CHAPTER V : DEPARTMENT OF SPACE

5.1 Grant of additional increments

Department of Space did not take action for more than five years on the advice of Ministry of Finance to consider immediate withdrawal of payment of two additional increments being granted to its Scientists/Engineers. This resulted in payment of ₹ 251.32 crore towards continued grant of the two additional increments during the period December 2013 to March 2019 in 15 test checked centres and Autonomous Bodies under the Department.

Government of India (October 1998) approved granting of two additional increments to Scientists and Engineers of Department of Space (DOS) with effect from 1 January 1996 on promotion to four pre-revised pay scales[1]. DOS issued (August 1999) a clarification that value of additional increments so granted was not to be counted as pay for the purpose of various allowances[2], promotion, pension, etc.

In opposition to the said clarification, some employees of DOS took to litigation (2001) and eventually obtained orders of the Hon'ble High Courts of Kerala (January 2007) and Uttarakhand (August 2012) for considering these additional increments as pay for all further payments including pension. DOS also appealed against the said court orders, however, Special Leave Petitions filed by DOS in the Hon'ble Supreme Court of India were dismissed (April/August 2011 and October 2013). Subsequently, DOS referred (November 2013) the matter to Ministry of Finance (MoF) for further advice regarding complying with the court orders and grant of the benefits to similarly placed employees of DOS.

Meanwhile, based on the recommendations of the Sixth Central Pay Commission (August 2008), a new performance based pecuniary benefit called Performance Related Incentive Scheme (PRIS) was introduced (September 2008) for the employees of DOS. PRIS had three components as under:

(i) PRIS - Organisational incentive (PRIS - O) at the rate of 20 *per cent* of the pay;

(ii) PRIS - Group incentive (PRIS - G) at the rate of 10 *per cent* of pay; and

(iii) PRIS - Individual incentive (PRIS - I)[3].

MoF issued an OM[4] (January 2009) specifying the details of PRIS for grant of incentives in the form of variable increments. As per the OM, variable increments up to a maximum of six increments could be granted to deserving Scientists/Engineers at the time of promotion, subject to a ceiling of ₹ 10,000 per month. The value of variable increments so granted would not be counted as pay for the purpose of allowances, pay fixation on promotion, pension, *etc.*

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1 ₹ 10,000-325-15,200, ₹ 12,000-375-16,500, ₹ 14,300-400-18,300 and ₹ 16,400-450-20,000.

2 Dearness Allowance, House Rent Allowance and Transport Allowance.

3 These were payable in the form of variable additional increments at the time of promotion.

4 Office Memorandum.

In the background of the orders of the High Court to count additional increments for the purpose of allowances, promotion and pension and in response to the reference received from DOS, MoF advised (November 2013) DOS to implement the orders of the courts and also advised them to consider withdrawing the two additional increments being paid to the employees of DOS immediately with prospective effect. The logic was that PRIS substituted for these two additional increments.

Audit scrutiny revealed that DOS did not adhere to the advice of MoF and continued to pay the two additional increments to its Scientists/Engineers – SD to SG (up to July 2019) over and above PRIS. During the period from December 2013 to March 2019, DOS paid an amount of ₹ 251.32 crore (in 15 centres/Autonomous Bodies[5]) towards grant of two additional increments to Scientists/Engineers on promotion.

DOS stated (July 2019) that the two additional increments were discontinued with effect from 1 July 2019. The reply is silent regarding action/proposed action for recovery of excess pay from the employees.

The fact remained that DOS did not take any definite action on the advice of MoF for more than five years, which resulted in grant of additional benefits to the Scientists/Engineers of DOS to the extent of ₹ 251.32 crore. DOS needs to recover the excess payments made to their employees towards grant of the additional increments.

5.2 Silicon Carbide Mirror Development Facility

Indian Space Research Organisation, Bengaluru and International Advanced Research Centre for Powder Metallurgy, Hyderabad established a Silicon Carbide Mirror Development Facility without ensuring that the technology for development of the mirrors was either proven or validated. The facility created could not produce the required quality of mirrors during its entire operational life of 10 years despite expenditure of ₹ 47.12 crore incurred on its establishment and maintenance.

General procedures for Research and Development (R&D) activities of Scientific Departments for development of technologies involve development of proof of concepts through research and demonstration purposes followed by validation of the technology at the field level and further scaling up in industrial mode for commercialisation.

Indian Space Research Organisation (ISRO) required large size aperture optics with low mass and volume in order to obtain high resolution imaging from space for its earth observation and meteorological missions. ISRO was hitherto using imported glass based mirrors for its space missions and sought to develop alternate material technology for manufacturing the mirrors indigenously. Among the available materials, Chemical Vapor Deposited (CVD)

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5 Audit obtained the details of expenditure incurred towards payment of the two additional increments from Indian Space Research Organisation Headquarters, Laboratory of Electro Optics Systems, ISRO Telemetry, Tracking and Command Network, Indian Institute of Space Technology, Satish Dhawan Space Centre, Vikram Sarabhai Space Centre, ISRO Inertial Systems Unit, National Remote Sensing Centre, National Atmospheric Research Laboratory, Physical Research Laboratory, Space Applications Centre, ISRO Satellite Centre, ISRO Propulsion Complex, Liquid Propulsion Systems Centre (Bengaluru and Valiamala centres) and Master Control Facility.

Silicon Carbide (SiC) was considered (March 2002) to be competitive due to its light weight, high stiffness to weight ratio and low thermal expansion. ISRO had targeted the realisation of SiC mirrors by 2003-04.

U. R. Rao Satellite Centre, Bengaluru (URSC)[6], a unit of ISRO, had carried out research and development in collaboration with International Advanced Research Centre for Powder Metallurgy, Hyderabad (ARCI), an autonomous R&D centre under the Department of Science and Technology and another organisation[7] to develop SiC mirror blanks up to a size of 100 mm without CVD coating. In order to develop mirror blanks up to a size of 1,000 mm with CVD coating for space applications, it was decided (December 2002) to establish the facilities required for development of such optical mirrors at ARCI.

URSC entered (January 2003) into an agreement with ARCI for establishment of the production facilities, development of process technology and supply of 10 space qualified SiC optical mirror blanks by September 2006. URSC was to utilise these mirrors in the Cartosat2A/2B missions of ISRO. The proposed production facilities comprise of capital equipment such as high tonnage hydraulic press, high temperature vacuum sintering furnace, SiC machining facility and high temperature CVD furnace/reactor. The process technologies included optimisation of the process parameters and development of the CVD coating process. The total cost of the project was ₹ 28.53 crore of which ARCI was to contribute ₹ 5.88 crore and the remaining cost of ₹ 22.65 crore was to be borne by URSC.

The SiC Mirror Development Facility was made operational at ARCI from June 2007 with an operational life of 10 years. ARCI supplied 10 mirror blanks to URSC/ISRO in March 2010. ISRO reported (June 2017) that during the course of fabrication of the mirror blanks supplied by ARCI, it was noticed that CVD layer coated on the mirror blanks were defective and could not be used. Consequently, the requirement of mirror blanks for the space missions of ISRO was met with the imported glass based mirrors already being used prior to development of the SiC mirror facility.

ISRO and ARCI continued to make efforts to overcome the problem of CVD coating on SiC mirror blanks. During this time, production facilities at ARCI were utilised mainly for R&D purposes. The operational life of the CVD plant expired in June 2017 and around the same time URSC reported that the CVD reactor and furnace plant was damaged due to severe corrosion of the chamber and related parts and was not in usable condition. The cost of the damaged plant was ₹ 6.11 crore.

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6 Formerly known as ISRO Satellite Centre.

