it is important that the same is worked out in a realistic and objective manner on the basis of prevailing market rates, last purchase prices, economic indices for the raw material/ labour, other input costs etc., wherever applicable and assessment done based on intrinsic value.

In 30 indents in ISAC, SAC and LPSC, Audit observed an overall variation of 73 *per cent* between indent value and order value, amounting to Rs.49.46 crore **(Annexure 2)**. The variation in these indents ranged between 13 *per cent* to 555 *per cent* on individual basis.

In 23 cases, the variation was due to increase in unit cost and in five cases, it was due to decrease in unit cost which had occurred due to lack of planning at the indent stage by not obtaining prevailing market rates, last purchase prices, economic indices for the raw material etc., to arrive at the realistic price. In two cases, to avail quantity discount of Rs.1.34 crore on slabs, provisioning was made for more than the requirement, resulting in overstocking of stores and blocking of funds worth Rs.6.99 crore.

DOS assigned reasons such as (i) large gap between dates of previous indent and the current indent (ii) fluctuation in market scenario and (iii) price increase in cost of raw material/power etc,.

The reply of DOS confirms that the indentors in the departments routinely adopted rates from previous procurements without ascertaining prevailing market rates, at the time of raising fresh indents. Further, variations in rates can also arise due to failure of DOS in timely finalising the procurements.

[5] Para 1.1 of DOS purchase procedure.
[6] Para 1.6 of DOS purchase procedure.

2.7.2.3 Non-clubbing of procurement requirements

Efficient procurement systems require procuring officers to consolidate requisitions received from different indentors to arrive at the final purchasing quantity. DOS purchase procedure[7] also stipulates that the procurement requirements of indentors are to be clubbed, so as to get the most competitive and best prices. Audit examination disclosed that SAC neither determined annual requirement of repetitive items nor consolidated indents for same items, resulting in uneconomical purchases due to repetitive procurement as discussed below:

(i) Spectrum Analysers: SAC placed 11 separate orders during 2003-2004 to procure 13 Spectrum Analysers valued at Rs.4.38 crore. While placing orders, SAC ignored upto eight pending indents, thus placing purchase orders repeatedly for the same item.

(ii) Vector Network Analysers: In the year 2003-2004, nine separate orders valuing Rs.5.56 crore were placed while seven such orders were placed in 2005-2006 for Rs.6.29 crore. It was observed that SAC did not club its requirements and upto five indents were pending while placing subsequent orders for purchase of Vector Network Analysers.

(iii) Scalar Network Analysers: Six separate indents were raised between February 2003 and October 2003 and five separate orders were placed between June 2003 and December 2003 at a total cost of Rs.1.43 crore**.** It was observed that upto four indents were pending while placing different orders for the purchase of Scalar Network Analysers.

(iv) Extended C-Band SSPAs and Circulators and Loads: In two cases at SAC, non-clubbing of requirement had resulted in avoidable payment of Rs.93.95 lakh due to non-availing of quantity discount/ saving of Lot Acceptance Test (LAT) Charges as detailed below:

TABLE – IV

Description of item	**Quantity**	**Name of firm**	**Value** (Rs.in lakh)	**Remarks**
15 Watt Extended C-Band SSPAs[8]	5	M/s Melco, Japan	294.50	The first contract for five items was entered in January 2002 at a unit rate of JP ¥[9] 15.5 million disregarding the requirement of 40 numbers of the same item raised in October 2001 i.e. even before the release of the first order. The supplier, in view

[7] Para 1.3 of DOS purchase procedure.
[8] Solid State Power Amplifiers.
[9] Japanese Yen.

	40		1851.00	of more number of items (40 numbers) in the second order, offered quantity discount and reduced the unit price to JP ¥ 12.7 million for which order was placed separately in March 2002. Had both the requirements (5 + 40) been clubbed together, SAC could have avoided an expenditure of Rs.53.20 lakh @ Rs.0.38 per 1 JP ¥ by availing discount on the balance 5 units also.
Waveguide Circulators and Load	49 Circu-lators 24 Load	M/s Comdev, Canada	207.00	SAC placed the initial order in July 2002 on the firm based on the slab rates applicable for 49 and 24 numbers of Circulators and Loads respectively. For the same items, there was a fresh indent in November 2002 which could not be clubbed and a separate order had to be placed. SAC issued proprietary article certificate on the same firm and placed the order in February 2003. Had SAC clubbed these two procurements by making proper annual assessment of such repetitive requirements, they could have availed the benefit of lower rates applicable to the next slab, thereby avoiding expenditure of Rs.23.02 lakh. In addition, SAC had to incur lot acceptance test charges amounting to Rs.17.73 lakh. Thus the total avoidable expenditure on this count worked out to Rs.40.75 lakh.
	49 Circu-lators 24 Load		207.00	

SAC stated that indents were raised by different Divisions/Projects and each one of them was not aware of similar requirements existing, as on date of raising their indents.

DOS replied that since the items indented were of very high value, more than the requirement was not procured as it was not economical and the same items were not required for future immediate use in the Centre. It also replied that though certain items look similar, the indent cannot be raised due to the fact that specifications vary from project to project, for different satellites.

The reply of DOS is not acceptable in view of the fact that by more efficient procurement planning, they could have ensured economical purchase of high value items. The contention of DOS that the items were not required for future use is also not tenable as Spectrum Analysers, Vector Network Analysers and Scalar Network Analyser were procured by repetitive orders in the same year. The reply of DOS is also contradictory to the factual position stated by SAC.

Recommendations

- *DOS should streamline the system of assessment of requirement by the indentors by maintaining a centralised database of various items, their specifications, status of technology and availability in market, prevailing costs, sources of supplies etc to ensure accurate projection of requirements and realistic estimation of cost.*
- *DOS should prepare annual procurement plans by consolidating requirements of all the end users in advance, to avoid delays, repetitive procurements, maximise value for money by availing quantity discount and enhancing competition.*

2.7.3 Competitiveness in the tendering process

Competition is the key element of the procurement policy framework and promotes value for money. Effective competition requires non-discrimination amongst suppliers in procurement and the use of competitive procurement process. Audit observed that majority of the procurements were made on proprietary/ single tender basis. This mode of procurement was observed even in cases of routine items and where more than one source of supply was available as discussed below:

2.7.3.1 Excessive use of exceptional mode of tendering limiting competition

DOS purchase procedure provides for procurement of stores on a competitive basis by inviting public tenders or resorting to limited tender procedure. However, in case of proprietary/ specific brand indents, DOS purchase procedure[10] allows purchase from single source, if detailed justification is placed on record and approved by the competent authority.

To examine whether DOS was ensuring adequate competitiveness in its procurements, Audit requisitioned contract files relating to the period 2001-06 for review. DOS furnished 281 files pertaining to the Centres selected for the Performance Audit. Review of these cases indicated that DOS resorted to single and proprietary tenders in 67 *per cent* of the tenders, amounting to Rs.996 crore during the above period as detailed below:

TABLE-V

Sl. No	Type of Tender	Nos.		Rupees in crore	
		Number	%	Amount	%
1.	Proprietary	114	41	500.53	25
2.	Single Tender	74	26	495.35	25
3.	Limited Tender	70	25	757.25	38
4.	Public Tender	11	4	83.28	4
5.	Repeat Order	4	1	17.23	1
6.	Contract	3	1	120.28	6
7.	Write Off	3	1	0.20	0
8.	MOU	2	1	5.25	0
Total		**281**		**1979.37**	

It was further observed that ISAC resorted to purchases on single and proprietary tender basis in 41 *per cent* of cases and limited tendering in 42 *per cent* of cases. Public tendering was adopted only in 3 *per cent* cases. Similarly, at SAC, public tendering was done only in 19 *per cent* of the cases.

The above analysis revealed that restrictive mode of tendering was very common in DOS and was not in line with GFR provisions[11] which stated that

[10] Para 1.5 of DOS purchase procedure.
[11] Rule 154 of General Financial Rules, 2005.

"procurement from a single source may be resorted to only in emergency cases and in cases of availability of the sole supplier for the required goods, with the approval of the competent authority".

DOS replied in respect of ISAC that the indentors utilise all available means, including internet to surf through the web before embarking on any decision in raising proprietary indent.

However, there were no documents on record to substantiate the efforts made. Besides, there was no evidence of a centralised/ common data base of items at the organisational level which could have facilitated dissemination of information among various Centres, especially with reference to details of vendors available in the market.

