PUBLIC ACCOUNTS COMMITTEE

(2017-18 & 2018-19)

XIV - LA

ANDHRA PRADESH LEGISLATURE

REPORT (NINTH)

ON

REPORT OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA (ECONOMIC SECTOR) OF GOVERNMENT OF ANDHRA PRADESH

FOR THE YEAR 2012-13 AND PARA 2.1 OF CHAPTER 2 FORTHE YEAR 2015-16

PERTAINING TO WATER RESOURCES DEPARTMENT

(Presented to the Legislature on : 06.02.2019)

ANDHRA PRADESH LEGISLATURE (PAC)) SECRETARIAT,
VELAGAPUDI- 522503

CONTENTS

			Page Nos.
1.	Composition of the Committee	:	(ii)
2.	Introduction	:	(iii)
3.	Report (i)	:	01-17
	(ii)	:	19-61
4.	Summary of Observations/ Recommendations	(i) :	17-17
		(ii) :	61-63

Report of the Public Accounts Committee on the Report of the Comptroller and Auditor General of India for the year 2012-13 (Economic Sector) – Government of Andhra Pradesh

Water Resources Department

Public Accounts Committee discussed the following para related to Water Resources Department on 31.10.2018.

1. Para 3.3/Page 88 of Audit Report 2012-13

TEXT OF THE AUDIT PARAS AND EXPLANTORY NOTES GIVEN BY THE GOVERNMENT

1.1 Modernization of Irrigation Systems

3.3.1 Introduction

Modernization of irrigation projects involves restoration/improving standards of reservoirs, dams, canals and distributary network of existing irrigation systems deteriorated due to aging, repeated erosion, silt formation and flood damages .GoAP accorded administrative approval (May 2006 to May 2009)for modernization of eight irrigation systems in the State to stabilize 55.76 lakh acres of ayacut under these systems with a cost of Rs.15,001 crore (details in ***Appendix-3.3***).

3.3.2 Audit scope and objectives

Audit examined (August 2012 to February 2013) implementation of seven modernization projects (excluding Nagavali system, where works were yet to be taken up) in offices of 3 CEs, 12 SEs and 18 EEs. Test check of 48 (13*per cent*) out of 369 packages entrusted was conducted to assess whether (i) modernization works were taken up based on scientific assessment of needs and with proper planning, (ii) financial propriety was ensured in tendering and contracting, and (iii) works were executed smoothly and envisaged objectives were achieved in time. Audit findings are discussed below:

Audit findings

3.3.3 Preparation of Detailed Project Reports (DPRs)

As per Central Water Commission (CWC) guidelines (1980), Detailed Project Reports (DPRs) for Modernization of Irrigation and Multipurpose Projects should, *inter alia*, cover agronomic and management aspects such as seepage

losses, wastage of water, land potential, cropping pattern and crop water requirement, water management, maintenance, etc; present performance of various components of project and their comparison with proposed features. Audit noticed that no DPR was prepared for Nizamsagar project and Godavari Delta System (GDS).

Commissioner, Godavari Basin stated that a DPR was prepared (not supported by any record) for Nizamsagar modernization. Chief Engineer, GDS on the other hand replied that there was no need for preparing a DPR as GDS was an already existing irrigation system. However, it was essential to study vital aspects mentioned in CWC guidelines for planning specific works to be carried out.

In Explanatory Notes, Government replied that Project report and estimate for modernization of GDS were prepared before issue of G.O. Ms. No. 258 dt:29.11.2007 duly considering all aspects as per expert committee recommendations. Godavari Delta Canals does not come under CWC purview.

3.3.4 Improper planning in TBPHLC

Tungabhadra Project High Level Canal (TBPHLC) runs for a length of 196.43 km. The initial length of 105.437 km was in neighboring State under jurisdiction of Tungabhadra (TB) Board. The original designed capacity of TBPHLC was 4000 cusecs at head reach near Tungabhadra reservoir and 2575 cusecs where it enters AP State.

In August 2005, GoAP decided to allocate 10 TMC[1] of Tungabhadra water[2](out of the AP's share of 73.01 TMC[3]) to Pennar Ahobilam Balancing Reservoir (PABR) for drinking and other incidental needs of Hindupur area in Ananthapuramu district. This water was proposed to be drawn by widening TBPHLC.

Audit, however, observed that GoAP took up (November 2007) widening of TBPHLC within the State border to increase its carrying capacity to 4200 cusecs and entrusted six package works (cost:Rs.463.50 crore)during May - July 2008, without obtaining acceptance from neighboring State for widening of TBPHLC on that side. Works were in progress and an expenditure of Rs.161.62 crore was already incurred as of March 2013.Unless TBPHLC on other State is also widened, widening of canal on AP side would not serve the objective of providing 10 TMC of water to PABR and expenditure thereon would remain unfruitful.

Government replied (August 2013) that negotiations with Government of neighboring State and Tungabhadra Board for such widening of canal initiated

---

1 Thousand million cubic feet

2 GoAP initially (in January 2004) decided to allocate 5 TMC of water to PABR. This was later increased to 10 TMC in August 2005.

3 TBPHLC (32.50 TMC), TBPLLC (24 TMC), Kurnool Cuddapah (KC) Canal (10 TMC) and Rajolibanda Diversion Scheme (6.51 TMC)

TBPHLC at a cost of Rs.463.50 crore would not be fulfilled till an agreement is reached and canal in that State is also widened.

Even after more than six years since commencement of negotiations no agreement was reached. In fact, as recently as in April 2011, TB Board entrusted task of preparation of DPR for remodeling and restoration of TBPHLC on other side to its original carrying capacities indicating that there was perhaps no proposal for increasing its capacity. Therefore, utility of widening of TBPHLC at this end taken up at a cost of Rs.463.50 crore is doubtful.

In Explanatory Notes, Government replied that the modernization works in the jurisdiction of AP were taken up while pursuing constantly with authorities of Karnataka and Tunga Bhadra board to take up modernization works of common canal in Karnataka limits. Now the modernization works in the TB Board area (in Karnataka state) are also in brisk progress and thus the existing canal system will be modernized.

3.3.5 Assessment and stipulation of canal closure period

As modernization works were taken up on already existing irrigation systems, its execution was possible only during canal closure periods. Canal closure periods were finalized every year on advice of Irrigation Advisory Board (IAB), chaired by the District Collector concerned. However, there was no documentary evidence to show that department had calculated the canal closure period based on past experiences or had at any time approached IAB for assessing the probable canal closure periods or declaring a crop holiday, before taking up modernization works.

Audit observed that department failed to provide required canal closure period to contractors as a result of which, modernization works were not completed as targeted and intended benefits not achieved. Deficiencies in providing canal closure period were as follows:

In Explanatory Notes, Government replied that water supply to Rabi and canal closure dates will be finalized in the Irrigation Advisory Board (IAB) every year during the months of September/October. The canal opening and closing dates depend on date of onset of monsoon, rainfall during the season, drinking water needs, socio economic factors like acceptance for crop holiday by farmers, people representatives etc, Government decisions, inflows and storage. Hence, to take care of the interest of the ayacutdars, the canal closure periods specified in the agreements could not be provided.

3.3.5.1 Non-stipulation of canal closure period in agreements

(i) There was no specific mention about working period / canal closure period in agreements of GDS, Pennar Delta System (PDS) and Tungabhadra Project Low Level Canal (TBPLLC) packages.

Government replied that (i) working period provided was 51 months in respect of GDS, (ii) water was released for prolonged periods due to demands from farmers in PDS and due to prevailing conditions in TBPLLC. However, audit observed that in GDS, 51 months was total contract period and not canal closure period. Department should have convinced the farmers about the importance of canal closure and benefits of providing sufficient working period to contractors.

In Explanatory Notes, Government replied that there is specific mention about the working period in the agreements of the packages of Penna Delta Modernization. The canal closure period in respect of TBPHLC will be decided by the Tunga Bhadra Board authorities as it is an interstate canal.

(ii) In Package-39 of PDS (agreement period: 24 months), agency stopped work (March 2009) after executing a meager 6.17 *percent* work citing non-availability of continuous working period for nearly two years from date of entrustment (May 2007). Department finally proposed (August 2012) to close the contract and to revise estimates for balance work with latest rates. Similarly, department had to propose pre-closure of Packages-34 and 40 (entrusted in May/February 2008)due to continuous release of water and lack of working period.

Further, though Government permitted (December 2012) to close all these three packages (expenditure:Rs.12.27 crore), contracts were yet to be closed (June 2013) and re-entrusted, resulting in non-achievement of intended objectives.

Government replied (August 2013) that working period was restricted as water was released for both Rabi and Kharif crops due to availability of abundant water and canal closure was done only partially. Department should have taken up modernization works only after planning canal closure periods.

In Explanatory Notes, Government replied that all the three packages are closed and settlement of accounts are under process. After finalization of accounts re-entrustment to new agencies shall be taken duly considering canal closure periods and possibility of crop holiday.

(iii) In package-2 (entrusted in June 2008) of TBPLLC, contractor stopped work after executing a meagre 7.31*percent* work (expenditure:Rs.0.92 crore) and requested (September 2011) to stop water in canal for at least six months continuously and make payments with latest rates for balance work, or to close the contract. However, no decision was taken by department so far (July 2013).Government accepted that due to uncertainty in closure period, sufficient working period was not made available and hence closure of contract was proposed. Failure to make available required working period led to non-completion of works and non-achievement of intended objectives.

In Explanatory Notes, Government replied that due to uncertainty in closure and release of water into the canal and prevailing conditions there was no sufficient working period available to achieve mile stone progress. Hence the Government permitted to close the contract duly effecting all recoveries and

also obtain undertaking from the agency that he will not put forth for any claim and accordingly closed.