7 WIDIA, Bengaluru.

As of May 2019, DOS and ARCI had incurred expenditure of ₹ 27.80 crore and ₹ 14.10 crore respectively towards development of the facility. In addition, DOS incurred expenditure of ₹ 5.22 crore (up to March 2018[8]) towards maintenance of the SiC facility at ARCI.

Audit observed that no initial proof of concept of the technology for development of CVD layer on the SiC mirror blank was conducted, nor was the technology validated at the research or demonstration level. A more scientific approach would have been to demonstrate the technology for CVD coating on the SiC mirror blanks alsoon a smaller scale before investing in the full scale production facility at ARCI.

DOS stated (October 2018) that development of SiC mirror blanks at ARCI was successful except for the CVD coating which is the final phase of the development. DOS further stated that it was in the process of developing an alternate coating technology which had been attempted on a few samples of the smaller mirror blanks (50 to 210 mm); and that once the tests were completed, the SiC blanks produced at ARCI could be utilised. As of May 2019, work on the alternate coating technology was in progress. With regard to the damaged CVD plant, DOS stated that a proposal to refurbish the same had been kept in abeyance in view of the ongoing consideration of the alternative coating process.

The reply confirms that the technology for CVD coating on SiC mirror blanks was deployed on a production facility when it was still under development. Eventually, the technology for CVD coating was found to be unsuccessful despite several efforts and the SiC mirror plant could no longer be utilised, as its operational life had lapsed and there was no action plan for refurbishing/replacing the damaged CVD plant established under the project.

Thus, the facility on which an expenditure of ₹ 47.12 crore was incurred, could not be utilised to produce SiC mirrors for ISRO's missions as envisaged because the Department had failed to obtain satisfactory level of assurance about the suitability of scalability of a technology (which was in use elsewhere in the world) before going into full scale production. The financial benefits to be obtained from such a venture had not been assessed prior to the erection of the plant and the objective of indigenisation of a technology was also not achieved.

5.3 Creation of posts without approval of competent authority

Department of Space created 955 posts in administrative cadres without obtaining approval of the competent authority and filled them up by promotion of employees working in lower posts. Expenditure of ₹ 235.05 crore was incurred on the salaries of employees in the higher posts, a part of which was paid from the deposit projects of the department, which was contrary to the Government rules and procedures.

Ministry of Finance (MoF), Department of Expenditure issued clarifications (May 1993) on the procedure for creation of posts by Ministries/Departments stating that all Group A posts

[8] DOS did not incur expenditure on maintenance of the facility after March 2018.

(Plan and Non-Plan) and all Non-Plan Group B, C and D posts could be created only with the approval of the Union Cabinet[9] and Finance Minister respectively.

The Department of Space (DOS) executes deposit projects on behalf of other agencies. According to the procedure[10] to be followed for execution of deposit projects, funds are to be received from such agencies in advance; expenses incurred towards procurement of materials, components, machinery, etc. should be debited directly to the deposit project head[11]; expenditure towards manpower cost, overhead charges, etc. should be charged to the said accounting head and at the end of the project, the balance amount remaining after taking into consideration the actual expenditure incurred directly from the project, was to be credited to the Government. There was no provision for payment of salaries of regular employees of DOS from the deposit projects.

Scrutiny of records of DOS revealed that during the period 2003-17, DOS created 955 posts under deposit projects, in different Administrative Cadres at various centres/units of DOS, after obtaining concurrence of the Member for Finance, Space Commission. The requisite approval of Union Cabinet/ Finance Minister was not obtained. The posts were filled by promotion of employees holding regular lower posts in DOS. The lower posts were kept vacant in lieu of the promotions.

Audit further observed that up to 2013-14, pay and allowances of the promoted regular employees were paid directly from the deposit projects of DOS instead of meeting the same from the Consolidated Fund of India (CFI)[12]. With effect from 2014-15, the portion of salary pertaining to the vacant lower posts was met from CFI and the incremental salary arising due to creation and operation of the higher posts on promotion was paid from the deposit projects, on the ground that the budget available under deposit projects was not adequate to meet the salary expenses of administrative staff. As of March 2018, DOS had incurred expenditure of ₹ 235.05 crore[13] towards pay and allowances of the employees promoted to the higher posts.

Creation of posts in Administrative cadres without obtaining the approval of the Union Cabinet/Finance Minister was contrary to the orders of MoF. Further, incurring expenditure towards salaries of the regular employees promoted to such posts from deposit projects was also not in accordance with Government rules and DOS procedure for execution of deposit projects.

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9 After obtaining approval of the Finance Minister.

10 Guidelines issued by DOS in June 2001 and October 2005.

11 Major head 8443-Civil Deposits-Deposits for work undertaken for Public Bodies, Autonomous Bodies or Private individuals.

12 As per Rule 8 of Delegation of Financial Powers Rules 1978, the pay and allowances of regular Government employees should be borne from the Consolidated Fund of India and booked under the primary unit of appropriation, 'Object head 01-Salaries'.

13 ₹ 145.45 crore pertaining to the period up to 2013-14 and ₹ 89.60 crore being the incremental salary from 2014-15 onwards.

DOS stated (February 2018) that the total expenditure incurred on salary was shared between CFI and Project funds considering that the creation of 955 posts supported both deposit projects and government projects on time sharing basis. DOS further stated (November 2018) that the Cabinet had accorded approval for 1,500 personnel for FSBS project[14] in addition to the deployment of DOS/ISRO personnel, which was concurred by the Ministry of Finance (MoF). DOS added that under the Allocation of Business Rules 1972, DOS was to deal with all matters relating to their personnel.

The reply of DOS is not accepted, as the extant Government rules and DOS procedure for implementation of deposit projects do not provide for meeting the expenses on salaries of regular employees of DOS from deposit projects. With regard to obtaining Cabinet approval for 1,500 personnel for FSBS, Audit noticed from the limited records furnished, that no separate approval of the Department of Expenditure/Finance Minister was obtained, instead, concurrence of MoF to the overall proposal for the FSBS only was obtained. Concurrence of MoF to the overall project proposal cannot be construed as approval of MoF to the creation of posts. The concurrence thus obtained was also in respect of the personnel required to develop, launch and operate satellites i.e. technical staff and not administrative staff. The reply of DOS stating that under the Allocation of Business Rules 1972, DOS was to deal with all matters relating to their personnel is seen in light of the fact that in two other cases viz. deposit project titled 'Indian Regional Navigation Satellite System' and another proposal of DOS for augmentation of manpower for ISRO/DOS, the requirement of obtaining specific approval of Department of Expenditure, MoF for additional manpower was spelt out by the Department of Economic Affairs, MoF and Member Finance, DOS respectively. Thus, in view of the instructions of MoF, Department of Expenditure of May 1993, DOS needs to uniformly follow the same for all its manpower requirements.

5.4 Residency period for promotion fixed at lower than prescribed level

Department of Space did not obtain the approval of the competent authority for fixing the minimum residency period for promotion of its Group A officers at a lower than prescribed level which resulted in pre-mature grant of promotions and payment of pay and allowances in the higher scales to the extent of ₹ 1.29 crore in 13 test checked cases.

Rule 3 of the Government of India (Allocation of Business) Rules, 1961, stipulates that all business allotted to a Department under the said rules shall be disposed of under the general or special directions of the Minister-in-charge. The Prime Minister's Office (PMO), while delegating (December 1990) powers to the Department of Space (DOS) on matters relating to the service conditions of gazetted officers, specified that Secretary, DOS had powers to frame and make amendments to Recruitment Rules in respect of Group B, C and D employees only and all other cases were to be submitted to the Prime Minister.

[14] Deposit project titled 'Future Space Based Surveillance'.