Illustrative cases of where proprietary/single tendering was resorted to despite availability of other suppliers are discussed below**:**

(i) Purchase of furniture on proprietary basis: SAC raised a limited tender indent for supply and installation of furniture items. Six firms responded, out of which three, including M/s Godrej and Boyce Co were rejected on technical grounds. M/s Sudama Furniture Ltd. was selected, whose offer of Rs.63.26 lakh was the lowest and the Indentor decided to place the order with the firm. However, the items were not purchased by SAC from the L_1 and another indent was raised on proprietary basis in favour of M/s Godrej and Boyce Co, which was rejected earlier on technical grounds. Finally, order was placed on M/s Godrej and Boyce Co at a total cost of Rs.79.88 lakh. Thus, Proprietary Article Certificate (PAC) was issued for a common item like furniture for which other manufacturers were available in the market, as proved by response to limited tenders issued. Further, having known that earlier offer was only Rs.63.26 lakh which was accepted by Indentor, order was placed for Rs.79.88 lakh, thus, incurring avoidable expenditure of Rs.16.62 lakh.

(ii) Unjustified proprietary purchase: In March 2001, SAC placed a purchase order for two C-Band Output Multiplexers at the unit price of US$ 7,15,000 plus NRE[12] of US$ 1,84,000 from a Canadian firm on whom order was placed on limited tender basis. When the need for another two numbers of same item arose in July 2001, the Centre, having known that previously limited tender was issued for the item, issued PAC in favour of the same firm on the ground that items could be purchased on prices fixed earlier and there would be no need for payment of NRE charges again. The Centre, however, ended up paying higher cost of US$ 7,44,000 per Channel and NRE amounting to US$ 40,000 in the form of management cost, since the firm refused to maintain prices fixed earlier and also did not waive NRE charges. Thus, DOS, despite having other sources of supply, resorted to proprietary purchase and also could not avail the benefit of the original price. The excess

[12] Non Recurring Engineering charges.

expenditure on this account worked out to US$ 69,000 (Rs.33.81 lakh). Thus, the unjustified proprietary purchase led to uneconomical procurement.

DOS replied in respect of SAC that proprietary items were cleared by committee called Need Aspect Committee cum Proprietary Indent Review Committee. Reply of DOS is not tenable as the committee did not comply with codal provisions which permitted proprietary purchase only where no other suppliers were available.

(iii) Adoption of proprietary purchase instead of limited tender: DOS purchase procedure[13] stipulates that for specific brand goods, limited tender may be issued for obtaining competitive offers, wherever possible, from authorised dealers. It was noticed that ISAC resorted to proprietary mode of procurement for generic products worth Rs.24.45 crores, despite there being other manufacturers/ dealers for these generic products as detailed below:

- Though generic Crystal Oscillators were being manufactured by M/s Vectron Int., USA and by M/s Q-Tech Corp, USA, ISAC purchased Hi-rel Crystal Oscillators in December 2005 from M/s Q-Tech Corp, USA and ECL Crystal Oscillators in November 2005 from M/s Elkay Int., USA (Vectron make) on proprietary basis worth Rs.5.55 crore. DOS replied in November 2007 that the suppliers had proven space heritage and no designer will like to take risk in experimenting with alternate suppliers.
- DC-DC Converters were being manufactured by M/s IR, USA, M/s EADS Austrium and M/s MDI, USA. However, ISAC purchased DC-DC converters with different specifications in March 2005 and December 2005 from M/s MDI, USA on a proprietary basis worth Rs.3.53 crores. DOS replied that orders were placed on proprietary basis to suit the specific design criteria.
- ASICs[14] were being manufactured by M/s Dynex, UK and M/s UTMC Aeroflox, USA while the firms such as M/s Bryka, Dubai, M/s IGG, UK, M/s Spur Electronics, UK and M/s AIR US Electronics, USA were all traders in the field. ISAC purchased ASICs in September 2005 from M/s Spur Electronics, UK (Dynex make) and in January 2006 from M/s Bryka, Dubai (Aeroflox make) on proprietary basis worth Rs.14.08 crore. DOS replied in respect of the first order that M/s Dynex make has a certain specific design criteria, whereas, it replied for the second order that in 2005, it was known that M/s Aeroflox was the only manufacturer of ASICs who were able to design it to meet the requirement of ISAC. The reply is not tenable as there was another manufacturer viz., M/s Dynex, UK besides other dealers being available.
- Similarly, for Space Grade Relays which were being manufactured by M/s Leach Int., USA and M/s Campaigne Deutche, France, ISAC purchased these relays in July 2005 from M/s Leach Int., USA on a proprietary basis

[13] Para 3.9.2 of DOS purchase procedure.
[14] Arsenic Silicon Integrated Circuit.

worth Rs.1.29 crore. DOS replied that though M/s Campaigne Deutche, France is also a European Space Agency qualified supplier of relays, the relays being procured were of special nature with specification available with M/s Leach only.

While giving credence to the fact that there could be variation in specification of the particular product which might necessitate purchase on proprietary basis in some cases, the reply of DOS has to be viewed in light of the fact that DOS did not make adequate efforts to go in for limited tendering (or public tendering, if possible) to explore, in a transparent manner, whether any of the other suppliers met its specific requirements. As such, the manufacturers who did not meet the exact technical specifications required, could have been eliminated after following the limited tendering process and recording reasons for their rejections. As no opportunity was given to other suppliers/manufacturers to offer their products with same technical/design specifications, the decision to go in for proprietary procurement, especially when more than one supplier was available, was not consistent with General Financial Rules and DOS purchase procedure. This also did not reflect transparency in the procurement process and reduced the chances of getting better prices and products through competitive bidding.

Thus, the procurement practices adopted by DOS did not ensure adequate transparency and competitiveness and there was no assurance that DOS was able to get value for money in its procurement.

Recommendations

- *To ensure transparency in the procurement process, DOS may consider going in for limited tendering for generic products where more than one supplier is available in the market.*
- *DOS may build up a database of vendors to bring in more competition in the procurement process and reduce proprietary/single tender procurements.*

2.7.4. Fairness and objectivity in the selection process and award of contracts

Good procurement practices offer all interested suppliers a level playing field to compete and thereby, directly expand the purchaser's options and opportunities. A good procurement process should not only be fair but should be seen to be fair. Audit observed that DOS not only violated its own purchase procedure but also CVC guidelines and provisions contained in GFR, by negotiating with the firms and awarding contracts to the firms who were not found lowest in bid evaluation and who were not technically suitable. The cases of changes in techno commercial bids subsequent to bid evaluation and changes in terms of purchases orders, thereby benefiting the suppliers were also observed as discussed below:

2.7.4.1 Negotiation with other than lowest bidders

As per the Central Vigilance Commission (CVC) guidelines issued in November 1998 and as per DOS purchase procedure[15], all post tender negotiations are banned except in the case of negotiations with L_1 (lowest tenderer). Audit observed that in eight cases, negotiations were also held with vendors other than L_1 and in two cases at LPSC and SAC, orders were placed on L_2 bidders, ignoring L_1, despite the lowest bidders being found technically suitable by the Technical Evaluation Committee. Holding of negotiation with vendors other than L_1 and rejection of L_1 bidder on technical grounds, after opening of price bids, was in contravention of DOS purchase procedure and CVC guidelines.

(i) In eight cases of procurement at ISAC, SAC and LEOS, Best and Final Offer (BAFO) was called from the suppliers after opening price bids, contravening CVC guidelines as well as DOS purchase procedures. Audit found that post tender negotiations had been carried out with parties other than the L_1, resulting in placement of purchase orders amounting to Rs.44.58 crore **(Annexure-3)** in contravention of CVC guidelines and GFR.

DOS replied that, if L_1 only is invited for submitting BAFO, there is a possibility of the vendor not giving realistic discount (as he is aware that he is L_1 and there is no competition) and whatever quoted will only be a cosmetic price discount. The reply goes against provisions contained in CVC guidelines which seek to ensure transparency and accountability in public procurement.