3.3.5.2 Non-providing of working period as stipulated in agreements

Even in projects, where closure / working periods were stipulated in agreements, department failed to make available the required working period to agencies as discussed below:

- Agreements of Krishna Delta System (KDS) modernization provided for canal closure period of 560 days (out of total contract period of 51 months).As against this, working period actually given was only 300 days.
- In TBPHLC, out of 23 months of working period to be provided (total contract period: 51 months), less than 17 months of working period was made available.
- In Nizamsagar project, out of 12 months canal closure period to be provided as per agreements (contract period: 25 months), department could make available only 182 days within agreement period resulting in non-completion of works.

Government replied that shortfall in providing working period was due to release of water in canals for extended periods, release of drinking water and loss of working period due to rains. However, release of drinking water and rainy season are not unforeseen contingencies and water release periods of previous years should have been taken into account while planning modernization works.

In Explanatory notes, Government reiterated that the stipulated working period could not be provided due to release of water to second crop (Rabi) on the request of ayacutdars and public representatives, non-acceptance of the crop holiday and release of drinking water etc.

In respect of TBPHLC, canal running period mainly depend on the availability of water in the T.B. Dam and the decisions of T.B. Board authorities. Hence, the specified working period of 23 months could not be provided in the contract period of 51 months. But the short fall in the working period is compensated by granting extension of time to the agencies.

3.3.5.3 Impact of non-providing of working period on future tenders

As per tender procedure followed by GoAP, to qualify for award of a work, bidder should have a bid capacity greater than estimated value of work. During tender evaluation, bid capacity of each bidder is assessed using formula of "2AN-B"[4].If agreement period is of short duration, bidder should

[4] This is the formula used to assess the bid capacity of the tenderers, in which 'A' stood for maximum value of civil engineering works executed in any one year during the last five years, 'B' indicated the value of existing commitments and ongoing works, while 'N' is the number of years prescribed for completion of work for which tenders are invited. Under this procedure, the bidders had to demonstrate that their bid capacity was more than the estimated value of the work for which tenders were called for.

possess higher bid capacity and *vice-versa*. Therefore, non / improper assessment of working period in modernization works of irrigation systems and consequent stipulation of short agreement duration would restrict the number of eligible bidders and thereby competition. Audit noticed that there was poor response to tenders in many cases, forcing department either to call for tenders several times or to split works into small packages. Non-providing of required working/canal closure period in ongoing works would have further discouraging effect on competition in future tenders also.

In Explanatory Notes, Government replied that the reason for non-response for package is not the short agreement period but other reasons such as the works are located on Drains/Canals where slushy conditions prevail, encroachments along the banks. However all steps are being taken to provide working period to the maximum extent.

3.3.6 Lack of competition in tendering

Audit observed in some cases that works were awarded to single bidders, as shown below:

Table-3.6 – Number of works awarded to single bidders

Sl. No.	Irrigation System	Number of packages entrusted so far	Packages entrusted to single bidders (percentage)
1	KDS	56	18 (32)
2	Nizamsagar	16	10(62)
3	TBPLLC	18	15(83)

*(**Source:** Information as per departmental records)*

- Out of 18 packages entrusted to single bidders in KDS, 15 were premium bids. Out of these, nine were entrusted in first tender call itself.
- All the 10 packages entrusted to single bidders in Nizamsagar were premium bids and five were in first call.
- Out of 15 packages entrusted to single bidders in TBPLLC, 14 were on premium out of which six were in first call.

Receipt of single bids in large number of cases indicates lack of competition for modernization works.

Government replied that single bids were accepted (i) to complete works early to achieve modernization benefits to farmers and recall to tenders requires revision of estimates which involves extra financial implications (ii) due to urgency and programme works to be grounded before Khariff season and (iii) in view of poor response to earlier calls. However, urgency in entrustment did not ultimately translate into early completion, as only three out of 43packages entrusted to single bidders were completed so far.

works executed in the year 2002-03 which was beyond the block period (i.e. from 2003-04 to 2007-08) stipulated in tender documents. In all four packages, single bids received (from the same firm) with a tender premium ranging from 2.52 to 4.86 *per cent* were accepted.

Government replied that tender condition was relaxed only to start work before Kharif 2008.However, Audit observed that by the time relaxation was given, Kharif 2008 had already begun. Also, three out of above four works had not been completed even after more than two years from their target dates of completion. Moreover, relaxing qualification criteria after opening of bids was against the spirit of competitive bidding.

This issue pertains to Telangana State.

3.3.8 Defining the scope of work in agreement

Work of construction of Sangam barrage cum bridge (package no. 33) of PDS was entrusted to a firm for Rs.86.20 crore in April 2007 under Engineering, Procurement and Construction (EPC) turnkey system[6]. The basic project parameters of agreement stipulated a barrage with (i) a minimum length of 1076 Mts., (ii) 77 vents and (iii) maximum flood discharge (MFD) of 7.50 lakh cusecs at a level of +35.000 M to be constructed as per relevant standards[7].

During finalization of designs, department insisted that barrage should be constructed for a length of 846 Mts. with a discharge of 7.5 lakh cusecs with a scour depth of 1.25 times on upstream side and 1.75 times on downstream side. Contractor contended (September 2007) that design parameters suggested by department were higher than those stipulated in IS codes and demanded extra payments for additional work.

An Expert Committee constituted by Government for examining the issue recommended (February 2008) to close the contract and refund the deposits to contractor and call for fresh tenders on the ground that agency did not agree for scour depths and other technical parameters and that no agreement was reached despite several negotiations. Committee also opined that there was change in scope of work due to reduction of barrage length from 1076 Mts. to 846 Mts. Accordingly, the contract was closed and work was re-entrusted (July 2008) to another firm for Rs.122.50 crore.

Government replied that contract was closed as (i) proposal of agency was not in tune with parameters approved by Committee; (ii) agency insisted on

---

6 Under EPC turnkey system, the contractor has to conduct survey and investigation, prepare and submit designs to the department (in line with the basic project parameters broadly defined in the agreement) and execute the entire work including all ancillary and incidental items of work and deliver the project in complete shape. No additional payments would be made for any additional/increased quantities of work under the defined scope of work

7 Standards provided in AP Detailed Standard Specifications (APDSS), Bureau of Indian Standards (BIS) and CWC manuals, Ministry of Surface Transport (MOST) specifications and other Government circulars issued from time to time

additional payments contrary to agreement conditions; and (iii) in view of urgency to complete work within intended period of 30 months.

If agency failed to adhere to agreement conditions, action should have been taken as per agreement conditions/codal provisions and work should have been re-entrusted on the risk and responsibility of first agency. Instead, department took upon itself the additional cost of Rs.36.30 crore, involved in re-entrustment.

In Explanatory Notes, Government replied that the basic parameters of the project were changed and as per the recommendations of expert committee the contract has been closed on mutual consent basis and entrusted to another agency by calling fresh tenders. Work is in good progress and already 80 percent is already completed.

3.3.9 Progress of works

Progress of works and expenditure (as of March 2013) under modernization projects were as follows :

Table-3.7 – Progress of modernization works and expenditure

Sl.No.	Irrigation System	Total number of packages	Packages entrusted	Target date of completion as per agreements*	Packages to be completed by March 2013	Packages completed	Cost of the agreements concluded (Rs. in crore)	Expenditure (Rs. in crore)
1	Nagarjunasagar	776	104	September 2016	18	Nil	2194.92	738.07#
2	KDS	68	56	July 2016	12	Nil	2875.81	673.62
3	GDS	211	157	March 2016	8	Nil	1308.17	272.54@
4	TBPHLC	6	6	September 2012	6	Nil	458.42	161.62
	TBPLLC	18	18	October 2012	18	2	174.05	93.72
5	PDS	10	10	March 2012	10	Nil	940.40	367.72
6	Nizamsagar	16	16	May 2015	14	1	550.77	218.28
7	Yeleru Irrigation System	3	2	October 2013	1	1	7.81	3.09
	Total	**1108**	**369**		**87**	**4**	**8510.35**	**2528.66**

* the target date of completion of the latest agreement concluded

\# Information on Nagarjunasagar pertains to 24 main canal packages. Details of the 80 distributary packages were not furnished by department

@ Information on GDS pertains to 21 main (EPC) packages. Details of remaining smaller works were not furnished by department

***(Source:** Data furnished by I&CAD Department)*

As can be seen from above table, out of 87modernizationworks whose agreement period was over, only 4 works were completed (March 2013).

Audit noticed that delays in remaining 83 works ranged from five to 46 months from original target date of completion.

- Though target date of completion was over in all agreements of TBPHLC, TBPLLC and PDS, only two works in TBPLLC were completed.

- In Nizamsagar project, even though agreement period of 14 agreements was over, only one work (substantial portion of work was deleted from scope of this contract) was completed.

Government at tributed delays to inadequate working period, due to extended period of water regulation and stagnation of water in canal prism. These issues should have been taken into account at planning stage itself.

In Explanatory Notes, Government replied that crop holiday was not accepted by the Irrigation Advisory Board and encroachments could not be removed due to law and order problem. The Government accorded pre-closure of contracts of Modernization of TBPLLC works.

3.3.10 Impact of non-completion of Krishna Delta System (KDS) on Krishna Basin projects

Modernization of KDS envisaged saving of about 29 TMC of water, out of which 20 TMC was proposed to be allocated for the Rajiv Bhima Lift Irrigation Scheme (RBLIS) and remaining 9 TMC was allocated for Dr.K.L.Rao Sagar (Pulichintala) project.

It was noticed that though Pulichintala and RBLIS projects were taken up in 2004 and 2005 respectively and are in advanced stage of execution, modernization works of KDS were taken up only in 2008 and progress was only 23.42 *percent* (March 2013).Besides, 12 works have not yet been entrusted.

Till completion of modernization of KDS, water needs of RBLIS and Pulichintala projects were proposed to be met by curtailing demands from other projects in Krishna Basin. Thus, delay in taking up and completing KDS works would have an adverse impact on availability of water for RBLIS and Pulichintala/put strain on other projects in Krishna Basin.

Government replied that all efforts were being made to accelerate progress of KDS modernization and achieve the contemplated savings of water.