DOS had undertaken a cadre review for its officers' grades and issued (January 2004) orders revising the cadre structure of officers in administrative areas. Under these orders, residency periods for promotion to various grades were also prescribed. After implementation of the recommendations of the Sixth Central Pay Commission (SCPC), while taking up the matter of amendment of Recruitment Rules for revision of pay scales of Government employees, Department of Personnel and Training (DoPT) prescribed (March 2009) revised guidelines for the minimum qualifying periods for promotion to various categories of posts.

Test check of the records of DOS for the period from December 2011 to February 2018 showed that after implementation of the recommendations of the SCPC, DOS did not adopt the revised qualifying periods for promotion and continued to follow its existing mechanism for promotion of its Group A officers. DOS neither submitted revised proposals for promotion in accordance with the extant Government rules to the PMO for approval nor obtained specific approval to continue the existing mechanism. The variance in the qualifying periods followed by DOS with those prescribed by DoPT is shown in **Table No. 1**.

Table No. 1: Variance in the qualifying periods followed by DOS with those prescribed by DoPT

Sl. No.	Promotion from		Promotion to		Minimum qualifying period prescribed (years)	
	Post	Grade Pay (₹) /Level	Post	Grade Pay (₹) /Level	DoPT	DOS
1.	Officer	5,400 /10	Senior Officer	6,600 /11	5	4
2.	Head	7,600 /12	Senior Head	8,700[15]/13	5	2

The smaller period of residency applied by DOS resulted in pre-mature grant of promotions and consequent payment of pay and allowances in the higher pay scales to the promoted officers.

During the period from 2011-12 to 2017-18, 33 officers in DOS/ISRO were promoted from Level 12 to Level 13. Audit test checked 13 such cases and found that extra expenditure to the extent of ₹ 1.29 crore was incurred towards pay and allowances in the higher pay scales to these officers.

DOS stated (March 2017) that the approval of PMO is applicable to Group A posts of the DOS secretariat and not to the administrative officials for ISRO[16]. DOS added (December 2018) that cadre review proposals of the personnel of DOS/ISRO are referred to the Member (Finance), DOS. DOS further stated that the said posts would have been filled up by other modes of recruitment and expenditure would have been incurred.

The reply is not acceptable, as ISRO is an establishment working under DOS and rules applicable to the Group A officers in DOS would be applicable to the officers in ISRO as

[15] Administrative posts having Grade Pay ₹ 10,000 /Level 15 are given to officers from outside DOS cadre i.e. those borne on the civil service cadres.

[16] Indian Space Research Organisation, a unit of DOS.

well. Further, the department had implemented seamless integration of the administrative personnel in DOS and ISRO ensuring their free movement between both offices. The cases test checked by Audit include those officers who had worked in both DOS and ISRO. The delegation of powers to the Space Commission, which includes Member for Finance, stipulates that proposals concerning the conditions of service of personnel of the Department involving major departure from normal Government rules are to be brought to the notice of the Space Commission. DOS did not clarify to Audit whether the said proposals for promotion of Group A officers were brought to the notice of the Space Commission. DOS however, admitted (September 2019) that no orders of PMO, delegating powers to the Space Commission to frame and make amendments to Recruitment Rules in respect of Group A officers, was available. The statement of DOS justifying incurring of expenditure on the said higher posts belies the requirement of obtaining the approval of competent authority in the instant cases.

5.5 Management of Civil Works

Management of civil works in five centres of Department of Space was deficient resulting in time overrun of 109 days to 1,142 days and cost overrun of ₹ 37.62 crore. Besides, there were cases of irregular payment of cost escalation, short levy of compensation for delay in work by contractors, short levy/collection of statutory recoveries and extra payments, etc. having total financial implication of ₹ 12.08 crore.

5.5.1 Introduction

Department of Space (DOS)/Indian Space Research Organisation (ISRO) has the objective of promoting development and application of space science and technology. ISRO implements the space programmes through 12 centres and units[17] located in different parts of the country.

Construction and Maintenance Groups/Divisions (CMG/CMD) established in ISRO Headquarters, Bengaluru (ISRO HQ) and nine[18] ISRO centres/units undertake various construction activities to provide necessary infrastructure in these centres and units for successful implementation of the space programmes. CMGs/CMDs of individual ISRO Centres/units are under the control of the respective centre/unit Directors. The activities carried out by the CMGs/CMDs of the ISRO centres/units are evaluated and monitored by a Civil Engineering Programme Office (CEPO) at ISRO Headquarters, Bengaluru. CEPO is responsible for finalisation of overall civil works budget in DOS, evolving guidelines for infrastructure programmes, evolving safety and quality guidelines, land acquisition, rendering

[17] ISRO centres-Vikram Sarabhai Space Centre, Thiruvananthapuram (VSSC); Liquid Propulsion Systems Centre, Valiamala (LPSC); Satish Dhawan Space Centre, Sriharikota (SDSC); U.R. Rao Satellite Centre, Bengaluru (URSC); Space Applications Centre, Ahmedabad (SAC); and National Remote Sensing Centre, Hyderabad (NRSC). ISRO units- ISRO Propulsion Complex, Mahendragiri (IPRC); ISRO Inertial Systems Unit, Thiruvananthapuram (IISU); Master Control Facility, Hassan (MCF); ISRO Telemetry, Tracking and Command Network, Bengaluru (ISTRAC); Laboratory for Electro Optics Systems, Bengaluru (LEOS); and Indian Institute of Remote Sensing, Dehradun (IIRS).

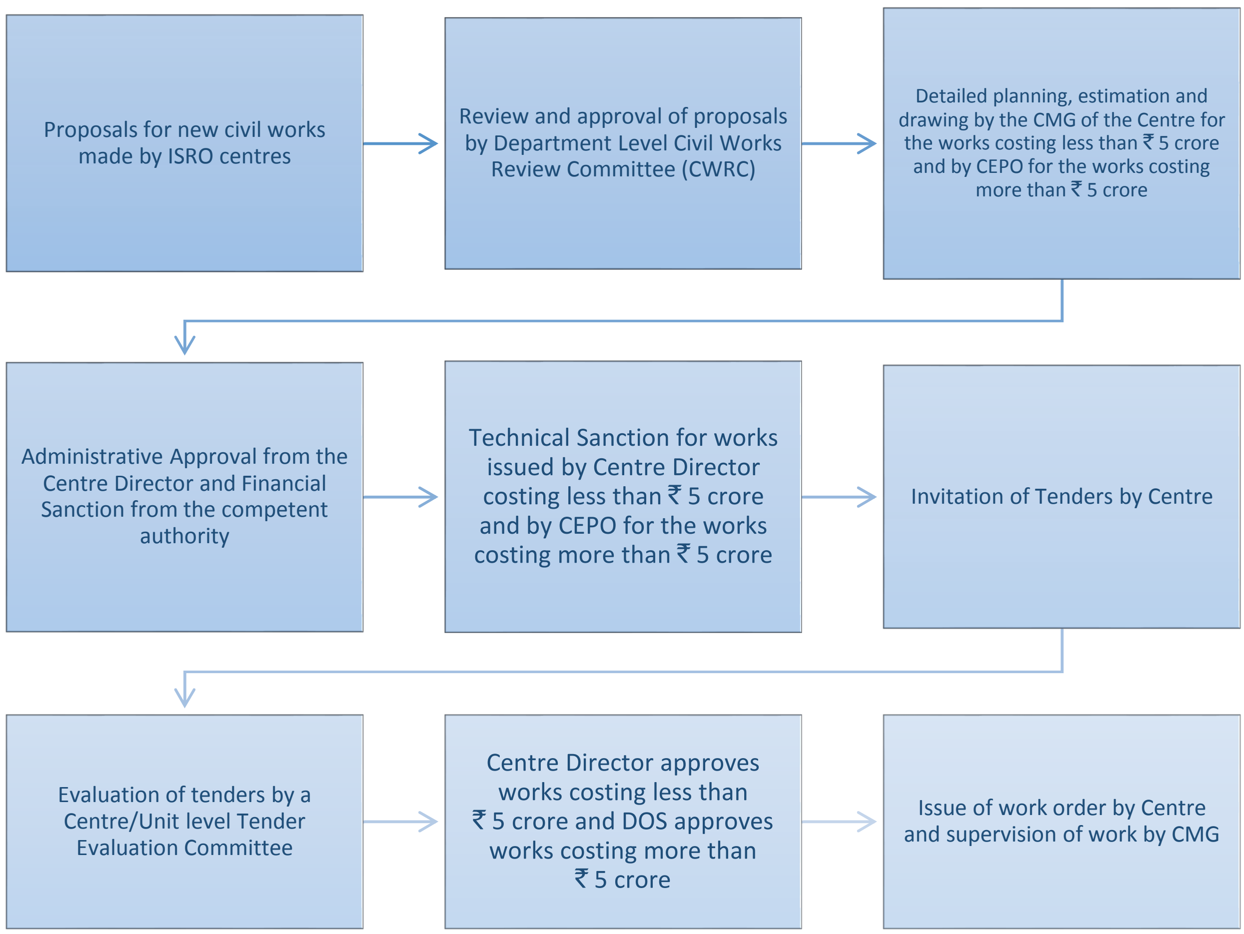
[18] Construction activities at three ISRO units viz. IISU, LEOS and IIRS are dealt with by CMGs of VSSC, URSC and NRSC respectively.