(ii) Vikas Engine: LPSC raised RFP[16] in June 2002 for the fabricating engine hardware of "Vikas Engine". The RFP was sent to three short listed sources viz., M/s Keltec, M/s Godrej and M/s MTAR, considering their earlier experience in fabricating similar engine hardware. The Technical Evaluation Committee (TEC) cleared both M/s Keltec and M/s Godrej MTAR consortium. Subsequently, the price bids were opened and Keltec was found to be the lowest. In February 2003, Contract Finalisation Committee (CFC) doubted the capabilities of M/s Keltec to straightaway take up fabrication of engines and felt that, at best, they could be considered for a developmental order. The contract was, therefore, awarded to M/s Godrej/ MTAR consortium in March 2003. Rejection of L_1 bidder on technical grounds, after opening of price bids, was irregular and against the provisions contained in the DOS purchase procedure/CVC guidelines. Non-awarding of the contract to the L_1 bidder resulted in extra payment of Rs.1.98 crore by DOS.

DOS stated that M/s Keltec was not awarded the contract because (i) previous experience with Keltec was not satisfactory (ii) Keltec has minimum facilities and gained limited experience in fabrication of conical version engines and

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[15] Para 6.1 of DOS purchase procedure.
[16] Request for Proposal.

(iii) Keltec had not added new machineries/ facilities to meet the demands of LPSC.

The reply is not tenable as these considerations should have been taken into account at the initial stage itself while short listing the firms for sending RFP and at the time of technical evaluation, before opening the price bids.

(iii) Multiplexes: At SAC, an indent for the purchase of 12 Channel Ku-Band output multiplexes was raised on Limited Tender basis. Against RFP, three bids were received and TEC found two bids technically suitable. After holding technical negotiations, commercial bids were opened. After comparison of costs, the lower offer of Rs.5.67 crore was rejected on the ground that the test programme proposed by the firm was not as per Centre's requirement. Decision was taken to place the order on L_2 whose offer was higher by Rs.1.44 crore, the total value being Rs.7.11 crore. The test programme, being one of the technical parameters, should have been considered by technical committee before it found technical bids suitable and before opening of the price bids. Hence, decision to place order on L_2 resulted in extra payment of Rs.1.44 crore.

DOS replied that considering the criticality of the project/programme and to avoid delay in calling for the fresh tender, L_1 offer was rejected and L_2 offer was accepted. DOS, however, noted the audit point for compliance and stated that necessary instructions have been issued by the Director, SAC so that such incidences do not to recur.

Recommendation

DOS should ensure compliance to the CVC guidelines during evaluation of tenders.

2.7.4.2 Undue favour to the supplier by accepting technically non-suitable bid

As per DOS purchase procedure, in two bid tenders, the technical bids are to be opened by the department at the first instance and evaluated by a competent committee or authority. At the second stage, financial bids of only the technically acceptable offers should be opened for further evaluation and ranking, before awarding the contract.

ISAC raised an indent in May 2005 for DC-DC converters. In response to the limited tender, two quotations were received from M/s MDI, USA and M/s IR, USA. The Technical Evaluation Committee (TEC) found the offer of M/s IR, USA as technically suitable whereas the offer of M/s MDI, USA was found technically not suitable, as the power handling capacity and efficiency were low and volume/ dimensions were entirely different. TEC had, therefore, not recommended the offer of M/s MDI, USA. However, at the instance of indentor, the price bid of M/s MDI, USA was also opened and later called by CFC along with M/s IR, USA to submit their Best and Final Offer (BAFO).

After evaluating BAFO, M/s MDI, USA was selected for placement of order, though it was not found suitable earlier by TEC. Finally, the order was placed on M/s MDI, USA in December 2005 for Rs.4.27 crore. Opening price bid of a technically non-suitable bidder and awarding contract to such bidder was grossly irregular and against the provisions of DOS purchase procedures and GFR.This amounted to extending undue favour by awarding contract worth Rs.4.27 crore to the firm.

DOS replied that the party not suitable initially was found to be suitable later with an equivalent specification. The reply is not tenable as the stand of DOS is inconsistent with the DOS purchase procedure.

2.7.4.3 Changes in techno commercial terms of bids subsequent to bid evaluation

As per the provisions contained in GFR, bids should be evaluated in terms of the conditions already incorporated in the bidding documents; no new conditions should be brought in for evaluation of bids.

In two cases at ISAC, changing the bid terms at the time of bid evaluation resulted in undue favour of Rs.9.99 crore as detailed below:

(i) ISAC raised an indent for the purchase of 14 SWIR Band detectors with built-in ASIC in November 2000. Two firms i.e. M/s Discovery, USA (L_1) and M/s Judson, USA (L_2) quoted against the tender. As the quotes were technically evaluated and found suitable, the price bids were opened. The contract was awarded to L_2 on the ground that the offer of L_2 was technically superior. The Centre agreed to procure 14 detectors with built-in ASIC from L_2 at US $ 15,30,000. Subsequently, the firm expressed its inability to supply detectors with built in ASIC, which the Centre agreed to. Omission of ASIC necessitated downward revision of contract price. To keep the order value unchanged, the Centre placed the order in June 2004 by increasing the quantity of the order from 14 to 21 detectors.

It was observed in audit that:

- ISAC ignored L_1 for award of contract though it was declared technically qualified by TEC. This amounts to violation of basic criterion laid down in GFR for selection of suppliers for award of contract.
- L_2 did not finally supply detectors with built-in ASIC. The Centre therefore, accepted the detectors without built-in ASICs which amounted to modification of the specification.
- To keep the order value of L_2 unchanged, order for seven extra detectors (50 *per cent* of the original ordered quantity) was placed resulting in avoidable extra expenditure of US $ 3,18,000 (being cost of additional seven detectors worth Rs.1.44 crore).

Thus, despite L_1 firm being technically suitable, contract was awarded to L_2 firm. The L_2 firm failed to supply the detectors as per specifications. Instead of taking action against the firm for not complying with the contract conditions, the ordered quantities of detectors was increased. Thus, the firm was given undue benefit of award of contract worth US $ 15,30,000 (Rs.6.93 crore), in violation of rules.

DOS stated that order was awarded to L_2 since L_2 was technically superior. The reply was not acceptable as the order was to be awarded to the lowest qualified bidder as per GFR.

(ii) An indent for the purchase of high-density 78 pin connectors was raised in July 2004 on limited tender basis. RFP was sent to 16 known suppliers of the item. Against RFP, two bids were received from M/s IGG UK and M/s SORIAU, France. Both the suppliers were technically cleared by TEC in October 2004. Subsequently, CFC decided to place order only on the manufacturer and, therefore, selected M/s SORIAU for award of contract. It was irregular on part of CFC to change the basic terms of bidding by prescribing a new criterion, which in effect, completely eliminated the competition to favour one bidder. Thus, change in criteria applied by CFC had resulted in undue favour of Rs.3.06 crore to the supplier.

DOS did not offer any comments on this specific case.

Recommendation
DOS should strictly follow codal provisions in selection and award of contracts by placing orders on the lowest qualified bidder.

2.7.4.4 Changes in terms of purchase order/contracts benefiting suppliers

As per DOS purchase procedure[17], no relaxation of specifications, terms and conditions agreed upon in a purchase order or contract by Government should be made without proper examination of the financial effect involved in such relaxation. The interest of the public exchequer should be taken due care of, before agreeing to any relaxation of agreement or contract.

(i) In two cases at LPSC and ISAC, the contract conditions were changed, resulting in undue favour of Rs.1.17 crore to suppliers as detailed below:

- LPSC raised a proprietary indent on M/s Cronos, Russia for supply of CU Alloy sheets in June 2003 and placed the purchase order in December 2003 for Rs.89 lakh. The supplier wanted to increase the price to Rs.1.42 crore in March 2004, after placement of the order. This was accepted by the Center, despite price escalation clause not being a part of the order. This resulted in undue favour of Rs.53 lakh to the supplier. DOS replied that price rise was necessitated due to drop in dollar rate against rupee and increase in copper prices. It was also

[17] Rule 13.1.4 of DOS purchase procedure.

stated that M/s Cronos are the only manufacturer for the copper alloy sheets in the international market. The reply is not acceptable as payments to the firm after award of contract should be strictly regulated, as per the terms and conditions stipulated in the order.

- ISAC placed an order on M/s. NAL for plating of sunshield panels in March 2001 for Rs.1.94 crore. The delivery was to be completed by October 2002, as per original order, which was subsequently revised to December 2006, a period of more than four years. While three panels worth Rs.64 lakh were still to be supplied, full payment was effected by March 2006, resulting in undue favor in extending delivery schedule and blocking of funds of Rs.64 lakh. DOS stated that payments were as per the terms of the order. DOS was silent on the audit contention that revision of delivery schedule was made to the advantage of NAL.