In Explanatory Notes, Government replied that it is taking every step to solve the land acquisition issues and putting all efforts to accelerate the progress and achieve the contemplated saving of water.

3.3.11 Encroachments

Work of modernization of PDS package 35,comprising two canals viz., Survepalli canal and Krishnapatnam canal was entrusted to a firm in April 2008. The work involved cement concrete paving lining to bed and side slopes. However, Surveypally canal (km 0.600 to km 5.600) and Krishnapatnam canal (km 0.000 to km 2.000)were encroached in Nellore town limits. As a result, work could not be taken up in Nellore town limits despite completion (April 2010) of agreement periods.

Audit observed that based on suggestions from the public representatives, department proposed (March 2012) construction of retaining walls instead of cement concrete lining on side slopes in these places.

Government replied that modernization works in above canals were taken up anticipating that encroachments would be cleared during execution but this could not be done due to legal complications. It was further replied that to avoid delay in contract and as there were no prospects of clearing encroachments in near future, proposals for construction of retaining walls are contemplated.

This not only indicates lack of monitoring by department in safeguarding canal banks from encroachments but also improper planning and entrustment of packages without ensuring hindrance free site.

In Explanatory Notes, Government replied that tenders were called for during December 2013 as per instructions of Government. Subsequently the agency of Package No.35 had approached the Hon'ble High Court and obtained status quo order on the tender process. Further, the Hon'ble High Court dismissed the writ petition on 27.06.2014. Meanwhile, Government instructed to stop all the projects/schemes sanctioned in the last 9 months at the stage where they are. In view of the above and due to the inordinate delay in tender process, action is being initiated to go for fresh tenders for the above work.

3.3.12 In fructuous expenditure on Nizamsagar main canal

Under Jalayagnam programme, Government took up a new lift irrigation scheme viz., Dr. B.R. Ambedkar Pranahita Chevella Sujala Sravanthi (PCSS) and entrusted (November 2008) package nos. 20 and 21 under EPC turnkey mode. After detailed survey and investigations in respect of PCSS project by EPC agencies, department proposed (February 2010) to utilize two reaches[8] of the main canal of Nizamsagar project as a common carrier for both projects, to avoid running parallel canals of PCSS and Nizamsagar adjacently. This necessitated widening and deepening of Nizamsagar main canal to increase its carrying capacity from 40 cumecs to 110 cumecs.

Modernization works in above mentioned reaches of Nizamsagar main canal (Package nos. 10, 11 and 12) were, however, already entrusted (in January 2009).As widening work of Nizamsagar main canal was proposed to be taken up under PCSS packages, common reaches were required to be deleted from three modernization packages. Audit observed that department deleted works valuing Rs.26.33 crore from the scope of package-11, but no such deletions were effected in package nos. 10 and 12.

Audit also noticed that proposal to share main canal of Nizamsagar with PCSS came up during a joint inspection (February 2010) conducted by CE, Central Designs Organization with Commissioner, Godavari Basin. However, department allowed the contractor of package-11 to execute (November 2011)

---

[8] from km 93.50 to km 102.375 and from km 104.925 to km 118.205

further work (embankment with borrowed soils for a quantity 1.56 lakh cum[9]) in common canal reaches and paid Rs.2.92 crore for this work. Since widening of canal in these reaches would require removal of embankments, expenditure incurred on embankment in these reaches was infructuous.

Government replied that deletion proposals in respect of package nos. 10 and 12 were under process. It was further replied that only accumulated earth in the canal was removed and main component of works were not taken up after joint inspection.

However, Measurement Books of package-11 showed that embankment work valuing Rs.2.92 crore was executed (Date of recording measurements: 7 November 2011 and check-measured on 9 November 2011) more than one and a half year after joint inspection.

This para pertains to Telangana State.

Appendix 3.3

(Reference to paragraph 3.3.1)

Modernization projects approved by Government

Sl. No.	Name of the scheme	Ayacut (in lakh acres)	Background for modernization	Month/Year of Administrative Approval	Administrative Approval cost (Rs. in crore)
1	Nagarjunasagar Project	21.53	Deterioration of canal and distributary system; deficiencies in the dam due to repeated erosion and pitting of concrete	February 2008	4444.41
2	Krishna Delta System (KDS)	13.35	Damages caused by cyclone OGNI (October 2006) in the four delta districts[10].	November 2007	4573.00
3	Godavari Delta System (GDS)	10.38	Increase in ayacut; present carrying capacity of the system including structures was found inadequate; outliving of canal and structures which are in dilapidated condition; and damages caused by cyclone OGNI.	November 2007	3361.00
4	Tungabhada Project High Level Canal (TBP HLC) & Low level Canal (TBPLLC)	4.65	**HLC:** Allocation of water of 5 TMC[11] (later increased to 10 TMC) to Pennar Ahobilam Balancing Reservoir (PABR) for drinking water and other needs of Hindupur area in Ananthapuramu district; reduction in storage capacity of the Tungabhadra project reservoir. **LLC** : Continuous siltation; seepage losses due to existence of reaches without	November 2007 (HLC) and February 2008 (LLC)	794.12

[9] Left side : from km 100.000 to km 100.800, km 101.525 to km 101.775, km 105.200 to km 108.200, km 108.250 to km 109.075, km 109.175 to 110.00, Right side: km 105.200 to km 106.300, km 106.375 to km 108.200, km 108.250 to km 109.075, km 109.175 to km 110.00

[10] Krishna, Guntur, Prakasam and West Godavari districts

[11] Thousand Million Cubic Feet

			lining (from KM 250.58 to KM 310.00 of main canal and 124 KMs distributary system out of 215KMs).		
5	Pennar Delta System	2.47	Silting of principal supply channels resulting in reduction of discharge capacity; Silting up of reservoirs and distributary systems.	May 2006 - February 2009	1001.73
6	Nizamsagar Project	2.31	Decrease in carrying capacity of canal due to siltation; Seepage losses due to unlined canals.	June 2008	549.60
7	Yeleru Irrigation system	0.67	Inundation of 0.30 lakh acres every year during cyclonic season.	July 2008	138.00
8	Nagavali system	0.40	Aging; several high floods and heavy rains caused silting up and erosions in the system.	May 2009	139.59
		55.76			**15001.45**

Appendix 3.4

(Reference to paragraph 3.3.7)

Packages bagged by one contractor in modernization of Krishna Delta System

	Name of the Work (Package No.)	Estimate Value (Rs. in crore)	Quotation of L1 bidder		Quotation of L2 bidder	
			Amount (Rs. in crore)	Tender percentage	Amount (Rs. in crore)	Tender percentage
1	Modernization of South channel from KM 0.000 to KM 24.210 and its distribution system (5/KDS/K/ 09-10)	68.18	70.88	(+) 3.96	71.49	(+) 4.85
2	Modernization of East channel from KM 0.000 to KM 17.740 and its distributory system (6/KDS/K/09-10)	61.73	64.13	(+) 3.9	64.75	(+) 4.9
3	Modernization of Ryves canal from Km 2.752 to Km 18.200 and its distributory system (9-1 /KDS/K/ 07-08)	55.93	58.06	(+) 3.81	58.65	(+) 4.87
4	Modernization of Ryves canal from Km 18.200 to Km 26.735 and its distributory system (9-2/KDS/K/ 09-10)	45.04	46.75	(+) 3.79	47.26	(+) 4.91
5	Modernization of Ryves canal from Km 26.735 to Km 36.312 and its distributory system (9-3 /KDS/K/ 09-10)	39.95	41.55	(+) 3.99	41.93	(+) 4.95
6	Modernization of Inampudi and Bhimanadi Drainage Basin (18-9 /DR/KDS/K/09-10)	36.78	38.23	(+) 3.96	38.51	(+) 4.7

7	Modernization of East side Channel from KM. 20.720 to KM 35.400 and Nizampatnam Canal from KM.21.123 to KM 32.000 and West side channel from KM.20.961to KM 29.955 and branches and distributaries (22-1/ KDS/G/2009-10)	62.34	64.78	(+) 3.9	65.39	(+) 4.89
8	Modernization of East side Channel from Km 35.400 to Km 43.875 and Nizampatnam Canal from Km.32.000 to Km.43.875 and West side channel from Km. 29.955 to 43.875 and branches and its distributaries (22-2/ KDS/G/ 2009-10)	39.79	41.36	(+)3.95	41.61	(+) 4.59
9	Modernization of East side Channel from Km.43.875 to Km.58.710 and Nizampatnam canal from Km.43.875 to 59.300 and West Side Channel from Km.43.875 to Km 59.285 and branches and distributaries (22-3/KDS/G/2009-11)	53.16	55.29	(+) 3.99	55.66	(+) 4.69
10	Modernization of Nizampatnam Canal from Km.59.300 to Km.66.185 including branches and distributaries (22-4/ KDS/G/ 2009-12)	43.61	45.37	(+) 4.05	45.69	(+) 4.79
11	Modernization of Repalle Main drain old course from Km.0.000 to 23.924 including all Major, Medium & Minor drains in R.M.Basin (23/DR/KDS/G/2009-10)	24.57	25.67	(+) 4.5	25.77	(+) 4.91
12	Modernization of Kolimerla drain below Commamur Canal, Nakkavagu upper arm, Chebrolu side drain and all infalling drains (17/DR/KDS/G/2009-10)	41.07	42.64	(+) 3.81	43.11	(+) 4.96
13	Modernization of Nallamada drain below commamuru Canal and Nallamada drain above Commamur Canal from Km.0.000 to Km.4.500 and all infalling drains (19/DR/KDS/G/2009-10)	27.82	28.85	(+) 3.69	29.21	(+) 4.98
14	Modernization of Repalle Main drain from Km.16.200 to 28.800 including all Major, Medium & Minor drains in R.M.basin (22/DR/KDS/G/2009-10)	23.09	23.95	(+) 3.72	24.24	(+) 4.95
15	Modernization of Bhattiprolu main drain from Km.16.600 to 40.000 including Major, medium and minor drains in B.M.basin (25/DR/ KDS/G/ 2009-10)	37.24	38.72	(+) 3.99	39.08	(+) 4.96
16	Modernization of R.M. Drain from Km.28.800 to Km. 50.624 and B.M. Drain from Km.40.00 to Km.47.000 and its Medium and Minor drains (28/DR/KDS/G/2009-10)	30.51	31.67	(+) 3.79	32.02	(+) 4.95
17	Modernization of Tenali drain and other all Medium and minor drains in T.B.Basin and also Minor drains in Karlapalem Mandal (30/DR/KDS/G/2009-10)	34.06	35.38	(+) 3.89	35.74	(+) 4.96
18	Modernization of Romperu left arm from Km 9.656 to Km.12.975 and Perali drain including all infalling drains (14/DR/KDS/G/2009-10)	25.52	26.53	(+) 3.96	Only one bid was received	

(+) 4.89

+) 4.59

+) 4.69

+) 4.79

+) 4.91

+) 4.96

+) 4.98

(+) 4.95

(+) 4.96

(+) 4.95

(+) 4.96

d was
d

DISCUSSION BY THE PUBLIC ACCOUNTS COMMITTEE

1.2 Initiating the discussion on non-preparation of DPRs, the Committee enquired whether Godavarai Delta canal comes under purview of CWC and opined that DPR is the minimum pre requisite for any work.