guidance to CMDs/CMGs, participating in technical design reviews, associating in Civil Works Review Committee and Tender Finalisation Committee, inspecting and evaluating progress of works, etc. The procedure followed for evaluation and approval of proposals for execution of works is outlined in **Chart No. 1**.

For execution of civil works, DOS/ISRO follows its guidelines[19], which is based on Central Public Works Department (CPWD) norms/guidelines.

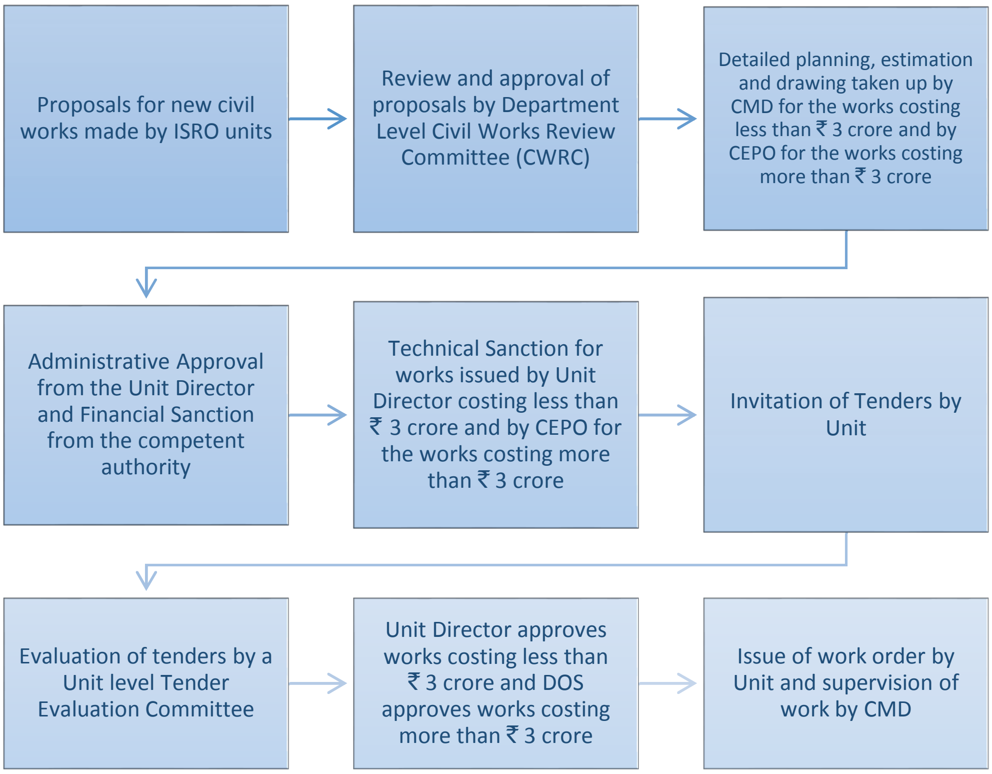
Chart No. 1: Procedure for evaluation and approval of proposals for execution of works

Works executed by ISRO centres



19 General Rules and Directions for Guidance of contractors, 2005; a revised version called Tender Notification and Conditions of Contract was brought out in 2015.

Works executed by ISRO units



An audit of the Management of Civil Works in DOS was carried out for the period 2013-18 covering ISRO HQ and four centres/units[20] of DOS/ISRO viz. VSSC, SAC, URSC and ISTRAC. A total of 25[21] major civil works valuing ₹ 399.76 crore out of 182 works totaling ₹ 817.16 crore executed by these five entities were examined in audit. In addition, civil works for establishment of the Second Vehicle Assembly Building (SVAB) at SDSC that was executed in procurement[22] mode at a cost of ₹ 310 crore was also selected for audit scrutiny. In all, 26 major civil works involving expenditure of ₹ 709.76 crore (as of June 2018) were examined in audit.

Audit findings are discussed in the succeeding paragraphs.

5.5.2 Audit Findings

5.5.2.1 Time and cost over-run

Rule 21 of General Financial Rules, 2005 & 2017 envisages that every officer incurring or authorising expenditure from public moneys should be guided by high standards of financial propriety.

[20] Selected on the basis of quantum of civil works executed.
[21] VSSC-10, SAC- four, URSC- six, ISRO HQ- four and ISTRAC- one.
[22] The work of construction of Second Launch Vehicle Assembly Building was not executed by the CMG of SDSC. Instead, the contract for the work comprising civil, structural, electrical, air conditioning, etc. was managed by the purchase and stores wing of SDSC in collaboration with the SVAB project team.

In 20[23] of the selected 26 works, Audit observed delays in completion of works ranging from three months (109 days) to three years (1,142 days). In 18 cases, the delays were either attributable to the contractor (five cases) or could have been avoided by the Department through better coordination (13 cases).

Audit also observed cost overrun amounting to ₹ 37.62 crore out of total expenditure of ₹ 460.66 crore in 14[24] of the 26 sampled works. The reasons for cost overrun in all of these cases were attributed to extra items of work.

In nine cases[25], though there was a time overrun from 184 days to 1142 days, there was no cost overrun. Similarly, in other three cases[26], though there was cost overrun ranging from ₹ 16.06 lakh to ₹ 55.93 lakh, there was no time overrun.

5.5.2.2 Delays on the part of contractors

In four works[27]at four ISRO centres having a cost of ₹ 93.73 crore, delays due to delayed commencement of work by the contractor, heavy rainfall, restrictions of working hours, delay in receipt of payments, inability of the contractor to get acquainted with the stringent security conditions at work site, etc. which were attributable to the contractor, were accepted by the centres for payment of cost escalation.

Further, according to Clause 2A of General Conditions of Contract (GCC) of DOS, compensation for delayed completion of work is to be levied and recovered from the contractor at the rate of 1.5 *per cent* for every month of delay to be computed on per day basis, on value of the incomplete work subject to maximum levy of 10 *per cent* of the total tendered value of work.