(ii) SAC raised an indent on limited tender basis on firms without finalisation of the specifications of the equipment. Subsequently, a contract valuing Euro 8,78,475 (Rs.4.83 crore) was entered into with M/s EADS Astrium in March 2004 for "Space Qualified Electronic Power Conditioners (EPCs)" required for regenerative payload. When the design of regenerative payload was finalised, a need was felt for change in specifications of EPCs. After a lapse of two years of placement of order, changes in specifications were intimated to the supplier in January 2006. Since supplier had already started the process of manufacturing, an additional payment of Rs.69.57 lakh was demanded for modification which was agreed through amendment. DOS was silent on this issue in its reply.

Recommendation
DOS should avoid inordinate delays in the placement of purchase orders and ensure strict compliance to the codal provisions for relaxation of terms and conditions of contracts.

2.7.4.5 In-ordinate delay in placing the purchase order leading to avoidable expenditure

LPSC and SAC delayed the placing of purchase orders which not only delayed the process of procurement but also contributed to price escalations, due to expiry of validity of offers. These cases are illustrated below:

(i) In LPSC, an indent was raised for the procurement of 265 KC20WN Sheets in September 2002. Technical bids were opened in March 2003 and to open the price bid, technical clearance was obtained in April 2003. The price bids were valid up to August 2003. The Centre took five months to decide on opening the price bid and the validity of the offer had to be extended up to November 2003. The proposal for award of contract was sent in December 2003 to DOS for approval. Member (Finance) approved the proposal in

December 2003. The Centre placed the order at a cost of Rs.3.32 crore on M/s Auburt and Duval, France, in December 2003. However, the firm revised the cost from Rs.3.32 crore to Rs.5.81 crore, due to expiry of the validity of offer. Thus, the failure of LPSC to timely process the bids and decide on the award of contract, resulted in avoidable expenditure of Rs.2.49 crore.

Audit also observed that while approving the proposal in March 2004 for increase in the cost by Rs.2.49 crore, Member (Finance) had remarked that it was unfortunate that DOS/LPSC could not finalise the purchase during a comparatively long period of about eight months, during which the parties had kept open the validity of their offers. Member (Finance) also suggested streamlining the purchase procedures in DOS to avoid recurrence of such delays.

DOS stated that inordinate delay was due to launch campaign and post launch activities at LPSC. The reply is not acceptable as these activities are normal functions of the Centre and cannot be used to justify abnormal delays and substantial avoidable financial burden to the tune of Rs.2.49 crore on the exchequer.

(ii) In September 1999, SAC raised an indent for the purchase of two Paraboloidal mirrors. Tenders were invited in September 1999 and evaluated in April 2000. It was found that the quote submitted by M/s REOSE, France amounting to Euro 1,75,300 (Rs.73.08 lakh) was the lowest. The offer was valid up to 120 days. But the Centre did not place order immediately and when the order was finally placed in August 2001, the supplier revised the price to Euro 2,02,500 (Rs.94.19 lakh). The supplier stated that revision in price was due to the fact that spare blanks required for manufacturing the mirrors available with them at the time of submission of original quote were already diverted to other orders and hence they had to procure new blanks at higher cost. Thus, inordinate delay in placement of order resulted in avoidable expenditure of Rs.21.11 lakh. DOS stated that the delay had occurred due to delay in finalisation of technical parameters.

Replies in above cases are not acceptable as delays were largely due to inefficiencies in processing and finalisation of tenders within the validity period, resulting in avoidable financial liability of Rs.2.70 crore in two cases alone.

Recommendation

DOS should avoid inordinate delays in processing and finalisation of tenders to ensure timely procurement and avoid extra expenditure due to subsequent escalation in price.

2.7.5 Efficiency in post contract management

Efficient post contract management includes immediate inspection of stores, their installation and commissioning, taking proactive action for replacement of rejected stores, monitoring of financial transactions to safeguard the interest of the organisation, by ensuring that the securities furnished by the suppliers are kept safely and updated periodically. Audit observed delays in inspection of stores leading to non-replacement of rejected stores, non-installation/ delayed installation of equipments, cases of Bank Guarantees lapsing and irregular payment of advances to the suppliers as discussed below:

2.7.5.1 Delay in inspection of material and non-replacement of rejected stores

As per DOS stores procedure[18], inspection of materials should normally be completed within three days from the date of receipt. In case of materials which require qualitative test, it shall be completed within seven days. In cases where 100 *per cent* advance payment has already been made, the SRVs[19] shall be forwarded to Accounts Officer for adjustment of the pending advance in the books of accounts. Audit scrutiny revealed the following:

(i) ISAC did not follow the prescribed time limit and delayed the inspection of material. It also failed to obtain replacement of rejected stores worth Rs.8.73 crore from the suppliers as discussed below:

- ISAC placed an order valuing Rs.43.08 lakh on M/s IGG, UK for supply of nine types of Hi-rel ICs[20] in April 2000. The ICs were received in April 2001 and July 2001. Of the nine types of ICs, all quantities of seven types of ICs worth Rs.37.48 lakh were rejected in January 2004. These were rejected due to lead corrosion noticed during inspections, which were conducted after 21 and 32 months from the date of receipt of items respectively. The rejected items against which payment had already been made have not been replaced, even after five years. In August 2006, the supplier expressed difficulty in re-manufacturing the rejected parts and stated that the ISAC has to bear the replacement cost, which the Centre has denied. The rejected items worth Rs.37.48 lakh have not been replaced so far (July 2007).
- ISAC placed an order valuing Rs.9.75 crore on M/s SAFT, France for supply of 143 Ni-H_2 cells[21] in March 2003. The cells were received between June and August 2004 and Rs.7.33 crore (80 *per cent* of the total order value) was paid by November 2004. The clause of pre-dispatch inspection at contractor's premises was waived. Discrepancies were noticed during inspection after six months from the date of receipt and of the 143 cells ordered, 80 cells were rejected in April

[18] Para 4.6.2 of DOS stores procedure.
[19] Stores Receipt Voucher.
[20] High reliance integrated circuits.
[21] Nickel hydrogen cells.

2005. The rejected items, for which payment of Rs.4.10 crore has already been released, have not been replaced so far (July 2007).

- ISAC placed an order valuing Rs.1.27 crore on M/s Hypertec, France for supply of "PCB edge connectors" in August 2003. The inspection was conducted after nine months of the receipt of the connectors, as against a norm of maximum of seven days. Discrepancies were noticed during the inspection (October 2004) and all the 950 connectors received were rejected in October 2004 due to 'deep switch off and wampage problem'. Only 596 connectors were replaced and the remaining 354 valuing Rs.23.62 lakh have not been replaced so far (July 2007).
- ISAC placed three orders valuing US$ 17,92,559 on M/s Modular Devices, USA in May 2003, March 2005 and June 2005 for supply of 197 'DC-DC converters' which were received in October 2004, January 2006 to March 2006 respectively. Ninety converters amounting to Rs.3.87 crore approximately (US$ 8,59,157) were rejected in April 2006 due to 'seal failures' and had not been replaced so far (July 2007).
- ISAC placed an order valuing Rs.15.55 lakh on M/s Universal Dynamics, Germany for supply of 19 spare parts of equipment in April 2004 which were received in September 2004. During inspection in October 2004, 15 items valuing Rs.14.92 lakh were rejected, of which 13 were of different specification and two were of poor quality. Rejected spare parts have not been replaced so far (July 2007).

ISAC failed to conduct timely inspection of the materials received from suppliers and thus, lost the opportunity of getting rejected materials replaced from them. It also did not take effective action to obtain replacement of rejected stores. Thus, expenditure of Rs.8.73 crore was rendered unfruitful.

DOS replied that in respect of EEE[22] components, inspection takes three to four weeks and in some specific cases, it requires three to four months since these components are required to undergo various lab tests. The reply is not acceptable as DOS purchase procedure clearly stipulated time limit of only seven days for inspection. As against this, inspection in case of Hi-rel ICs was conducted as late as 21-32 months, after the receipt of the components. Further, replacement for the rejected stores was still pending in most of the cases, despite significant delays.

(ii) In ISAC, during the review period, 54 *per cent* of the SRV[23]s were cleared/accepted after one month as against stipulated period of seven days. Their value could not be quantified since the same was not entered in SRV in respect of foreign purchases. In SAC, 181 items valuing Rs.17.87 crore

[22] Electrical, Electronic, Electro mechanical components.
[23] Stores Receipt Voucher.

received upto March 2006 were still pending (as of July 2007) with indentors for clearance/acceptance.