1.3 The Engineer-in-Chief (WRD) replied that whenever modernization of a project as a whole is taken up with the GoI grants, DPRs would be prepared under that particular programme. It was further replied that since an Expert Committee approved the modernization programme CWC approval was not required. Has added that detailed estimates were prepared for each modernization work and got approved from the Government.

1.4 The Committee disagreed with the reply that DPRs were not required. The Committee referred to the fact that the Department had prepared DPRs for some of the modernization projects and that this is contrary to the department's reply.

1.5 The ENC stated that several structures were damaged during cyclones and since the works were to be commenced during the same season reports were prepared based on Expert Committee guidelines and works taken up.

1.6 The Committee opined that preparation of DPR is a standard practice so as to have a plan of action and direction. The Committee further added that DPR is a blue print for taking up big works it has to be prepared scientifically.

1.7 The Committee stated that when works costing Rs.3300 are being taken up, not having a DPR is not an excuse. It also referred to the audit observations on the several deviations noticed in some of the projects.

1.8 The Secretary (WRD) stated that GoI also recommended that Government should ensure that DPRs based on scientific studies are invariably prepared for every modernization works.

1.9 Referring to the audit observation on improper planning in TBPHLC, the Committee enquired whether any agreement was concluded for widening of TBPHLC with Karnataka State. The Secretary (WRD) replied that the Board accepted to take up the modernization work to restore the original discharge with concurrence of Government.

1.10 When the Committee enquired whether the modernization works on both AP and Karnataka were completed, the Department replied that only modernization of canals was done on Karnataka side. It further replied that discussions were held between the Chief Ministers of the two states and also in the TB Board meetings, but Karnataka State has not agreed for increase in

the canal discharge capacity. The Department further added that Karnataka has however agreed to widen in the reaches where there are certain bottlenecks.

1.11 Referring to the audit observation on assessment and stipulation of canal closure period, the Chairman asked as to how the works were awarded without ensuring canal closure period and how the works will be completed. The ENC replied that modernization works include reconstruction of several existing structures and a minimum of six months is needed for reconstruction of structures in modernization work and closure period of only 45 days to 60 days is available if there is both kharif and rabi cropping. The ENC stated that agreements were concluded by mentioning the short closure and long closure periods spreading over five years without specifying the year of closure.

1.12 ENC further stated that farmers initially agree to cooperate but while discussions in every IAB meeting when crop holiday is proposed for Rabi they do not agree. Due to non-availability of long closure periods, the contractors are executing the works in small portions and in piece meal manner.

1.13 When the Committee reminded that there was no Rabi crop for the last five to six years, the Department replied that it is forced to release water in the canal throughout the year with almost 20 days intervals for drinking water purposes.

1.14 The Committee opined that the Department should identify the measures to be taken to increase the span of canal closure to the maximum extent possible.

1.15 The Secretary (WRD) stated that canals were opened on 1st June in last two years and in the coming few years we will be having control on canal opening and simultaneously canal closure. Also Polavaram will have water in future and the officials working there will have full control over canal opening dates of Krishna as well as Godavari. Tunga Bhadra also might get stabilized because of cascading effect of these two.

1.16 The Committee enquired about the probable date of completion of TBPHLC works. The Secretary (WRD) replied that major works would be completed by the end of 2019 and Government is trying to ensure water in kharif of 2019.

1.17 Referring to the audit observation on impact of non-providing of working period on future tenders, the Committee opined that genuine contractor without his fault will not be eligible to quote for next tender because of the formula "ZAN-D".

1.18 Referring to the audit observation on lack of competition in tendering, the Committee questioned the rationale behind accepting single bids when only three out of 43 packages entrusted to single bidders were completed. Also the Committee enquired whether all the single bids were awarded in the first call of tender. The Engineer-in-Chief (WRD) replied that some single bids were accepted in first call and some in second call of tenders. Tenders were called for in online mode e-procurement platform and entrusted duly following the procedure.

1.19 Referring to the audit observation on issues pertaining to bid evaluation, the Committee opined that it is violation of contract conditions in the case of High Power Committee recommending award of tender to L2 by rejecting tender of L1 due to technical reasons. The Committee stated that works were awarded to L2 bidder at rates quoted by L1 bidder by rejecting tender of L1 though bid was opened after prequalifying requirement only and at least the reasons for rejection could have been mentioned.

While concluding the discussions, the committee made the following recommendations:

Recommendations:

1.20 Government should ensure that DPRs, based on scientific studies, are invariably prepared for every modernization project.

1.21 Government should make efforts to conduct high level negotiations with Karnataka State to reach an agreement for increasing the carrying capacity of TBPHLC on Karnataka side so as to utilize the water share allocated to AP State and provide adequate irrigation to farmers in that region.

1.22 Government should explore the measures that can be taken to increase the canal closure period to the maximum extent possible duly taking into account both Rabi irrigation as well as drinking water needs, so as to provide sufficient working period to contractors for early completion of modernization works. It is responsibility of the Government to impress upon all the stake holders the necessity of the canal closure and the modernization of the irrigation projects for long term benefits.

1.23 Government should speed up land acquisition and clearance of encroachments in all ongoing modernization projects to facilitate their early completion and achievement of intended objectives. In all the future modernization projects, necessary land acquisitions and clearances may be obtained before the projects are landed to ensure no delays and idle expenditures.

Report - 2
2.1 of 2015-16

Report of the Public Accounts Committee on the Report of the Comptroller and Auditor General of India on Economic Sector for the year ended March 2016 – Government of Andhra Pradesh

The Public Accounts Committee discussed the following para relating to the Water Resources Department on 23.01.2018, 06.02.2018, 20.02.2018, 06.12.2018 and 22.01.2019.

Water Resources Department

1. Para 2.1/Page 11 to 39 of Audit Report 2015-16

TEXT OF THE AUDIT PARAS AND EXPLANTORY NOTES GIVEN BY THE GOVERNMENT

2.1 Implementation of selected Lift Irrigation Schemes

2.1.1 Introduction

Lift Irrigation (LI) Schemes are major sources for supply of water for both drinking and irrigation in Andhra Pradesh. They cater mostly to the needs of drought prone areas in uplands where there is no other possible method of providing water supply. As per the data available, there are 17 LI (major and medium) schemes[1], with 25.35 lakh acres of contemplated ayacut, out of which Pattiseema LIS was completed during 2016. Ayacut irrigated under these LI schemes constitute 25 *per cent* of the total irrigated ayacut in the State.

2.1.2 Organizational setup

The Water Resources Department (WRD) is responsible for execution and maintenance of the irrigation projects including LI schemes in the State. The Principal Secretary, Water Resources Department at Secretariat level, Engineer-in-Chief (Irrigation) at State level, Chief Engineers, Commissioner of Command Area Development Authority, 50 Superintending Engineers and 266 Executive Engineers are in charge of the administrative, financial, technical aspects and execution of works taken up by Water Resources Department.

2.1.3 Scope and Methodology of Audit

A Performance Audit (PA) of implementation of four lift irrigation projects viz. Guru Raghavendra, Pulikanuma, Pattiseema and Pushkara selected through random sampling without replacement basis using Interactive Data Extraction and Analysis (IDEA) software was conducted from March to June 2016. Entry Conference was held on 3 May 2016 in which the objectives, scope and methodology of audit were intimated to the Department.

Scrutiny of records relating to the projects from their inception till March 2016 was done with special focus on last five years, at the Secretariat and Offices of Engineer-in-Chief

---

[1] Information taken from the Administrative Reports/ official website of Water Resources Department

(Polavaram Irrigation Project), Dowlaiswaram; Chief Engineer cum Superintending Engineer (Pattiseema), Dowlaiswaram; Chief Engineer (Project), Kurnool; Superintending Engineer (Pushkara), Tuni; Superintending Engineer (Irrigation Circle), Kurnool and six Executive Engineers[2]. Audit conclusions were drawn after obtaining information required from the Department through issue of audit enquiries and taking note of views of the Department expressed during the Exit Conference held on 7 December 2016.

2.1.4 Audit objectives

Performance Audit of implementation of selected lift irrigation schemes was conducted to assess whether:

(i) Planning for the LI Schemes was comprehensive and the schemes were formulated properly;
properly;

(ii) Tendering and contract management, at all stages of the project implementation, had followed the canons of financial propriety and transparency; and

(iii) The LI schemes were executed within the time and cost budgeted and the envisaged target of creation of irrigation potential was achieved.