Audit observed that in three out of four cases mentioned above, there was short levy of compensation to the tune of ₹ 62.18 lakh for delays ranging from 71 to 167 days on the part of the contractor. In the remaining one case maximum compensation was levied.

The four works in which delays were noticed for reasons on the part of the contractor including three cases of short levy of compensation are listed in **Table No. 2**:

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23 URSC-four; SDSC-one; ISRO HQ-two; ISTRAC-one; SAC-four and VSSC-eight
24 URSC-two, SDSC-one, ISRO HQ-two, ISTRAC-one, SAC-four and VSSC-four
25 VSSC- five, SAC: two, URSC- one and ISRO Headquarters- one
26 VSSC- one and ISRO Headquarters- two
27 One work each at ISRO HQ and ISTRAC and two works at VSSC

Table No. 2: Cost escalation in works for delays attributable to contractors

(₹ in lakh)

Sl. No.	Centre	Work/ Scheduled completion date	Total Delay (in days)	Delay on the part of contractor accepted for payment of cost escalation		Audit Observation	Cost escalation paid	Short levy of compensation
				In days	Reason(s)			
1.	ISTRAC	Construction of INC-2 building for IRNSS facility at ILF, Lucknow (Civil &Ph Works)/02-06-15	455	24	Non-payment of Running Account bills	The work was awarded to the contractor after assessment of the financial soundness, therefore, citing non-payment of bills for delay in execution of work should not have been accepted by ISTRAC.	2.92	22.76
				143	Elaborate security procedures due to non-availability of photo identities of labour	The contractor was duly informed of the security conditions vide the conditions of contract attached with the tender documents, therefore, delays due to security procedures was not a ground for cost escalation.		
2.	VSSC	Construction of Integration and test complex at IISU, Vattiyoorkavu, Thiruvananthapuram (Civil and Ph Works)/19-09-14	376	71	Hold on pile cap clearance and inclusion of additional piles due to variations between soil parameters and original soil data.	The work order was issued to the contractor in September 2012. As per scope of the work, the contractor was to conduct routine tests on pile foundations installed. The contractor started the piling work only in November 2012 and commenced the pile foundation tests in February 2013. This resulted in delay in receiving clearance for the pile cap. The work was delayed by the contractor.	10.64	9.07
3.	VSSC	Construction of Buildings (9 Nos.) for RPP Phase-II expansion and construction of building for segment loading and transit storage facility at RPP, VSSC, Thumba (Civil, Ph and Mech Works)/14-05-14	870	109	Stringent security regulations	The contractor was duly informed of the security conditions vide the conditions of the contract attached with the tender documents.	20.90	Maximum compen-sation levied

4.	ISRO HQ	Construction of Integrated office building for ISRO at Sadiq Nagar, New Delhi (Civil, Ph, Electrical/10-10-14	1,142	59	Rain-peak monsoon in Delhi during July-August 2013 which seriously affected the excavation work.	As per information taken from India Meteorological Department, period of heavy rainfall occurred in Delhi in the month of June 2013 only.	16.52	30.35
				16	Restricted working hours	The Engineer in Chief confirmed (December 2013) that there was no restriction of working hours between 6 a.m. to 11 p.m. Thus, justifying delay by contractor due to restriction in working hours was not in order.		
Total cost Escalation paid							**50.98**	**62.18**

Thus, DOS incurred injudicious expenditure of ₹ 50.98 lakh towards payment of cost escalation for delays caused by the contractors and consequent short- levy of compensation of ₹ 62.18 lakh on such delay.

DOS stated (May 2019) that cost escalations were provided to contractors in cases where delay was beyond the control of the contractor. The reply is not acceptable, as delays due to inability to mobilise labourers, financial reasons, security conditions, etc. cannot be considered eligible for grant of cost escalation.

In regard to short levy of compensation, DOS stated (May 2019) that in all cases of delays attributable to contractor, due levy has been imposed as per contractual provisions. The reply is not acceptable, as delays due to financial crunch, conducting of pilling operation, wrong claims of delay (rain and working hours) etc., were attributable to the contractor.

5.5.2.3 Departmental delay

In 13 works[28] at five ISRO centres/units with a cost of ₹ 284.30 crore, there were delays in execution of works attributable to the centres/units. This resulted in avoidable payment of cost escalation amounting to ₹ 1.53 crore. In all these cases, Audit noticed that the delays were due to lack of proper coordination and timely action by the centres/units. The details of these cases are given in **Table No.3**.

[28] Four works at URSC; six works at VSSC; one work each at ISRO HQ, ISTRAC and SAC.

Table No. 3: Avoidable delay in execution of work by Department

(₹in lakh)

Sl. No.	Centre	Work/Scheduled date of completion	Total delay (in days)	Delay due to Department for which cost escalation was paid		Audit observation	Avoidable payment of cost escalation
				In days	Reason(s)		
1.	ISTRAC	Construction of INC-2 building for IRNSS facility at ILF, Lucknow (Civil &Ph Works)/ 02-06-15	455	67	Finalisation of soil test report	Though the soil test report was received in May 2013, Department delayed finalising the structural drawing and issued it to the contractor only in April 2014.	1.17
2.	SAC	Construction of payload Integration and checkout facility building at 39 acres New Bopal Campus, SAC, Ahmedabad (Civil, Ph and other allied works)/ 04-12-15	321	156	Hindrances arising from ongoing AC works	There was delay of more than one year in tendering and awarding of Work Order for the AC works. Civil and AC works should have been planned simultaneously to complete the building in a timely manner.	54.76
				123	Change in scope of work due to creation of Atomic Clock lab	Research on Atomic clock pertains to IRNSS project, sanctioned in June 2006. Citing delay due to sudden change in scope of work for accommodating the Atomic Clock Lab in June 2016 in this building is not acceptable.	
3.	VSSC	Construction of Building for new structural test facility at TERLS, VSSC, Thumba (Civil, Ph and Mech Works)/ 18-02-15	560	21	Delay in site clearance/cutting of trees	Department did not ensure readiness of site before scheduled commencement of work.	2.80
				44	Revision of design plan	Proper need assessment was required prior tofinalisation of architectural/structural drawing in order to minimise future revisions in drawings and resulting delay.	
4.	VSSC	Construction of Building for Optical Structure facility for CSTG at CMSE, Vattiyoorkavu (Civil, Ph and Mech Works)/ 23-01-15	373	153	Excessive midcourse modification in scope of work and pending clearance/finalisation of drawings	Proper need assessment was required prior tofinalisation of architectural/structural drawings and prompt action for design clearances. Delay due to modification in scope of work and pending design clearance was avoidable.	7.15
5.	VSSC	Construction of 70 Nos. B Type and 48 Nos. C Type staff quarters at Housing Colony, VSSC, Thumba (Civil and Ph Works)/ 30-03-15	184	85	Delay in payment of RA bills due to financial crunch	The construction work was undertaken under the head 'Housing- Vikram Sarabhai Space Centre'. Audit observed that during 2013-14, DOS had actually surrendered an amount of ₹ seven crore citing delay in completion of housing activities.	5.38