DOS did not offer any comments on this issue.

2.7.5.2 Non-installation/ delayed installation of equipment

In six cases at LPSC and ISAC as detailed in **Annexure–4,** the Centres did not install the equipment, even after a delay of 5 months to 60 months, due to reasons such as non-readiness of the site, defects of equipment etc,. Thus, equipment worth Rs.9.10 crore were lying idle in various Centres which resulted in blocking of government funds to that extent.

Audit also observed that in ISAC, waiver of pre-shipment inspection at supplier's site resulted in equipment worth Rs.79.81 lakh lying idle from August 2003 to October 2007 (i.e for more than 4 years). Moreover, in another case at ISAC, due to damage of SWIR Spectrometer and spectro-radiometer, the system could not be installed till September 2006, blocking an amount of Rs.2.53 crore from January 2004 to October 2007 (i.e 45 months). Thus, equipment worth Rs.3.33 crore remained idle for almost four years resulting in blockage of government money.

DOS, in its reply of November 2007, was silent on their actual status of installation.

Recommendations

- *DOS should streamline its system of inspection of materials as delayed/non inspection deprived DOS of the opportunity of preferring damage/warranty claims and seeking replacement of rejected items*
- *DOS should avoid delays in installation/commissioning of equipment by ensuring timely availability of site, infrastructure etc,.*

2.7.5.3 Irregular payment of advances to suppliers

As per DOS purchase procedure[24], the normal terms of payment provide for the release of 100 *per cent* payment within 30 days time after receipt and acceptance of materials in good condition. As a relaxation, payment up to 98 *per cent* against proof of dispatch is allowed. Advance payment should be made in exceptional cases only.

Further, as per the purchase procedure with regard to the payment to foreign suppliers, the normal terms of payment are against 'sight draft'[25]. Payment through letter of credit can also be adopted with the approval of Internal

[24] Para 13.3 of DOS purchase procedure.
[25] Sight draft is international term of advance payment wherein exporter wishes to retain title to the shipment until it reaches its destination and payment is made.

Financial Advisor and Head, Purchase and Stores. Thus, DOS purchase procedure provides for advance payment through sight draft and Letter of Credit for imported items. As per CVC guidelines, advance payments should be made only against payment of interest. Further, advance payments should be made only when unavoidable, like, when the monopolistic firm insists or where lead-time is long and considerable investments by the firms etc. are necessary.

A review of data/ registers revealed that ISAC, SAC and LPSC were making advance payments in a routine and liberal manner, without documenting any reasons. Moreover, in no case, advances were paid against interest. Out of the advances paid up to the year ending March 2005, advances pending for settlement as of March 2006 are detailed in the following table:

(Rupees in crore)

TABLE-VI ADVANCES PENDING AS OF MARCH 2006

Sl. No.	Description	Foreign		Indigenous	
		No. of cases	Value	No. of cases	Value
1.	>15 years	131	1.11	32	0.10
2.	>10 years <15 years	45	1.20	22	0.22
3.	>5 years <10 years	74	3.13	101	14.54
4.	>4 years <5 years	21	3.35	34	2.37
5.	>3 years <4 years	36	6.07	74	32.44
6.	>2 years <3 years	86	71.53	121	93.87
7.	>1 years <2 years	164	113.25	236	94.55
	Total	**557**	**199.64**	**620**	**238.09**

Source: Objection Book advances register maintained by the Centres

In case of imports, in 557 cases, advance payments amounting to Rs.199.64 crore had been outstanding for more than one year of which, advances paid in 250 cases amounting to Rs.5.43 crore were pending for more than five years. This indicated poor clearance of outstanding advance payment by the Centres in import cases.

In respect of indigenous purchases, DOS purchase procedure also stipulates payment within 30 days after supply. However, in 620 cases, advance payments amounting to Rs.238 crore were outstanding for more than one year of which, advances paid in 155 cases amounting to Rs.14.85 crore were pending for more than five years. This position indicated a poor clearance of outstanding advances in indigenous cases also. Test check revealed that main reason for outstanding advances in local orders was due to delay in receipt of materials in fabrication/ developmental/ turnkey orders.

DOS replied that advances are being released after obtaining approval of the competent authority against necessary security and hence should not be construed as irregular payments. The reply is not in conformity with codal provisions/CVC guidelines and is also silent on the issue of clearing the huge outstanding advance payments.

Recommendations

- *DOS should ensure that advance payments to suppliers are made only in exceptional circumstances subject to payment of interest at appropriate rates.*
- *DOS should make efforts to recover long outstanding advances from the defaulting suppliers.*

2.7.5.4 Lack of monitoring of Bank Guarantees

As per DOS purchase procedure[26], wherever payment of advance is considered necessary or unavoidable, these may be made after getting acceptable Bank Guarantee (BG) for an equivalent amount, with sufficient validity, so as to fully protect the interest of the Government. However, Audit observed the following:

- The scrutiny of BG Register of ISAC revealed that in 138 cases amounting to Rs.64.14 crore, bank guarantees had expired.

  DOS stated that to effectively monitor such cases in future, ISAC has evolved software to electronically monitor the cases which are due to expire during the next two months.

- It was also noticed that in SAC, in nine cases of advances amounting to Rs.19.51 crore, bank guarantee obtained had already lapsed even though advances were still outstanding.

DOS stated that after certain stages, since suppliers would have completed the major stages, which cover the advance payment portion, there was no need for extension of bank guarantee period. The replies of DOS are general in nature and did not specifically comment on the status of completion of supplies in nine cases where advances were outstanding. The replies of DOS also indicated that there was lack of monitoring of adjustment of advances and renewal of Bank Guarantees. Non renewal of bank guarantees would expose the organisation to financial risks in cases where suppliers default in making supplies/executing work orders.

Recommendation

DOS should closely monitor adjustment of advances and renewal of bank guarantees to minimise its financial risk in cases of default on part of the suppliers in meeting their obligations under the contract.

2.7.5.5 Non-revision of DOS's purchase procedure

[26] Para 13.2.6 of DOS purchase procedure.

General Financial Rules, revised in the year 2005, incorporated two separate chapters on Procurement (Chapter VI) and Inventory Management (Chapter VII). To quote some effective provisions in the revised GFR, 2005 viz., Rule 160 required detailed procedures to be adopted by the procurement officers to have transparency, competition and elimination of arbitrariness in the procurement process. Rule 161 advocated the prescription of appropriate time frame for each stages of procurement (i.e. lead time) to reduce delay and make the concerned officials more alert. Rule 154 stipulated the detailed proprietary article certificate to be furnished duly recording the reasons in case of emergency single/proprietary purchases. Further, as per Rule 152 in two bid system, financial bids of only the technically acceptable offers should be opened for further evaluation and ranking before awarding the contract.

DOS has, however, not incorporated changes in its purchase and stores procedure to bring in transparency, competitiveness and accountability in its procurements. DOS stated that action is being taken to suitably change the relevant provisions in Purchase and Stores Procedure.

Recommendation
DOS may consider revision of its purchase procedures so as to make it consistent with the provisions of General Financial Rules, 2005.

2.8 Inventory Control

The formulation of appropriate policy and procedures relating to inventory control and management assumes greater significance, especially in the context of the organisations where the level of procurement is very high. An efficient inventory management not only facilitates smooth operations of an organisation, but also optimises the level of inventory, thus, impacting expenditure on stores. This also involves physical verification of inventory on regular intervals which facilitates identification of surplus/obsolete/ unserviceable items and thus, efficient disposal. Audit observed that procurement policy on Bonded Stores was not revised. Physical verification of stores was not conducted in the Centres regularly. Audit also observed cases of overstocking and non-disposal of rejected/ obsolete/ surplus stores in the Centres. These findings are discussed below:

2.8.1 Non-revision of Procurement policy of Bonded Stores

Bonded Stores[27] are maintained for storage of EEE components. Various aspects of management of Bonded Stores inventory include policy of purchase, planning, testing, scanning, re-lifing, disposal management of Bonded Stores etc. The technical aspects involved in the Bonded Stores relate to inspection and acceptance of hi-rel[28] components, environmental

[27] Bonded stores are Hi-rel, Hi-tech space qualified EEE components to be stored in specified storing condition.
[28] highly reliable.

monitoring and ESD[29] control which are carried out by the technical staff (ICG[30] Group). 32 *per cent* of ISAC purchases were Bonded Stores (EEE components) in 2005-06.