2.1.5 Sources of Audit criteria

Performance Audit findings were benchmarked against the following:

(i) Departmental Codes and Manuals,

(ii) Government Orders and Instructions/Circulars issued by Central/State Governments from time to time,

(iii) Central Water Commission (CWC) Guidelines,

(iv) National Water Policy, and

(v) Guidelines/norms of Ministry of Environment and Forests

2.1.6 Acknowledgement

Audit acknowledges the cooperation rendered by the officers and staff of the WRD during the course of the Performance Audit.

2.1.7 About the Projects

Out of the four LI schemes covered under the audit, two (Guru Raghavendra and Pulikanuma) were conceived to supplement the existing irrigation project (Tungabhadra) and the remaining projects (Pattiseema and Pushkara) were taken up to derive early benefits from the ongoing Polavaram irrigation project.

Guru Raghavendra Project consisting of 13 Lift Irrigation Schemes and one Minor Irrigation Scheme was taken up for supplementing the Tungabhadra Project Low Level Canal (LLC). Tungabhadra LLC takes off from right flank of Tungabhadra Project in Karnataka. Due to siltation in Tungabhadra dam, about 50,000 acres in the tail ends of distributaries were

[2] PIP RMC Division, Kovvuru; PIP LMC Division Nos. 1 & 2, Dowlaiswaram; PIP LMC Division No. 3 Jaggampeta; PIP LMC Division No.4, Tuni; and GRP division No. 2, Yemmiganur

deprived of irrigation facilities. All the 14 schemes were given administrative approval between 2003 and 2011. The works were entrusted to different agencies under lump sum (LS) or Engineering, Procurement and Construction (EPC) contracts. Out of 14 Schemes, four[3] schemes were executed by Andhra Pradesh State Irrigation Development Corporation (APSIDC) and the remaining 10 were executed through WRD. Out of 14 schemes, 11 were completed/ commissioned between January 2006 and August 2014 and three schemes were under construction. The Pulikanuma LIS, which was administratively sanctioned in January 2008 is also part of Guru Raghavendra Project.

Pattiseema and Pushkara LISs were proposed for deriving early benefits from Polavaram irrigation project (an ongoing project) by lifting water from Godavari river. The water lifted would be routed to the Right Main Canal of the Polavaram Project and Pushkara Main canal, respectively. These schemes were administratively sanctioned by the Government in 2003 (Pushkara) and 2015 (Pattiseema). The work of Pattiseema which was awarded under EPC contract was completed within the prescribed time (March 2016). However, the construction work of Pushkara LIS was in progress till the date of audit. The present status of these projects in financial terms is shown in the table below:

Table 2.1 – Details of original cost, revised cost and expenditure

(₹ in crore)

Name of the Project (LIS)	Administrative sanctions (₹ in crore)	Scheduled date of completion of works as per agreements		Project cost (₹ in crore)		IP planned (in lakh acres)	IP created/ stabilised (in lakh acres)	Present status of the project	Total expenditur as of May 2016 (₹ in crore
		Original	Revised	Original	Revised				
Guru Raghavendra LIS (GLIS) and Pulikanuma (14 packages)	569.77 (2003 to 2011)	January 2005 to March 2015	January 2006 to March 2017	569.77	584.97	0.86	0.18	Ongoing (11 out of 14 comple-ted)	359.73
Pattiseema LIS (one package)	1300 (2015)	March 2016	March 2016	1170.25	1667.15	4.66*	Not available	Comple-ted	1232.54
Pushkara LIS (19 packages)	674.52 (2014)	July 2005 to March 2010	December 2007 to June 2016	297.25	674.50	1.859	1.46	Ongo-ing	652.51

* This includes IP contemplated under Polavaram Right Main Canal

Source: Departmental records

Audit findings regarding contemplation, execution, completion and maintenance of the selected projects are discussed in the following paragraphs.

Audit Findings

2.1.8 Deficiencies in Planning

In all the schemes covered under audit, there were failures in planning as discussed below:

[3] Krishnadoddi, Chintamanupalli, Remata and Munagala LI schemes

2.1.8.1 Non-preparation/deficient preparation of Detailed Project Reports

Para 391 of Andhra Pradesh Public Works Department (APPWD) Code prescribes preparation of Detailed Project Report (DPR) before taking up a project. As per directions of the Planning Commission, whenever any project is taken up on interstate river, Preliminary report for clearance of the project is to be sent to CWC for scrutiny following which investment clearance from Planning Commission is to be obtained for inclusion in the State Development Plan. If the proposal is found acceptable, CWC conveys 'in principle' consent to State Government for preparation of DPR. Audit observed the following:

(i) Guru Raghavendra and Pulikanuma LI schemes: The DPR for Guru Raghavendra project (prepared in the year 1998) was originally contemplated for execution of three sub-schemes including Pulikanuma LIS. Subsequently, several changes were made to the project on adhoc basis taking the total number of sub-schemes to 14. However, the Department neither prepared any revised DPR for the entire project taking into account these new sub-schemes nor prepared individual project reports for them. Further, feasibility studies were not conducted for 12[4] of the 13 individual LI schemes. Due to non-preparation of revised DPR, discrepancies/ inconsistencies in levels were observed subsequently in some of the sub-schemes under the project, resulting in non-release of water to the intended ayacut, apart from time and cost overrun as discussed in Para 2.1.8.2.

The Department, during the exit conference, accepted (December 2016) that individual DPRs for all LI schemes of GRP LI scheme were not prepared but a DPR for the full project had been prepared. The reply was not tenable since the DPR envisaged only three sub schemes but the Department had executed 14 sub schemes. The Department should have prepared fresh DPRs for the new sub schemes.

Government Reply: *Government replied that the reduction in Tungabhadra Reservoir capacity due to siltation and in-sufficiency of the canals design, adopting higher duty is the main cause for not receiving benefits under low level canal system ayacut mostly at the tail end of the distributaries. In order to bridge the gap ayacut and to protect the interest of the state, the Guru Raghavendra Project is accredited. The DPR on Sri Guru Raghavendra Project at an estimated cost of ₹.136.35 crores (SSR 1998-99) to lift 5.373 TMC of water from TB River to supplement the irrigation flows to LLC system to bridge the gap ayacut to a tune of 10,000 acres in Khariff and 40,000 acres in Rabi and in the tail ends of LLC Distributaries, was submitted. Accordingly, Government accorded permission in phased manner as per requirement of water depending on funds availability for the individual LI schemes which are part of the GRP. The discrepancies/inconsistencies in levels are not attributable to the non-preparations of DPRs. These are due to non coordination of the technical feature of two independent schemes i.e., TBPLLC and the said LI Schemes looking after separate circles during execution of works.*

(ii) Pushkara LI scheme: The feasibility report and DPR for Pushkara LIS were prepared in 2003 for creation of an ayacut of 0.98 lakh acres and the works were awarded in 2004. The Department later increased the ayacut to 1.86 lakh acres and prepared a revised DPR in 2006.

---

[4] Feasibility report was prepared for Pulikanuma LI scheme.

Even this DPR was found to be deficient and several major and frequent changes were made during execution viz, increase in number of lifts from three to 11 and increase in length of canal from 91.5 km to 97.1 km. Further, though the project was scheduled to be completed by 2006, the Department took nearly five years (2003 to 2008) for finalization of the components of the project resulting in delay in completion. The project was not completed (June 2016) even after lapse of more than 10 years from the scheduled date of completion.

The Department replied that changes had to be made due to undulations in topography observed after survey and investigation. The reply confirms that the DPR was prepared without conducting proper survey and investigation.

Government Reply: *Government replied that the original DPR for Pushkara LIS was prepared in 2003 comprising of three lifts, length of main canal 91.5 KM based on preliminary investigation. Subsequently, DPR has been revised in 2005 with the estimate cost of the project was ₹.379.50 crore with three lifts only. The work of main canal was awarded to a contractor on 1-10-2004 on EPC Turn Key basis. As per the Agreement, the firm has to develop an ayacut of 1,02,998 acres by gravity and an ayacut of 82,908 acres by 2nd stage lift locating at 3 places i.e Gopalapuram (V) and Bendapudi (V) for an ayacut of 12,638 acres, 43022 acres and 27,248 acres respectively. Subsequently, it was found that the ayacut under Gopalapuram lift was covered in the ayacut of Musurumilli Project. Hence, Gopalapuram lift is differed. As per the project report, Pushkara main canal terminates on the upstream side of Pampa river and there was no proposal for crossing pampa river. But in the detailed investigation, an ayacut of nearly 19000 acres was found and can be served by extending main canal from Km 91.500 to Km 97.100 after crossing Pampa River. Due to deletion of proposed lifts, the agency conducted further survey/investigation and identified 11 small sub-lifts in place of deleted major lifts to irrigate ayacut at various places within the proposed command area depending on the topography.*

2.1.8.2 Failure to take into account carrying capacities of distributaries

As the four LI schemes were meant to either supplement the already existing schemes or derive early benefits from other schemes being executed, they should have been planned taking into consideration the geographic locations and carrying capacities of existing distributary systems or those under development.

Audit observed that Department had failed to take into account the carrying capacity/heights of the existing distributary system and to ensure that it would be revamped/constructed in time to utilise the pumping capacity that was available. In all the projects, the ayacut intended was not completely served due to this lacuna on the part of the Department. There were also cases where ayacut was not served due to the height level difference between the water lifted/canal and the distributary system.

(i) Guru Raghavendra LIS: The Guru Raghavendra Project (GRP) works were taken up in 2004/2005, without preparing a comprehensive DPR and without proper investigation regarding compatibility of the existing distributary system of Tungabhadra LLC with the new sub-schemes being taken up. After 11 to 12 years of taking up of the Projects, the Department found (2015) in seven out of nine LI schemes either commissioned or ready for commissioning that the discharge capacities of Tungabhadra LLC distributaries at merging

points were less than the discharge capacity of GRP supply channels by 12.83 to 89.04 *per cent* as detailed in ***Appendix-2.1***. Three works were executed under EPC contract system and four were executed under lump sum contracts. Both the EPC agencies and the Department failed to take into account the differences in discharge capacities while designing the schemes. Though the Department had decided (July 2015) to enhance the capacity of canal sections to accommodate full discharge of GRP LI schemes, even estimates had not been prepared/ finalized as of June 2016. Due to non-improvement of canal section, water was not being released into distributaries at the full discharge capacity resulting in deprivation of irrigation facilities to ayacutdars.