6.	VSSC	Construction of CMSE facilities at new land Vattiyoorkavu (Civil, Ph and Mech Works)/ 10-12-15	659	29	Time consumed for confirmation of gantry bracket level	As per the scope of work, the high bays of all facilities were to be provided with EOT crane of different size and capacity, however the vendors for EOT cranes were not finalised in time.	1.09
7.	VSSC	Construction of Building for New Printed Circuit facility (PCF) at VRC, VSSC, Thumba (Civil and Ph Works)/ 17-04-16	501	94	Delay in issue of construction drawings	Construction drawings were not finalised prior to issue of work order.	5.49
				13	Delay due to clearance for filling work from Department	Since the filling work was in the original scope of work Departmental clearance could have been taken before commencement of the work.	
8.	VSSC	Construction of additional facilities for integration checkout and storage for MVIT at TERLS, VSSC, Thumba (Civil, Ph and Mech Works)/ 20-12-16	401	49	Delay in clearance for tree cutting	Department did not ensure readiness of site before scheduled commencement of work.	6.76
9.	URSC	Sensor production facility at LEOS Ph-I/ 23-02-13	766	14	Delay in handing over of site	Department did not ensure readiness of site before scheduled commencement of work.	9.62
				71	Delay in issue of work order for AC works	Civil and AC works should have been planned simultaneously to complete the building in a timely manner.	
				32	Revision of drawings	Proper need assessment was required prior to finalisation of architectural/structural drawing in order to minimise future revisions in drawings and hence incidental delay.	
10.	URSC	Assembly and integration test facility (AITF-2) at ISITE (Civil, Ph, internal Electrical)/ 28-02-15	915	55	Delayed instructions from AC Department for issue of drawings	Civil and AC works of a building should be coordinated efficiently in order to reduce intermittent hindrances.	41.36
11.	URSC	High density interconnect (PCB) facility at ISITE (Civil, Ph, internal Electrical)/ 24-06-14	646	24	Delay in providing Vacuum Dewatered Flooring for high bay	The user requested for Vacuum Dewatered Flooring during the course of work due to which existing pipelines had to be dismantled and re-laid which hindered the work.	4.92
12.	URSC	Vertical extension to productionisation facility at ISITE (Civil, Ph, internal Electrical)/ 19-06-15	408	51	Modification in 3rd floor of the facility	Proper assessment of user requirement was necessary prior to commencement of work in order to avoid future revisions in scope of work and hence incidental delay.	0.80

13.	ISRO HQ	Construction of Integrated office building for ISRO at Sadiqnagar, New Delhi (Civil, Ph, Electrical)/ 10-10-14	1,142	55	Modifications in 3rd and 4th floor drawings	DOS sub-committee proposed revision in the original drawings. However, these revisions were not approved by DOS in view of legal requirements. The contractor finally executed the work as per the original approved plan.	12.12
Total cost escalation paid							**153.42**

DOS stated (May 2019) that it has noted the Audit findings for corrective action to avoid delay in future projects.

5.5.2.4 Completion of works before time

Audit observed one instance of execution of civil works by VSSC before the estimated time, due to which it could avail of a subsidy of ₹ 19.84 crore offered by the vendor which was favourable to the government exchequer.

VSSC entered (December 2011) into a contract with M/s AMOS, Belgium (AMOS) for supply, installation and commissioning of an Advanced Thermo Vacuum Test Facility (ATVF) on turnkey basis at a total cost of Euro 9,140,000[29] (₹ 56.68 crore) for a duration of 24 months. The Government of Belgium offered a subsidy of Euro 3,199,000 to AMOS which would reduce the price payable by VSSC to Euro 5,941,000 only if the ATVF could be established within 24 months from the date of signing of the contract.

To house this facility, VSSC floated a tender (December 2011) and finalised the same within five months. VSSC awarded (May 2012) the work of construction of building to M/s Silpi Construction Contractors, Thiruvananthapuram. Though VSSC initially proposed the expected completion period for this construction as 28 months (by November 2013), it completed the work within 18 months to coordinate the civil works with the schedule of supply, installation and commissioning of ATVF. Due to this, VSSC could avail of the subsidy from the Belgian Government. Consequently, VSSC made total payment of only ₹ 44.35 crore (Euro 5,941,000) after receiving the subsidy of ₹ 19.84 crore (Euro 3,199,000).

5.5.2.5 Payment of price variation in short term contracts

Section 33, Clause 10(CC) of Central Public Works Department (CPWD) Works Manual, 2012 provides for variation in contract amount due to variations in price of materials and/or wages of labour required for execution of work in contracts where the stipulated period for completion is more than 18 months[30]. The CPWD Works Manual, 2012 was amended in August 2013 and the price variation clause was made applicable in contracts where the stipulated period for completion is more than 12 months.

[29] Excluding the cost of construction of building.
[30] The period of 18 months was in effect since February 2003.

Rule 204 of General Financial Rules 2005[31] also stipulates that price variation clause can be provided only in long-term contracts, where the delivery period extends beyond 18 months.

However, in the General Rules and Directions for Guidance of Contractors, 2005 of DOS, the provision for stipulated period of completion of contract for payment of price variation in works was given as six months, which was revised to 12 months in 2015. Thus, prior to 2015, the provision for price variation in the guidelines of DOS was in deviation from the provisions of the CPWD Works Manual.

ISRO HQ awarded (December 2011) the work of 'Construction of CISF Quarters at ISITE[32], Bengaluru (Civil, PH and Electrical works)' to a firm for an order value of ₹ 5.99 crore with a completion period of 12 months and including a price variation clause.

Work was completed in September 2013 after a delay of more than eight months from the scheduled date. The delay was attributed to delay in issue of drawings, modifications in plan and scope, local protests and excess rainfall. ISRO HQ made a payment of ₹ 50.58 lakh towards price variation for this work. Inclusion of price variation clause in a short term contract extending for 12 months only, was in contravention of the provisions of the CPWD manual.

DOS stated (May 2019) that provision for escalation for a work of duration more than six months was included in guidelines to avoid speculative quote by the contractor. DOS added (August 2019) that it followed its own procedure and did not adopt CPWD provisions.

DOS has been largely unable to complete works within the period stipulated in contracts and has incurred significant extra expenditure towards cost escalation, as mentioned in para 5.5.2.1. The rationale given by DOS for making a provision of cost escalation in contracts having duration of more than only six months is viewed in light of the fact that in 18 of the 26 selected projects, there was delay in completion of works by three months to three years. Thus, relaxing the provision for cost escalation just to guard against speculative quotes by the contractor is not acceptable. Further, the procedure adopted by DOS was not in accordance with the GFRs.

5.5.2.6 Deviations beyond permissible limits

According to Section 15.1 (6) of CPWD Works Manual 2012/2014, permissible deviation[33] limit is 30 *per cent* in case of superstructure work and 100 *per cent* in case of foundation work. Clause 12 read with Schedule F of 'General Conditions of Contract' of DOS provides for a deviation limit of 25 *per cent* in case of superstructure work and 50 *per cent* in case of foundation work beyond which the cost of work should be worked out by adopting the

[31] Rule 225 (viii) of GFR 2017.
[32] ISRO Spacecraft Integration Test Establishment, a facility under URSC.
[33] Deviation in quantities of items, i.e. where there is increase or decrease in the quantities of items of work in the agreement.

market rate for material and labour. Thus, the provisions of DOS varied from the CPWD provisions.

In 20 works[34] at four ISRO centres (URSC, ISRO HQ, SAC and VSSC) there were deviations of items valuing ₹ 12 crore beyond the permissible limit in the work order, which indicates improper estimation of quantities of items of work in the detailed estimate stage.

The deviations beyond permissible limits were examined in five works at ISRO HQ and VSSC on test check basis. The deviations in the items given in the agreement ranged from two *per cent* to 3,904 *per cent*. The total amount of deviation beyond permissible limit of such items in these five works was ₹ 3.24 crore. In four[35] of these five works, the amount of deviation of ₹ 2.39 crore was incurred over and above the sanctioned cost. The work-wise details are given in **Table No. 4**.