ISAC, being the major consumer of Bonded Store items, formulated a procurement policy in 1995-96 keeping in mind (i) stocking the components for five years (ii) ordering for the components taking into account consumption pattern of the last three years (iii) re-lifing the re-screened components which are not used for flight for more than 4 -5 years and (iv) issue of inventories on FIFO[31] basis. The level of procurement is based on the projection of requirement for the next five years (for 15 satellites) taking into account consumption patterns of the components for the previous three years.

The procurement budget of ISAC during 2001-02 to 2005-06 was approximately Rs.2,000 crore and 32 *per cent* of this was spent on Bonded Stores. Taking the permissible stocking of five years as contained in its policy, stock worth more than Rs.600 crore was in ISAC stores. In view of the changed scenario of liberalisation, there is a need to review existing policy on purchase of Bonded Stores.

DOS replied in November 2007 that in order to evolve a comprehensive policy on procurement and inventory management of on-board components to bring about further efficiency and transparency in the system, Director, ISAC has constituted a Committee consisting of members of Technical/Scientific and Administrative officers to look in to these aspects. This Committee is in the process of finalising the policy on procurement and inventory management.

2.8.2 Overstocking of Bonded Stores components

The scrutiny of Bonded Stores Cardex[32] history report in ISAC revealed overstocking in many cases. Overstocking was arrived at after taking into consideration, past three years consumption pattern in the accepted category of components and the policy of stocking five years' requirement. It was observed that there was overstocking in 9,055 categories of components worth Rs.75.02 crore, due to obsolescence.

DOS, in its reply, stated that the procurement policy is not based on the consumption pattern alone but based on various other factors such as lead time, minimum ordering quantity, associated test charges, slab advantages, cost advantage and probable US and other International Governmental sanctions imposed/ likely to be imposed.

The reply needs to be viewed in the light of the fact that EEE components face higher risk of obsolesce due to rapid changes in technology and as such, due care should be taken in stocking of bonded store components.

[29] Electro Static Discharge.
[30] Integrated Components Group.
[31] First In First Out.
[32] Bin Card containing the history report of each category of components.

2.8.3 Rejected Bonded Store components

In ISAC, 1.73 lakh items of un-screened[33] components valuing around Rs. 17.06 crore were available in stock from 1995-96 onwards. Action to dispose off these components was not initiated by ISAC. DOS stated that it was a conscious decision to use these components for experimentation and hence they were not re-lifed. The reply of the Centre is to be viewed in the light of the fact that these rejected components were not issued from Bonded Stores, even for experimental purposes from 1995-96 onwards.

In SAC, 66,583 rejected components were held in stock. Rejection was due to deleterious effects of humidity in storage over the past five years, as stated by the Centre. DOS replied that list of such components will also be circulated to all Centres. If these components are of any use for their studies and evaluation, the same will be sent to other Centres/Units. After the above course of action, steps will be taken to dispose off the same.

2.8.4 Physical Verification not conducted

As per DOS Stores procedure[34], physical verification should be conducted at least once in every year. Discrepancies emerging during physical verification should be recorded in the stock register for appropriate action by the competent authority and shortages, damages and unserviceable goods, if any, identified during verification, should be immediately brought to the notice of the competent authority for taking appropriate action.

(i) It was observed that physical verification of Bonded Stores in ISAC was not conducted after 1995 and thus, discrepancies were not identified for disposal. No physical verification was conducted in SAC except in March 2004. In LPSC, however, physical verification of Bonded Stores was conducted every year. Thus, the two Centres were not observing DOS stores procedures for physical verification of Bonded Stores.

DOS replied that stock verification policy will be worked out to suit the specific requirements of space research and development. In this connection, a sub-committee has been constituted to chalk out the procedures and methodologies.

(ii) Physical verification of non-bonded stores in SAC was restricted only to general stock items held in stores. Other non-consumables and assets had not been physically verified at any time during last five years, though it was necessary to carry out such verification at least once in a year. The Physical Verification Committee also restricted its functions only to verify the correctness of number of items stocked and it did not point out surplus, redundant and obsolete items held in stock, though the Committee was required to point out such cases as per procedure enunciated in GFR. DOS

[33] Components rejected subsequent to the screening test.
[34] Para 9 of DOS Stores procedure.

replied that necessary Committee will be formed at SAC to conduct verification of all items with reference to general stock items, non-bonded stores items, non consumable items every year.

As regards ISAC, physical verification of non-bonded stores was conducted only once during 2004-05 during the period under the review. DOS replied that physical verification of non-bonded stores items is being taken up at ISAC and the verification is at various stages.

In LPSC, no physical verification has been conducted so far in respect of FIM[35] issued to various fabricators in respect of non-bonded stores. DOS replied that Director, LPSC had constituted a Committee for physical verification of FIM issued to various Work Centres.

Recommendations

- *DOS may review its policy to stock Bonded Stores items on actual need basis and past consumption pattern. The procurement policy drafted in 1995-96 needs be reviewed in the present scenario.*
- *DOS should ensure that physical verification of all types of stores is conducted periodically to reduce inventory cost and make inventory management more efficient.*

2.8.5 Non-clearance of slow moving/non- moving items

DOS stores procedure[36] provided that the divisional stores should periodically review their stock materials and bring out surplus and non- moving stocks and also items which were no longer required by the division and were lying in the stores. Such a list should be prepared once in a year in the month of April in the prescribed proforma and sent to central stores which would explore the possibility of utilising the same in other divisions/projects of the centre. However, it was observed that there were 834 types of items costing Rs.1.39 crore kept in stock as non-moving/slow moving items in LPSC.

DOS replied that the details of such items were made available to various user divisions at LPSC to ascertain whether these items are required for future use since most of them are special materials which are scarce in the market.

2.8.6 Non-Disposal/ delayed disposal of surplus, obsolete and unserviceable stores

As per DOS stores procedure[37], surplus material not required by the divisions should be identified once in a year, i.e. in April. A list of surplus items should be compiled by the Centre once a year, to explore the possibility of effective utilisation of the same by various divisions of the Centre. In case the Centre does not require surplus stock, the same may be circulated if expedient to other ISRO Centres, to meet their requirements. Further, as per para 8.5 of the

[35] Free issue of material.
[36] Para 16 of DOS stores procedure.
[37] Para 8.1 of DOS stores procedure.

procedure ibid, to ensure good returns from these stores, the time lag between the declaration of stores as obsolete and disposal should be minimised.

It was observed that ISAC did not carry out any exercise to dispose off Bonded Stores since 1995. Moreover, in ISAC, for non-bonded store items, there was a delay ranging from 8 to 25 months in final disposal of nine lots of obsolete/ surplus/ un-serviceable materials in 2004-05. Further, during the period under review, out of 694 items, which were more than one year old, 192 items remained to be disposed off till date. It was stated in reply that a separate Committee has been constituted by the Director, ISAC to look into the aspect of surplus/obsolete/unserviceable items in Bonded Stores.

Recommendation

The items declared as obsolete/ surplus/ un-serviceable should be immediately disposed off to avoid their intrinsic value from diminishing and thus incurring avoidable carrying costs.

2.9 Conclusion

The Department of Space and its constituent units are responsible for planning and execution of national space activities. To fulfill this role, DOS has to undertake procurement of necessary equipment/materials and inventory control of the same.

Audit observed that no time frame was fixed by DOS for the various stages of procurement. Lead time in the issuing of purchase order was inordinately long. There were wide variations between the indent value and order value, indicating unrealistic indenting and inefficiency in its procurement process. DOS did not club its requirements which lead to uneconomical purchases.

67 *per cent* of the purchase cases test checked in Audit were processed on proprietary/single tender basis. DOS showed a tendency of resorting to restrictive mode of procurement, without making efforts to give fair opportunity to alternate suppliers/ dealers of the generic products available in the market, thus, failing to ensure transparency in the procurement process. DOS also negotiated with other than lowest bidders, thus, flouting CVC guidelines and resulting in avoidable payment to the suppliers. Undue favour was shown to the suppliers by accepting bids which were not technically suitable as well as by changing the techno commercial specifications of the bids, after bid evaluation.

DOS's compliance to its codal provisions was weak with reference to receipt, stock, issue and disposal of bonded and non-bonded stores. Instances of delays in inspection of materials resulting in non-replacement of rejected items, non/delayed installation of equipment and idling of equipment were also noticed. There was overstocking of the Bonded Stores. Physical verification of stores was not regularly conducted and there was slow clearance/non-clearance of surplus, obsolete and unserviceable stores. The procurement policy for the Bonded Stores was not revised by DOS in the last ten years.