The Department accepted (December 2016) that the existing distributaries of Tungabhadra LLC did not have sufficient capacity to take the discharge of GRP supply channels and stated that action would be taken to redesign the canal system.

Further, in Mugaladoddi scheme, which is a part of GRP and was commissioned in 2009, the Department conducted (December 2012) a detailed survey and observed that due to the height difference between the bed levels of Tungabhadra LLC minors and GRP supply channels at the merging points, water was not being supplied to 2600 acres out of the 3793 acres planned. It has not been rectified till date (October 2016).

Government Reply: *Government replied that the estimates for widening of the existing TBPLLC distributary system so as to accommodate and supply full discharge through the canal to serve the contemplated ayacut are prepared by the TBPLLC authorities and are submitted for administrative approval of the estimates to District Collector, Kurnool under SDP grants. Soon after receipt of the same the widening works will be taken up. Regarding Mugaladoddi LI Scheme, the Department is taking temporary measures to supply water to the entire contemplated ayacut duly filling up of required head of flow to feed TBPLLC. The rectification estimates providing cross regulator cum OT sluices wherever necessary are under preparation.*

(ii) Pattiseema LIS: The Pattiseema LIS was intended to derive benefits by utilizing the Right Main Canal (RMC) of Polavaram Irrigation Project. It was to cater to the 1.2 lakh acres of ayacut besides diverting the flood water of Godavari to Krishna river. Thus, completion of Polavaram RMC work simultaneously with the Pattiseema LIS was essential to derive benefits from the LIS. However, though the LI scheme was completed in time (March 2016), Audit observed that as of June 2016, the works of Polavaram RMC were incomplete. Due to lack of canal system of adequate carrying capacity, only 11 of the 24 pumps of Pattiseema LIS were operated during the flood in July - September 2016. Thus, due to improper planning, the targeted objectives could not be achieved despite completion of the LIS.

Government Reply: *Government replied that major part of the Right Main Canal works were completed by September 2015 to accommodate the discharge of Pattiseema lift scheme and water was delivered from September 2015 to December during the flood season. Further, to accommodate the total discharge the balance works are carried out and completed by June 2016. All the pumps in Pattiseema lift scheme were inaugurated on 6th July 2016 and water was supplied to Krishna Delta through RMC till 10.12.2016 as per the requirement.*

y 12.83 to 89.04 *per*
contract system and
and the Department
while designing the
he capacity of canal
imates had not been
ction, water was not
ng in deprivation of

ries of Tungabhadra
channels and stated

issioned in 2009, the
ved that due to the
rs and GRP supply
cres out of the 3793

ning of the existing
scharge through the
authorities and are
ctor, Kurnool under
taken up. Regarding
o supply water to the
feed TBPLLC. The
rever necessary are

fits by utilizing the
ater to the 1.2 lakh
ishna river. Thus,
LIS was essential to
leted in time (March
C were incomplete.
of the 24 pumps of
2016. Thus, due to
e completion of the

in Canal works were
ema lift scheme and
l season. Further, to
d completed by June
July 2016 and water
quirement.

2.1.8.3 Non identification of ayacut/users of the projects

Para 390 of APPWD stipulates that the approximate extent of the ayacut of the project and its general location should be specified while preparing project reports.

Audit observed that neither the ayacut nor the actual users were identified under the schemes though these were meant to supplement either the existing projects or projects under construction.

(i) Guru Raghavendra Project: Basaladoddi LIS was conceived as part of GRP for stabilization of gap ayacut of 6450 acres. However, the details of the area to be covered were not specified. The work was awarded (July 2005) to a contractor under EPC contract for ₹ 59.99 crore and was completed by September 2013. After completion of the lift works, the Department found (August 2015) that against total intended ayacut of 6450 acres, the existing gap ayacut was only 3055 acres. This indicates that the Department had incorrectly estimated the extent of gap ayacut to be supplemented under this scheme. The balance ayacut of 3395 acres had to be newly developed to achieve the targets. The Department had to conclude (March 2016) a supplementary agreement for an amount of ₹ 1.68 crore with the agency for creation of the same.

Pulachinta LIS (a sub-scheme of GRP) taken up for irrigating gap ayacut of 4400 acres was completed in September 2011. The scheme was taken over by the Department in March 2014 after completion of defect liability period. Pulachinta is a two stage LIS. In the first stage, water is lifted from Tungabhadra River and routed through a gravity canal for a length of 8.525 Km into a reservoir. In second stage, water is lifted from the reservoir and routed through a gravity canal for a length of one Km to Chinnakothiliki distributary for serving the targeted ayacut. The water requirements of the farmers en route were not taken into consideration while planning the scheme. This led to unauthorized drawl of water by the farmers in the villages en route from the gravity canals and reservoir. As a result, the ayacutdars of Chinnakothiliki distributary, for whom the scheme was intended, were not getting the intended supply of water and only 44.32 *per cent* of the planned ayacut was served during the audit period. This could have been avoided had the Department identified the irrigation needs of the farmers en route.

Government Reply: Government did not furnish reply to this para.

(ii) Pulikanuma LIS: Pulikanuma LIS was taken up for supplementing an ayacut of 26400 acres beyond Km 270.00 of Tungabhadra LLC. The work was awarded (June 2008) to a contractor for ₹ 263.10 crore for completion in 36 months. It was observed that the details of ayacut to be served (distributary-wise and village-wise) were not mentioned either in the estimate or in the NIT/ agreement and have not been defined even after eight years since commencement.

The Department may therefore identify the beneficiaries of the schemes and details of ayacut to be served for achievement of intended objectives immediately after completion of the Project.

Government Reply: *Government replied that Guru Raghavendra Project was formulated for supplementation of irrigation needs to a gap ayacut of TBPLLC system which has established ayacut with beneficiaries and hence no need for fresh identification. However, after completion of all the schemes the department will identify scheme wise beneficiaries and ayacut served.*

(iii) Pushkara LIS: Audit observed that in Pushkara LIS also several changes were made during execution due to preparation of DPR without proper survey and investigation. The DPR of Pushkara LIS had proposed creation of 1223 acres ayacut in four villages in Kotananduru Mandal. However, during execution, the Department created ayacut in 16 villages in new mandals which were not contemplated in the DPR for creation of ayacut. No steps were taken by the Department to create ayacut in the four villages originally proposed.

Government Reply: *Government replied that the DPR is only a preliminary report prepared considering one sample block in the proposed command area by studying SI sheets but ground reality and people's interest and actual feasibility will be assessed only during the detailed investigation like, grid survey and preparation of S.No. wise block maps, etc. Due to the above reasons and also considering the existing schemes in the vicinity, the proposed ayacut in the DPR may differ and accordingly some changes are to inevitable to reach the objective of the scheme. During execution, out of four villages in Kotananduru (M), two villages viz Balaramapuram and B.Patnam was covered and one village viz S.Pydipala only not covered and the remaining village viz Tirupathi Rajanagaram is not existing in the Mandal even though it existed in DPR.*

(iv) Pattiseema LIS: The Administrative sanction was accorded (January 2015) for the Pattiseema LIS to divert 80 TMC of water from Godavari river for domestic and industrial uses. However, no mention was made about irrigation facilities. The work was awarded at a cost of ₹ 1427.70 crore in March 2015 and was completed in March 2016. When the details of intended use of water under the scheme were called for by Audit, the Chief Engineer of the project replied (May 2016) that the list of industries had not been prepared and that the villages for domestic supply could not be identified since the distributary system for Polavaram RMC had not been finalized. The reply confirms that the project was taken up without identifying the users.

Government Reply: *Government replied that there was no new ayacut proposed for Pattiseema Lift Scheme. The Pattiseema scheme was contemplated to transfer 80 TMC of water from river Godavari to River Krishna. This water is supplementing Krishna Delta System comprising 13.08 lakh acres. It also serves the balance ayacut of RMC. During 2015-16 the Pattiseema lift was partially commissioned (5 No's of pumps) and about 4.21 TMC of water transferred from River Godavari to River Krishna. In the present season (2016-17) 55.62 TMC of water has been diverted till 10-12-2016. Out of 55.62 TMC of Godavari Water so diverted into Polavaram RMC, 7.15 TMC of water has been supplied to upland areas of Polavaram, Gopalapuram, Nallajerla, Ungutoor and Denduluru Mandals of West Godavari District and Bapulapadu, Gannavaram, Nunna, Agiripalli and Vijayawada Rural Mandals of Krishna District besides tail end areas of Krishna Eluru Canal in both West Godavari and Krishna Districts. The remaining 48.47 TMC of Godavari water is diverted into Prakasam Barrage through Polavaram Right Main Canal and Budameru Diversion Channel.*

2.1.8.4 Inadequate planning for land

Though land acquisition issues cause delay in implementation of the Projects, these can be mitigated or reduced with proper planning. Audit came across some such issues which could have been avoided if the feasibility study, survey and investigation had been carried out properly.

In Chilakaladona sub-scheme of GRP, a reservoir with full reservoir level (FRL) of +340 M was to be constructed. While identifying the land to be acquired for the project, the Department estimated the submerge area at 307.72 acres. However, the Department conducted (September 2015) joint survey with Revenue Department and observed that the total area submerged was 369.95 acres. This implies that the land identified by the Department in the initial stage was erroneous. Accordingly, it submitted (November 2015) proposals to Revenue Department for acquisition of remaining land. The Department may now have to pay higher amount of compensation at ₹ 5 lakh to ₹ 7 lakh per acre instead of ₹ 0.65 lakh to ₹ 0.70 lakh per acre.

While accepting the audit observation, the Department stated (December 2016) that the acquisition of additional land was under process.