Table No. 4: Deviation beyond permissible limits in contracts

(₹ in lakh)

Sl. No.	Centre	Work	No. of items having deviation	Percentage range of deviation beyond permissible limit	Excess amount paid for deviation	Reasons for deviation
1.	VSSC	Construction of building for optical structures facility for GSTG at CMSE, Vattiyoorkavu	55	3 to 1,305	98.54	Change in scope of work, midcourse revision by users, inadequacy in estimate provision and actual site requirement.
2.	VSSC	Construction of new structural test facility at TERLS, VSSC	60	2 to 1,071.50	120.70	
3.	VSSC	Construction of building for Integration and Test Complex at IISU, Vattiyoorkavu	40	9 to 1,505	84.97	
4.	ISRO HQ	Construction of multi utility complex at Indiranagar, DOS Housing Colony, Bengaluru	11	33 to 3,904	15.88	Mid-course revision, site conditions.
5.	ISRO HQ	Modification to ISAC heat pipe construction facility building for establishing spacecraft propulsion components production facility at LPSC campus, Bengaluru	6	52 to 159	3.66	
		Total			**323.75**	

Deviations indicate that quantities of items of work mentioned in the detailed estimates were not realistically estimated based on field survey and site conditions.

VSSC while accepting the Audit observation for need to ensure correctness in detailed estimates, stated (July 2018) that such deviation in quantities beyond permissible limits

[34] URSC-three, ISRO HQ-three, SAC-four and VSSC-10

[35] Except work at Sl.No. 3 of Table No. 4.

happened due to inadequacy in estimation, mid-course revision in scope of work, etc. DOS also stated (May 2019) that deviation in quantities occurred due to mid-course revision, site condition, etc.

Further, in 10 works[36] test checked at three centres of ISRO (URSC, SAC and VSSC), though the contractors had offered rebates in their respective price bids to gain competitive advantage, the centres could not claim such rebates amounting to ₹ 41 lakh on deviations amounting ₹ 7.25 crore in quantity of agreement items. The details are given in **Table No. 5**.

Table No. 5: Rebate not claimed on deviated quantities of agreement items

(₹ in lakh)

Sl. No.	Centre	Work	Amount of deviated items	Percentage of rebate	Rebate foregone/ not claimed
1.	URSC	High density interconnect (PCB) facility at ISITE (Civil, Ph, internal Electrical)	33.54	3.70	1.24
2.	URSC	Vertical extension to productionisation facility at ISITE (Civil, Ph, internal Electrical)	12.88	6.10	0.79
3.	URSC	Assembly and integration test facility (AITF-2) at ISITE (Civil, Ph, internal Electrical)	239.48	3.30	7.90
4.	SAC	Construction of Large Thermal Vacuum Chamber (LTVC) and High Power Passive component Test Area Building at New Bopal Campus, SAC, Ahmedabad (Civil, Ph and other allied works)	84.42	10.12	8.54
5.	SAC	Construction of horizontal extension of antenna assembly integration and testing lab at Building no 37A SAC, Ahmedabad (Civil, Ph and allied works)	59.95	2.00	1.20
6.	VSSC	Construction of Building for New Printed Circuit facility (PCF) at VRC, VSSC, Thumba (Civil and Ph Works)	92.92	8.65	8.04
7.	VSSC	Construction of Buildings (9 Nos.) for RPP Phase-II expansion and construction of building for segment loading and transit storage facility at RPP, VSSC, Thumba (Civil, Ph and Mech Works)	13.25	16.50	2.19
8.	VSSC	Construction of CMSE facilities at new land Vattiyoorkavu (Civil, Ph and Mech Works)	95.04	8.17	7.77

[36] URSC-three, SAC-two and VSSC-five

9.	VSSC	Construction of 70 Nos. B Type and 48 Nos. C Type staff quarters at Housing Colony, VSSC, Thumba (Civil and Ph Works)	42.85	6.00	2.57
10.	VSSC	Construction of additional facilities for integration checkout and storage for MVIT at TERLS, VSSC, Thumba (Civil, Ph and Mech Works)	50.46	1.50	0.76
		Total	**724.79**		**41.00**

Thus, foregoing of rebates resulted in excess expenditure of the centres and corresponding benefit of ₹ 41 lakh to the contractors in these 10 works.

VSSC stated (July 2018) that the rebate offered by the contractor is applicable only for agreement items and cannot be claimed on any quantity more than the permissible quantity of deviation. DOS added (August 2019) that the rates for deviated quantity beyond permissible variations were arrived based on the prevailing market price and hence the rebate offered by the contractor on his quoted rate is not applicable for the rates adopted for deviated item.

The fact remained that there were significant deviations beyond the permissible limits which were needed to be checked. The wide deviations indicate that quantities of items of work mentioned in the detailed estimates were not realistically estimated based on field survey and site conditions. Further, the deviated quantities in respect of agreement items should be eligible for rebate, as the bidder offers such rebate on the quoted price of agreement items to gain competitive advantage and the lowest bidder is selected after considering the rebate offered.

5.5.2.7 Adhoc payments

According to section 32.2 of CPWD Works Manual 2012/2014, advances to contractors are, as a rule, prohibited and payments to contractors should not be made until detailed measurements of the work have been taken and recorded. Adhoc advance payments may, however, be made in cases of real necessity, when it is essential to do so. Further, according to section 32.1 read with section 32.2 of CPWD Works Manual, grant of a second advance before the first one has been recovered shall not be permitted.

Audit observed that in five works at three centres (URSC, SAC and VSSC), contractors were paid adhoc advances frequently to the tune of ₹ 20.87 crore in 39 bills. The details of the works and advances paid are given in **Table No. 6**.

Table No. 6: Ad hoc payments given to contractors

(₹ in lakh)

Sl. No.	Centre	Work	Number of RA bills	Amount of ad hoc advance payment	Scheduled date/Actual date of completion
1.	URSC	Vertical extension to productionisation facility at ISITE (Civil, Ph, internal Electrical)	7	1.42	19.06.2015/ 31.07.2016
2.	URSC	High density interconnect (PCB) facility at ISITE (Civil, Ph, internal Electrical)	6	2.77	24.06.2014/ 31.03.2016
3.	URSC	Assembly and integration test facility (AITF-2) at ISITE (Civil, Ph, internal Electrical)	12	8.52	28.02.2015/ 31.08.2017
4.	SAC	Construction of payload Integration and checkout facility building at 39 acres New Bopal Campus, SAC, Ahmedabad (Civil, PH and other allied works)	8	6.08	04.12.2015/ 20.10.2016
5.	VSSC	Construction of building for Thermo Vacuum Facility at TERLS, VSSC, Thumba (Civil, Ph and Mech Works)	6	2.08	11.11.2013/ 09.11.2013
Total			**39**	**20.87**	

Further, URSC made adhoc advance payments in three instances, two of these between two successive RA bills before recovering the first advance, which was in contravention to the extant guidelines.

Thus, frequent release of advance payments for work done but not measured and more than the prescribed number of times in contravention to extant guidelines resulted in undue benefit to the contractor.

DOS stated (May 2019) that since August 2015, Department has permitted payment of maximum two consecutive adhoc bills and the third payment, only if necessity arises, with the approval of Centre Director to ensure regular cash flow to contractor to keep up the project schedule.

However, the fact remained that in test checked cases ad-hoc advances was paid ranging from six to 12 occasions without following any limits as claimed by DOS. As regards flow of regular cash to contractor, the reply is not acceptable, as Mobilisation Advance (in all five cases) and Secured Advance (in four cases) were released to aid in timely completion of work. Further, in spite of frequent release of ad-hoc advances, four out of five works mentioned in Table 6 were not completed within scheduled time.