ANNEXURE-1

[Refer Para 2.6.2]

Expenditure against Budget: Centres

(Rs. in crore)

Year	Description	ISAC	SAC	LPSC	ISTRAC
2001-02	Procurement Budget	332.34	49.84	46.53	11.10
	Procurement expenditure	280.09	42.05	36.01	9.83
	Savings (+) / Excess (-)	(+)52.25	(+)7.79	(+)10.52	(+)1.27
	Procurement Budget not utilised (%)	**16.00**	**16.00**	**23.00**	**11.00**
2002-03	Procurement Budget	355.45	72.46	38.83	11.93
	Procurement expenditure	301.13	50.78	40.72	11.16
	Savings (+) / Excess (-)	(+)54.32	(+)21.68	(-)1.89	(+)0.77
	Procurement Budget not utilised (%)	**15.00**	**30.00**	**-5.00**	**6.00**
2003-04	Procurement Budget	511.01	109.59	44.38	16.41
	Procurement expenditure	447.73	68.30	41.22	14.07
	Savings (+) / Excess (-)	(+)63.28	(+)41.29	(+)3.16	(+)2.34
	Procurement Budget not utilised (%)	**12.00**	**38.00**	**7.00**	**14.00**
2004-05	Procurement Budget	659.41	135.54	48.49	18.92
	Procurement expenditure	523.10	115.88	48.85	20.45
	Savings (+) / Excess (-)	(+)136.31	(+)19.66	(-)0.36	(-)1.53
	Procurement Budget not utilised (%)	**21.00**	**15.00**	**-1.00**	**-8.00**
2005-06	Procurement Budget	562.05	98.75	34.43	39.04
	Procurement expenditure	429.00	92.13	36.00	26.62
	Savings (+) / Excess (-)	(+)133.05	(+)6.62	(-)1.57	(+)12.42
	Procurement Budget not utilised (%)	**24.00**	**7.00**	**-5.00**	**32.00**
2006-07	Procurement Budget	607.37	59.15	70.74	35.21
	Procurement expenditure	569.46	55.97	57.67	23.75
	Savings (+) / Excess (-)	(+)37.91	(+)3.18	(+)13.07	(+)11.46
	Procurement Budget not utilised (%)	**6.00**	**5.00**	**18.00**	**33.00**

ANNEXURE-2

[Refer Para 2.7.2.2]

Incorrect provisioning of stores of Rs.49.46 crore

(Rs. in lakhs)

No	Centre	Item	Supplier	Indent Value	Order Value	Difference Amount and (%)	Remarks
1	ISAC	PROMS	M/s Space Key Component, USA (Proprietary/ single tender)	350.00	819.00	469.00 (134)	M/s Space Key originally quoted for 500 numbers. CFC, in their meeting of November 2005, decided to go for next slab by increasing the quantity by 1100 numbers to avail the quantity discount. To avail quantity discount, provisioning was made for more than the requirement by Rs.469 lakh resulting in overstocking and blocking of funds.
2	ISAC	FPGA	M/s Tecnomic Processors Singapore (Proprietary/ single tender)	41.40	271.00	229.60 (555)	To avail the quantity discount from 15 pieces initially estimated, it was decided to procure 100 pieces to avail quantity/ slab discount in prices resulting in overstocking of items worth Rs.229.60 lakh and blocking of funds.
3	LEOS	Laser Source	M/s Cybioms corp., USA (Limited Tender)	350.00	844.00	494.00 (141)	Indent for the purchase of low power laser source was estimated for Rs.350 Lakh. LEOS justified the huge variation of Rs.494 lakh by stating that they have no past experience for procurement of space qualified lasers. As per DOS purchases procedure, the estimation shall consider prevailing market rate while arriving at the estimation. Non-adherence to the provisions of the procedure had resulted in incorrect provisions of stores by Rs.494 lakh.
4	SAC	Raw Data Recording System	M/s Snevtec, France (Limited Tender)	30.00	62.75	32.75 (109)	Due to increase in unit cost against the initial estimate.
5	SAC	GPS Ionospheric Scintillation 4 TEC Monitor	M/s GPS Silicon Valley, USA (Proprietary/ single tender)	59.44	89.02	29.58 (50)	Due to increase in unit cost (7 Nos.) against the initial estimate.
6	SAC	Spectrum Analyser	M/s Rhode & Schwarz Gmbh, Co., Germany (Limited Tender)	15.00	23.59	8.59 (57)	Due to increase in unit cost against the initial estimate.
7	SAC	Serial Digital Interface	M/s Leitch Asia Ltd., Hongkong (Limited Tender)	6.00	15.83	9.83 (164)	The estimated indent value was based on experience of earlier procurement of a different bandwidth and the Centre had little idea about the prices of this kind of digital equipment.

No	Centre	Item	Supplier	Indent Value	Order Value	Difference Amount and (%)	Remarks
8	SAC	Digital circuit multiplication equipments	M/s Veraz Network Ltd., ISRAEL (Proprietary/ single tender)	305.00	513.00	208.00 (68)	Due to increase in unit cost against the initial estimate.
9	SAC	CFRP cameras structure	M/s Astrum Gmbh & Co Germany (Limited Tender)	1500.00	2200.00	700.00 (47)	Due to increase in unit cost against the initial estimate.
10	SAC	Vector Network Analyser	M/s Rhode & Schwarz, Germany (Public Tender)	9.00	17.45	8.45 (94)	The original estimate was based on rough quotation obtained from the manufacturer for a model which was discontinued by the manufacturer and hence the Centre was forced to procure new model at higher cost.
11	SAC	Noise reduction system	M/s Cinecita Comoptronics Industries Pvt., Ltd., Mumbai (Limited Tender)	60.00	111.00	51.00 (85)	Due to increase in unit cost (6 Nos.) against the initial estimate.
12	SAC	D-Subminiature connectors	M/s IIT Canon (HK), Ltd., Hongkong (Limited Tender)	30.00	53.00	23.00 (77)	Indent cost was very approximate only. SAC justified the variation stating that the centre was indenting for the first time.
13	SAC	Fabrication of power conditioning unit	M/s Solectron Centum electronics Ltd., Bangalore (Proprietary/ single tender)	160.00	268.89	108.89 (68)	Due to increase in unit cost (30 units) against the initial estimate.
14	SAC	Cryo target systems	M/s CentreSpatial De Liege, Belgium (Public Tender)	80.00	160.00	80.00 (100)	The estimate was based on 1998 prices of USA sources. Hence, the estimate did not take into account the prevailing market rate resulting in huge difference.
15	SAC	Bench cooler facility	M/s Jhonson Ultravac, Canada (Limited Tender)	150.00	595.00	445.00 (297)	Due to increase in unit cost against the initial estimate.
16	SAC	Carbon composite	M/s Elop, ISRAEL (Limited Tender)	70.00	414.00	344.00 (491)	Due to decrease in unit cost against the initial estimate.
17	ISAC	Second surface mirror	M/s Thales space technology, UK (Proprietary/ single tender)	260.00	149.00	111.00 (43)	Due to decrease in unit cost against the initial estimate.
18	LPSC	Rods and Sheets	M/s Midhani, Hyderabad (Proprietary/ single tender)	53.00	149.00	96.00 (181)	The estimate was based on the finished sizes cut where as the quotation was based on the weight of the material.
19	LPSC	Sheets, rods rings etc	M/s Midhani, Hyderabad (Proprietary/ single tender)	189.00	262.00	73.00 (39)	Increase in raw material cost mainly Nickel.