It was further observed that the Department had acquired (in 2004) 19.74 acres of land for excavation of a supply channel. Later, the Department found that there was height difference between the supply channel and the distributary and changed the design of supply channel in May 2013. After revising the designs, the 19.74 acres of land acquired at a cost of ₹ 13.14 lakhs was found unnecessary. As of June 2016, this land remains unutilised. This indicates that the supply channel was designed incorrectly.

The Department stated (December 2016) that they were planning to sell the land to the original land owners. However, the Department had not taken any action in the past three years to dispose of the land.

Government Reply: *Government replied that 62231 acres of land which was not acquired were submerged under Chilakaladona Reservoir at FRL condition during 2014. Farmers filed a case in Lokayuktha requesting acquisition of submerged lands. Hence fresh land acquisition is required and it is under process. The subject of selling of surplus lands to the original land owners as instructed by the Government is being pursued with the Revenue Department and the issue will be sorted out soon.*

2.1.8.5 Benefit-cost ratio

Benefit-cost ratio (BCR) is one of the parameters for deciding whether a project is economically feasible or not. It was observed that BCR was either not calculated or calculated on the basis of incorrect assumptions in the test- checked projects.

(i) Pattiseema LIS: Audit observed that in the case of Pattiseema LIS, the BCR was worked out on the basis of wrong assumptions and without supporting calculations. For example, revenue from industrial water supply was considered as ₹ 41.51 crore. However, no

industrial units have been identified so far. The life of the project was taken as 20 years in DPR and depreciation was allowed accordingly. However, the project is contemplated to run only till the completion of the Polavaram Project which is scheduled for completion in 2019. Thus, the life of Pattiseema LIS would be only three years. Further, while calculating the BCR, the Department considered the irrigation benefits for an ayacut of 1.2 lakh acres under the Polavaram RMC. However, the works relating to distributary network under Polavaram RMC were yet to be taken up and no irrigation benefit has been achieved from this ayacut. If the above factors are considered, the BCR becomes adverse as shown in ***Appendix-2.2***.

Government Reply: *Government replied that the scope of the project is Diversion of water from river Godavari to river Krishna for Industrial and Domestic use as a part of Polavaram irrigation project. During the construction of the project, the Pattiseema LIS was partially commissioned within 5 ½ months' time i.e, on 18-9-2015 and water was lifted into RMC. During last Khariff season from Sep 2015 to Dec 2015 about 4.21 TMC of water was lifted from Pattiseema. By sending water to Krishna Delta through Pattiseema Scheme in crucial period of irrigation, the crops were saved from wilting. Almost 8 lakh acres of crop was saved in Krishna Delta which resulted in saving of ₹.2500 crores in as much as the hidden benefits of the project could be added to the BC ratio which ultimately taken into the project which is viable.*

(ii) Pushkara LIS: In the case of Pushkara scheme, the Department had revised the BCR of the project from 5.09 (2003) to 2.09 (2006) after increase in project cost and targeted ayacut. The BCR will further reduce as the project cost has increased further from ₹ 297.25 crore to ₹ 674.52 crore on account of subsequent changes made in the project components without any increase in the ayacut. Further, since Pushkara LIS is to serve its ayacut only till completion of Polavaram project in 2019, delay in completion of the LIS will reduce its lifespan, thereby further lowering its BCR.

Government Reply: *Government replied that it is an inevitable fact that the execution of the project has been delayed due to various unprecedented reasons like delay in land acquisition due to court cases, permission from various departments like NHAI, GAIL, Railways etc., which are beyond the scope of department and agency, payment of price escalation etc., effected the cost of execution of the project. The reduction in BCR from DPR stage to as on date is due to increase in Land Acquisition cost, payment of price escalation on cement, steel and fuel due to release of G.O.Ms.No.22 and 63.*

(iii) Guru Raghavendra and Pulikanuma LIS: The Department furnished BCR for only five out of the 13 LI Schemes under Guru Raghavendra and Pulikanuma schemes. Details of calculations or assumptions made were not made available due to which Audit could not verify their correctness.

Government Reply: *Government replied that Benefit Cost Ratios were calculated for Chilakaladona, Pulachinta,Mugaladoddi, Soganuru and Pulikanuma LI Schemes. In Project report itself Benefit Cost Ratio was arrived for all schemes based on utilization of 5.373 TMC and more over these schemes are intended for supplementation of irrigation to gap ayacut and are similar works and hence there might not be any necessity for calculation of BCR for individual LI Schmes as they are part and parcel of main scheme.*

taken as 20 years in
contemplated to run
completion in 2019.
while calculating the
1.2 lakh acres under
ork under Polavaram
from this ayacut. If
Appendix-2.2.

s Diversion of water
a part of Polavaram
a LIS was partially
as lifted into RMC.
of water was lifted
a Scheme in crucial
acres of crop was
much as the hidden
ken into the project

revised the BCR of
nd targeted ayacut.
n ₹ 297.25 crore to
omponents without
ts ayacut only till
LIS will reduce its

he execution of the
in land acquisition
AIL, Railways etc.,
ce escalation etc.,
DPR stage to GE GR
on on cement, steel

BCR for only five
hemes. Details of
h Audit could not

re calculated for
hemes. In Project
tion of 5.373 TMC
ion to gap ayacut
ulation of BCR for

2.1.8.6 Project taken up without obtaining clearances

As per the Guidelines of CWC for Submission, Appraisal and Clearance of Irrigation and Multipurpose Projects, 2010, for any project which is having inter-state ramification, a preliminary report is to be sent to CWC for appraisal. If the project is found feasible, CWC conveys 'in principle' consent for preparation of Detailed Project Report. Further, Section 84 of the Andhra Pradesh State Reorganisation Act (2014) mandated that before taking of any new project on Krishna or Godavari rivers, CWC approval is to be obtained.

CWC approval for Pattiseema DPR was not obtained though it was required not only because Godavari and Krishna rivers that are being linked through the Project are inter-state rivers, but also mandated under Section 84 of Andhra Pradesh State Reorganisation Act (2014).

Similarly, no Environmental Clearance was taken for the Project though it is required as per the notifications of Ministry of Environment, Forest and Climate Change (MoEF) as it is a major irrigation project.

During the exit conference, the Department stated (December 2016) that there was no necessity to obtain clearances as the same were obtained for Polavaram project.

The contention of the Department was not tenable in view of notifications of the MoEF and AP State Reorganisation Act.

2.1.9 Tendering

Many lacunae were observed in tendering process, especially in Pulakurthy LIS (a sub-scheme of GRP) and Pattiseema Project as discussed in the subsequent paragraphs.

2.1.9.1 Delay in award of work

Pulakurthy LIS under GRP was administratively sanctioned in August 2011 to irrigate 9830 acres gap ayacut at a cost of ₹ 113.26 crore. The work was entrusted to a joint venture (JV) of M/s Indian Hume Pipe Co. Ltd. and M/s Megha Engineering & Infrastructures Ltd. for execution in March 2013 under EPC contract and was scheduled for completion by September 2015. The work is still in progress (December 2016).

Audit observed that there were undue delays in award of work. The tender notice was issued in March 2012, after lapse of seven months from the date of administrative sanction (August 2011). Technical and Financial Bids were opened in November 2012 against the scheduled date in April 2012 with a delay of over six months. The work was entrusted to the agency in March 2013 with a further delay of over four months. Thus, the overall time taken for entrustment of work from the date of administrative sanction was 18 months. Delay in entrustment of work coupled with delayed execution of project led to non-accrual of envisaged benefits even after lapse of over five years.

The Department stated (June 2016) that the above delays were due to delay in Technical Sanction and repeated postponement of tender due to non-finalization of technical

specifications of pipeline. However, the Department failed to minimize the administrative delays which were avoidable.

2.1.9.2 Improper relaxation of tender premium limit

As per Government Orders[5], ceiling of tender premium for all the works should be five *per cent*. Tender beyond the prescribed limit should not be accepted in the first call. Accordingly, a condition to this effect was included in the NIT of Pattiseema Project. However, after issue of tender notice, the Engineer-in-Chief, ISPP Dowlaiswaram requested (7 January 2015) the Government to remove the existing ceiling of tender premium on the ground that the work of diverting water from Godavari to Krishna to fulfill the intended benefits was of urgent nature. Based on the request, ceiling limit of tender premium was relaxed (20 January 2015) by the Government and the NIT condition was amended accordingly before the closing date of the tender.

The estimated cost of Pattiseema LIS put to tender (ECV) was ₹ 1170.25 crore and bid value quoted by the L1 contractor (M/s Megha Engineering & Infrastructures Ltd., Hyderabad) was ₹ 1427.70 crore, which was 21.9991 *per cent* excess over the ECV. The bid was accepted and work was awarded (March 2015) at the quoted rate for completion by March 2016.

However, the Polavaram RMC works including distributary system were not completed even though the Pattiseema LIS completed in March 2016. Audit observed that though the project envisaged lifting of water through 24 pumps, the Department could lift water only through 11 pumps due to non completion of RMC and its distributaries.

Thus, awarding work at higher tender premium without ensuring completion of the Polavaram RMC and its distributary system led to avoidable extra expenditure of ₹ 199 crore, besides non achievement of intended benefit.

During the exit conference, the Department stated (December 2016) that excess tender premium was given as an incentive to complete the work in a record time to achieve efficiency.

However, relaxing the ceiling on tender premium resulted in avoidable additional burden of ₹ 199 crore which was unwarranted as even the intended beneficiaries had not been identified by the Department and the work of distributary system had not been taken up.