5.5.2.8 Deduction of Labour Welfare Cess

In terms of section 3(1) of the Building and Other Construction Workers' Welfare Cess Act, 1996, a cess is to be levied and collected, at such rate not exceeding two *per cent* , but not less than one *per cent* of the cost of construction incurred by an employer, as specified by the Government from time to time; and the proceeds of the cess collected are to be transferred to the Building and Other Construction Worker's Welfare Board constituted by a State Government.

According to Rule 4 (3) and 5 (1) of Building and other construction workers' Welfare Cess Rules, 1998, where the levy of cess pertains to building and other construction work of a Government, such Government shall deduct or cause to be deducted the cess payable from the contractor at the notified rates from the bills paid for such works and transfer the proceeds of the cess collected to the Building and Other Construction Workers' Welfare Board.

For implementation of the Act, Government of Kerala followed the Central Government Rules. The Central Government Rule specified a cess at the rate of one *per cent* of the cost of construction incurred by an employer.

A paragraph was raised in the Report of the Comptroller and Auditor General of India No. 12 of 2016 highlighting that VSSC had not deducted Labour Welfare Cess (LWC) from the payments made to the contractors for civil works executed between January 2011 and November 2014.

VSSC had stated in the Action Taken Note on the above paragraph that it had started recovering LWC from May 2015 onwards for all ongoing works. However, Audit noticed that VSSC did not levy LWC even after May 2015 in eight works executed during September 2012 to January 2018 which resulted in non-levy of LWC to the extent of ₹ 26.60 lakh. The details are given in **Table No. 7**.

Table No. 7: Non-deduction of Labour Welfare Cess

Sl. No.	Work Order date	Description	Order value (₹ in crore)	Non-levy of LWC (₹ in lakh)
1.	05-09-12	Construction of Integration and test complex at IISU, Vattiyoorkavu, Thiruvananthapuram (Civil and Ph Works)	17.68	2.49
2.	02-11-12	Construction of Buildings (9 Nos.) for RPP Phase-II expansion and construction of building for segment loading and transit storage facility at RPP, VSSC, Thumba (Civil, Ph and Mech Works)	25.23	3.64
3.	04-02-13	Construction of Building for new structural test facility at TERLS, VSSC, Thumba (Civil, Ph and Mech Works)	16.71	5.87
4.	09-05-13	Construction of Building for Optical Structure facility for CSTG at CMSE, Vattiyoorkavu (Civil, Ph and Mech Works)	9.46	0.29
5.	15-05-13	Construction of 70 Nos. B Type and 48 Nos. C Type staff quarters at Housing Colony, VSSC, Thumba (Civil and Ph Works)	17.55	4.59
6.	20-02-14	Construction of CMSE facilities at new land Vattiyoorkavu (Civil, Ph and Mech Works)	44.68	5.16
7.	02-04-14	Construction of Building for New Printed Circuit facility (PCF) at VRC, VSSC, Thumba (Civil and Ph Works)	10.96	1.40
8.	06-06-14	Construction of additional facilities for integration checkout and storage for MVIT at TERLS, VSSC, Thumba (Civil, Ph and Mech Works)	24.06	3.16
TOTAL				**26.60**

Accepting the Audit observation DOS stated (May 2019) that efforts are being made to recover LWC from contractors in all these works.

5.5.2.9 Extra payments

(i) In terms of Clause 36 of GCC of DOS, the contractor shall, immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-charge (EIC), the name(s), qualifications, experience, age, address(s) and other particulars along with certificates of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. The EIC shall, within three days of receipt of such communication, intimate in writing his approval or otherwise of such a representative(s) to the contractor. Further, Clause 3 of GCC empowers EIC to absolutely terminate a contract if the contractor without any reasonable cause makes slow progress of work or fails to complete the work within scheduled completion date or sublets the work or part thereof without prior written approval of EIC.

URSC awarded a contract (August 2012) for ‘Construction of Boundary wall for ISRO lands at Ullarthikavalu & Khudapura, Chitradurga’ at a cost of ₹ 7.50 crore to be completed in February 2014. Audit observed that there were no approvals of EIC on the name(s), qualifications, experience, age, addresses and other particulars along with certificates of the principal technical representative to be in charge of the work and other technical representative(s) who would be supervising the work engaged by the contractors. URSC found out in December 2013 that the contractor had sub-let the work, after receiving information that the sub-contractor had filed a law suit against the contractor. On discovering this, URSC terminated (September 2014) the contract invoking Clause 3 of GCC. Expenditure of ₹ 1.64 crore was incurred on the work. Subsequently, URSC awarded (January 2018) a work order for execution of the balance work to another contractor for value of ₹ 7.49 crore.

Insisting on submission of information on the persons supervising the work before commencement of work would have avoided sub-letting of work by the contractor. Belated discovery of this fact led to termination of work and cost escalation of ₹ 1.04 crore[37] towards execution of balance work.

DOS stated (May 2019) that action was initiated to terminate the contract immediately on notice of sub-letting. The reply is not acceptable as proper checks as contemplated in Clause 36 of GCC might have prevented unauthorised subletting of works in the first instance.

(ii) In the bid for the contract for construction of Second Vehicle Assembly Building at SDSC, the contractor quoted two *per cent* of Works Contract Tax (WCT)/Value Added Tax (VAT) over the cost of work. SDSC clarified to the contractor that any change in the

37 ₹ 7.49 crore + ₹ 1.64 crore - ₹ 7.50 crore – ₹ 0.59 crore towards recovery of EMD, PG and SD

percentage of taxes and any additional taxes applicable would be to the account of the contractor, which was accepted (February 2015) by the contractor.

Subsequently, in the negotiation meetings held with the contractor (March 2015), the contractor clarified that based on prior experience, the VAT/WCT liability for this work would be two *per cent* of the value of work done but asked SDSC to deduct 3.5 *per cent* VAT at source from its payments. The contractor would claim the excess VAT/WCT paid as refund at the end of the contract from the tax authority. Accordingly, SDSC asked the contractor to submit a revised price bid including VAT/WCT of 3.5 *per cent* over the cost of work and awarded the contract to the firm. Thereafter, based on the revised price submitted by the contractor, SDSC awarded the contract to it and paid 3.5 *per cent* on each RA bill (till June 2017) towards VAT/WCT instead of two *per cent* initially offered by the contractor. This was discontinued (July 2017) once Goods and Service Act came into force in India.

Audit observed that SDSC passed on the benefit of the additional 1.5 *per cent* tax liability to the contractor by revising the price terms, instead of keeping it to the account of the contractor, as was accepted earlier by the contractor. Fixing the rate of tax in the agreement at 3.5 *per cent* resulted in extra payment of ₹ 3.75 crore to the contractor towards the additional 1.5 *per cent* on account of VAT/WCT. According to the Commercial Taxes Department, Government of Andhra Pradesh, the contractor had applied for refund of WCT, which was pending finalisation. If refunded, this would be to the contractor's advantage.

DOS stated (May 2019) that the contractor had agreed to absorb the extra tax liability of 1.5 *per cent* and hence there was no additional financial liability to the Department.

The reply is not acceptable, as by asking the contractor to revise the price bid including VAT/WCT of 3.5 *per cent* over the cost of work instead of the contractor's initial offer of two *per cent*, DOS had, in effect extended a benefit of 1.5 *per cent* to the contractor.

5.5.3 Conclusion

The audit of management of civil works in five centres of Department of Space revealed instances of weak contract management leading to time overrun of 109 days to 1,142 days in fulfilment of the contracts and cost overrun amounting to ₹ 37.62 crore. There were cases of irregular payment of cost escalation, deviations in quantity of items of work, short levy/collection of statutory recoveries, avoidable payments due to rebates not claimed, irregular adhoc advance payments, short levy of compensation for delay in execution of work by the contractor, etc. having a total financial implication of ₹ 12.08 crore.