No	Centre	Item	Supplier	Indent Value	Order Value	Difference Amount and (%)	Remarks
20	LPSC	Dynamic seal	M/s PEFS France (Proprietary/ single tender)	264.00	200.00	64.00 (24)	Due to decrease in unit cost against the initial estimate. Supplier quoted initially Rs.235 Lakh against proprietary tender and price was reduced to Rs.200 Lakh based on negotiations.
21	LPSC	Braze foils	M/s Cronos, Russia (Proprietary/ single tender)	43.00	119.00	76.00 (177)	Indent estimate was based on budget offer. However, in their formal offer against tender, price was hiked due to difficulty in sourcing the ingot material; low yield production and scarce nature of braze foils.
22	SAC	Electronic power conditioners	M/s Alcatel space, Denmark (Limited Tender)	500.00	618.00	118.00 (24)	Due to increase in unit cost against the initial estimate. Indent was raised on 11-3-2001. CFC approved it in Jan 2002 and proposal was received in DOS May 2002.
23	SAC	Thermo-vac system	M/s AAL, BANGALORE (Proprietary/ single tender)	200.00	483.00	283.00 (142)	Due to increase in unit cost against the initial estimate.
24	SAC	Global Position System	M/s GPS Silicon Valley, USA (proprietary/ single tender)	140.00	200.00	60.00 (43)	Due to increase in unit cost against the initial estimate.
25	SAC	Solid state power amplifiers	M/s MELCO, Japan (Limited tender)	700.00	1098.00	398.00 (57)	Due to increase in unit cost against the initial estimate.
26	LEOS	Function Evaln System	M/s Trioptics, Germany (Limited Tender)	500.00	363.00	137.00 (27)	Due to decrease in unit cost against the initial estimate.
27	ISAC	Heatpipes Radiator	M/s MELCO, Japan (Proprietary/ single tender)	260.00	218.00	42.00 (16)	Due to decrease in unit cost against the initial estimate.
28	ISAC	Ni-Cd cells	M/s SAFT, France (Proprietary/ single tender)	160.00	111.00	49.00 (31)	Due to decrease in unit cost against the initial estimate.
29	ISAC	250 FPGAs	M/s ACTEL, USA (Proprietary/ single tender)	160.00	345.00	185.00 (116)	Due to increase in unit cost against the initial estimate.
30	LPSC	Mild steel heavy plates	M/s SAIL, Chennai (Proprietary/ single tender)	90.00	102.00	12.00 (13)	Due to increase in unit cost against the initial estimate.
			Total	**6734.84**	**10874.53**	**4945.69 (73)**	

ANNEXURE-3

[Refer Para 2.7.4.1]

Negotiation with other than L_1 against CVC guidelines resulted in irregular purchase orders amounting to Rs. 44.58 crore

(Rs.in lakhs)

No.	Centre	PO/Indent No. & Date	Item	Supplier	Mode of tender	Parties	Order Value	Remarks
1	ISAC	ISIR200400040101 DT. 31.10.05	DC-DC Converters	M/s MDI, USA	LT	2	658.00	ISAC raised a limited tender indent for the purchase of DC-DC converters in October 2004 for ten types at an estimated cost of Rs. 5.80 crore. RFP was sent to 26 firms. Seven vendors submitted their offer in two parts. Technical bids were evaluated by technical committee in May 2005 which short listed 3 firms viz., M/s MDI, USA, M/s International Rectifier, USA and M/s EADS Astrium SAS, France as technically suitable. The price bids of all the three vendors were opened and prices were compared and it was found that M/s MDI, USA was L_1. The lowest vendor was invited for negotiation with CFC in August 2005. At this point of time, M/s International Rectifier, USA who had come to attend negotiation in connection with another case of DC-DC converters was also allowed to submit their BAFO by CFC which is against the provision contained in CVC guidelines, rules and procedures.
2	LEOS	LP40077NNF dt. 27.5.04	Laser Source	M/s Cybioms Corp., USA	LT	2	844.00	The indent was raised for the procurement of EEM and IFM of 10 MJ Laser Source on Limited Tender basis from 44 parties. Three offers were received. Two offers of M/s Cybioms, USA and M/s Dodern, France were cleared by technical committee. The price bids of both the parties were opened and put up to CFC. CFC called BAFO from both the parties once again against CVC guidelines.
3	ISAC	ISGE200500186201 dt. 3.5.05	DC-DC Converters	M/s MDI, USA	LT	2	430.00	Indent for the import of 200 DC-DC converters was raised in May 2005. In response to LT issued to 11 parties, two parties quoted. The quote of M/s IR, USA was cleared by TEC and quote of M/s MDI, USA was found not suitable. CFC asked both parties to submit their BAFO against CVC guidelines.

No.	Centre	PO/Indent No. & Date	Item	Supplier	Mode of tender	Parties	Order Value	Remarks
4	ISAC	ISGE2000400111001 DT. 21.1.05	Lithium Ion Batteries	M/s Mitsuibuishi, Japan	LT	2	1147.00	Indent was raised in January 2005. RFP was sent to five parties. Offers were received from four parties. M/s SAFT, France and M/s Mitsubishi, Japan were technically cleared. BAFO was called from both the parties after opening the price bid against CVC guidelines.
5	ISAC	PBC3IT374F DT. 3.12.03	IC	M/s Top-Rel, Italy	LT	2	117.00	Indent was raised in May 2004. The offer of M/s Top-Rel, Italy and M/s Intersil, USA were found technically suitable. BAFO was called from two the parties after opening the price bid against CVC guidelines.
6	SAC	3555 dt 27.12.2002	Computers	M/s CMC Ltd	LT	7	100.56	Indent was raised on LT basis. seven firms responded, out of which five firms were short listed by the TEC and a decision was taken to open the commercial bids. Comparative statement was prepared based on the price quoted and a decision was taken to place the order on L_1. But the decision was reversed and decided to hold commercial negotiations with all five vendors. BAFO was called from all vendors. This time, M/s CMC Ltd. which was L_4 in the earlier comparison became L_1 and order was placed on the firm in September 2003 at a total cost of Rs.100.56 lakh.
7	SAC	SAC/ 52597/ 02/CF/ 55154	Coaxial Circulators	M/s Comdev, Canada	LT	3	63.00	Three firms responded and TEC found two firms as technically suitable and recommended to place orders on lowest quotation basis. After opening commercial bids, instead of placing orders on L_1 whose offer of US$ 138718 was lower, the Centre requested L_2 to remove certain charges from the bid. The firm also reduced their offer to US$ 128430 and the reduced offer was then compared with that of L1 and order was placed on L_2 treating it as L_1. The offer of L_1 was rejected on the plea that the design offered by them was new one when TEC cleared it.
8	SAC	12824 2.11.2001	Solid State Power Amplifiers	M/s Melco, Japan	LT	3	1098.00	For procurement of this item, three bids were received and technical evaluation committee found all the three bidders as capable of supplying the material as per requirement of the Centre. The commercial bids of all three bidders were opened but was decided to hold techno commercial negotiations with all the three firms. After

No.	Centre	PO/Indent No. & Date	Item	Supplier	Mode of tender	Parties	Order Value	Remarks
								techno commercial negotiations, once again price bids were called for and orders were placed at a total cost of Rs.10.98 crore. No comparative statement was available in the procurement file.

ANNEXURE-4
[Refer Para 2.7.5.2]

Non-installation / delayed installation of equipment resulting in blocking of funds of Rs. 9.10 crore

(Rs.in lakhs)

No.	Centre	PO No & Date	PO value	Item	Supplier	Date of receipt	Remarks
1	LPSC	LPV/32/11882/04/60 133 dt.07.02.05	34.64	Access Control System	M/s CMS computers	Jan 2006	The system was partly installed in February 2007 at Bangalore while at Valiamala it is not installed as of December 2007 due to non readiness of site. Thus the entire system has not been installed even after the delay of almost two years.
2	LPSC	LPM/17/3793/01/25 222 dt.13.05.02	34.80	Dynamo meter	M/s SAJ Test Plant, Pune	Nov 2002	Though the equipment was partially commissioned in January 2004, the system has not been fully installed even after a delay of five years due to unavailability of testing equipment.
3	LPSC	LPM/20/7113/04/12 214 dt.15.03.05	26.40	Orbital Welding Heads	M/s Polysouide, France	Feb 2006	Equipment was installed in August 2006 after a delay of five months due to defects in the equipment.
4	LPSC	LPM/80/8776/02/11 988 dt.07.03.03	4.80	Gas Booster	M/s Peak Scientific Instruments, UK	Aug 2003	Equipment was installed in August 2006 after a delay of three years.
5	LPSC	LPM/17/3548/01/25 912 dt.03.01.03	21.64	SI Piping System	M/s Shell-N-Tube, Pune	Jan 2005	Equipment has not been installed till December 2007 despite a delay of about three years. LPSC has however stated that site clearance can be given only in January 2008.
6	ISAC	C4IT533F 14.12.04	897.00	Shaker System	M/s LDS, UK	July 2005	Due to delay in site readiness and rat problems at site, the equipment received in June 2005 has not been commissioned till December 2007. DOS stated that the delay in installation did not result in any loss and the vendor took it upon himself to install the system as soon as the site and other facilities were made available to him.