Government Reply: Government replied that as per G.O.MS. No.133 dt.20.11.2004 of I& CAD "for all the works the ceiling of tender premium shall be 5%. As per the guide lines even after two calls if the tender premium quoted is more than 5%, the matter should be referred to the Govt. and the Govt. may order for a fresh call or may constitute a committee to award the work on nomination basis to a reputed contractor from the list to be maintained by the department on the basis of performance of contractors." In this work, in view of the difficult nature of work and the need for urgent completion, the tender process has to be

[5] GO Ms. No. 94 of I&CAD (PW-COD) Department dated 01 July 2003 and GO Ms. No. 133 of I&CAD (PW: Reforms) Department dated 22 November 2004

completed immediately without going for further calls in case if the lowest tenderer quotes rates higher than 5% over ECV. The ENC addressed Govt. for relaxation of ceiling of Tender Premium for the above work. The Government accorded permission to relax the 5% cap for this work only and to finalize the tender and complete the scheme at the earliest. The tender premium over and above 5% shall be payable only if the work is completed as per agreed milestone within the original agreement period without any EOT. By allowing tender premium over and above 5%, the project was completed within time and during 2015-16, 2016-17 drought seasons in Krishna Delta, the water from Pattiseema to the extent of about 60 TMC has helped the farmers of 13.08 Lakh Acres, for timely wetting of crops and it is estimated that there is an outturn of about Rs 8000 Cr (2500 Cr in 2015 and 5500 Cr in 2016) worth crops.

2.1.10 Execution and Contract Management

Proper contract management leads to timely execution of the Projects and economy in expenditure. Audit observed deficiencies in contract management leading to time and cost overruns as discussed below:

2.1.11 Observations relating to Guru Raghavendra Project

2.1.11.1 Package-97 of GRP

Package 97 included execution of three LI schemes – Duddi, Basaladoddi and Madhavaram LIS. It was awarded (July 2005) for ₹ 59.99 crore under an EPC contract for completion in 24 months (i.e. by July 2007). However, land acquisition was completed only in June 2011. The work was in progress as on the date of Audit despite time overrun of over nine years. Audit observed the followings in the package:

(i) ***Preparation of inflated estimate by not availing the exemption of Central Excise Duty – ₹ 2.70 crore:*** As per the notification issued (January 2004) by Government of India (GoI), all items of machinery including ancillary equipment and their components/parts required for setting up of water supply plant for drinking and agricultural purposes are fully exempted from payment of Central Excise Duty (CED).

It was observed that in the estimates prepared (April 2006) for the work, the Department provided for CED at 16 *per cent* for pre stressed concrete (PSC) pipes in the estimates without considering the exemption. This resulted in inflation of the estimate by ₹ 2.70 crore. Further, the Department also issued CED exemption certificates to facilitate the contractor to avail CED exemption on PSC pipes.

The Department accepted (December 2016) the observation and stated that action was being initiated to recover the same from the agency.

Government Reply: *In reply, the department accepted the audit observation and instructions are given to the concerned Superintending Engineer/ Executive Engineer to recover central excise duty amount from the withheld amounts / deposits of the work immediately vide CE(P) Memo.No.WRD.TW/GRP/2/2018 dated 19.01.2018.*

(ii) Provision of diameter of PSC pipes in the estimates in excess of requirement – Non-accrual of savings of ₹ 1.11 crore to Government : The sanctioned estimate of the work provided for laying of 1100 mm diameter pressure main for a length of 10 Km for Duddi LIS. Agreement entered into with the agency specified the length of pressure main (10 Km) and discharge (1.203 cumecs) without mentioning diameter of pressure main. It was observed that the Department approved the designs of pressure mains for a reduced length of 9.670 Km with 1000 mm diameter and the work was executed accordingly. Due to reduction of diameter of the pipeline by 100 mm and length by 330 meters, there was a saving of ₹ 1.11 crore[6]. Failure of the Department to ensure the execution of work as per the estimates and absence of appropriate clause in the agreement to take care of variations due to changes in diameter and length of the pipeline led not only to foregoing of savings of ₹ 1.11 crore, but also resulted in extension of undue benefit to the contractor.

Government Reply: *Government replied that as per the design calculations submitted by the agency, the minimum required pipe diameter is 1011mm and hence 1000 mm diameter is preferred and approved by the CE, CDO. As the contract is under EPC system and as there is no change in basic project parameter, no amount can be accrued to the department..*

(iii) Delay in commissioning due to lack of power supply: All the three LI schemes under Package 97 were completed during 2013-15 at a cost of ₹ 66.18 crore. However, dedicated power supply arrangements had not been made available for any of the three lifts till the date of Audit. Though the Department had paid ₹ 3.87 crore to Andhra Pradesh Central Power Distribution Company Limited (APCPDCL) towards development charges, security charges etc., in February 2011, dedicated power supply arrangements were yet to be made. Due to lack of power supply, Basaladoddi and Madhavaram LIS, which were to serve a total ayacut of 10,661 acres, have not been commissioned. For Duddi LI scheme, a temporary HT connection was arranged (December 2011) from Satanur sub-station. However, as per the Department records, Satanur sub-station supplies power to Mugaladoddi LI scheme also and would be unable to provide power to both the LI schemes simultaneously. Power supply to Duddi LIS was being made available only when Mugaladoddi LIS was not in operation leading to sub-optimal utilisation of Duddi LIS. Thus, lack of dedicated power supply had adversely affected the Duddi LI scheme.

Government Reply: *Government replied that the department continuously pursued the APSPDCL authorities since beginning and kept in correspondence and deposits are also made available based on the demand notices in time. Hectic efforts are put from department side to resolve the issues and as such there is no lapse whatsoever.*

(iv) Issue of completion certificate without completion of work: Duddi LIS was to lift water from Tungabhadra River during flood days to serve a gap ayacut of 3000 acres. The Department issued completion certificate in September 2013 subject to condition that the

---

[6] Cost provided in the estimate for 10,000 RMT of 1100mm dia: ` 5.92 crore; cost of work actually executed for 9,670 RMT of 1000mm dia: ` 4.81 crore (worked out as per the rates provided in the same estimate); The difference in cost = ` 1.11 crore.

agency had to complete the pending items of works and attend to all rectification/defective works within the maintenance period of two years. However, the Department did not include any penal clause to make the agency accountable in case the works were not completed/ repairs were not carried out in time.

The Department observed that pump-1 and pump-2 of the scheme required repairs (November 2013 and January 2014). However, the agency completed the repairs only in June 2014 resulting in loss of working season. As a result, against the requirement of 294 Mcft, the water pumped was 66.54 Mcft during 2013-14. In 2014-15, water pumped was only 38.41 Mcft due to breakdown of pumps. Consequently, out of 3000 acres of targeted ayacut, water was supplied to ayacut of only 442 acres to 551 acres during the period 2013-16. The reasons for underperformance of the scheme were repeated breakdown of pumps and failure of the agency to attend to the repair works immediately. In the absence of any punitive clause, the Department also had no means to ensure that the agency attended to the repairs on time.

Government Reply: *Government replied that the audit point is noted for future guidance and suitable punitive clause will be incorporated in similar type of agreements in future with permission of Government.*

2.11.12 Pulakurthy LIS

Pulakurthy LIS is also a scheme under GRP which was administratively sanctioned in August 2011 to irrigate 9830 acres gap ayacut under Tungabhadra LLC at a cost of ₹ 113.26 crore. The work was awarded to a contractor for execution in March 2013 under EPC contract and was scheduled for completion by September 2015. The work is still in progress (December 2016). The following observations are made on the scheme:

(i) ***Non-acquisition of land for execution:*** As per Government Orders[7], administrative approvals for major and medium irrigation projects were to be given in two stages. Stage-I administrative approvals shall include approval of estimates for acquisition of minimum land required. Stage-II administrative approval shall be issued only after lands were acquired for taking up works without interruption for the first two years.

It was observed that one time approval was given for Pulakurthy LIS in August 2011 instead of in two stages. Proposals were sent to Land Acquisition (LA) authorities for acquisition of 121.78 acres of land required for the entire project during June 2013 to November 2014. The land was not acquired till the date of audit. The Special Deputy Collector LA, HNSS, Kurnool (SDC) intimated (October 2015) the Department that Preliminary Notifications were published for acquisition of 88.96 acres and requested the Department to deposit ₹ 2.67 crore towards cost of land acquisition to take further action. However, the details of funds made available to LA authorities were not on records.

[7] GO Ms.No.94 of I&CAD (PW-COD) Department dated 01 July 2003

The situation could have been avoided if the Department had followed the two stage process which would have ensured acquisition of minimum land required before awarding of the project.

Government Reply: *Government replied that presently there is no balance land acquisition for the scheme and the works are nearing completion and will be commissioned shortly. However, the audit observation is noted for future guidance.*

(ii) Blocking up of ₹ 48.55 crore incurred on procurement of supplies: Pulakurthy LIS work was scheduled for completion by September 2015. However, only 54.38 *per cent* (i.e. ₹ 61.59 crore) of financial progress was made till April 2016. Out of this, an expenditure of ₹ 48.55 crore was incurred between March 2014 to April 2016 towards supply of Pipes and Electro Mechanical (E&M) equipment. The pipes and E&M equipment procured could not be laid and erected due to delay in acquisition of land. The materials supplied are under custody of the Agency. Thus, faulty planning of the Department in timely acquisition of land resulted in blocking up of ₹ 48.55 crore.

Government Reply: *Government replied that the audit authorities stated that Rs 48.55 crores incurred on Electro Mechanical Equipment could not be laid and erected due to delay in acquisition of land. In this connection it is to submit that all components of work have to be taken up simultaneously in parallel and accordingly procurement is also made parallel to the action of acquiring land. Incidentally, the process of acquiring land was delayed as such there is no intentional lapse on the part of department. Presently, there is no balance land acquisition for the scheme and the works are nearing completion and will be commissioned shortly. However, the audit observation is noted for future guidance.*

2.1.11.3 Pulachinta, Soganuru and Chilakaladona LIS

(i) Omission of electrical works in original agreements: The works of three LISs (Pulachinta, Soganuru and Chilakaladona LIS) were entrusted to two agencies under LS contracts in February 2004. However, while preparing the estimates and entrustment of works, the Department omitted some essential electrical items from the scope of work. After a lapse of more than six years from award of the works, the Department prepared estimates with 2009-10 Standard Schedule of Rates (SSR) for the additional work of providing electrical equipment in Pulachinta and Soganuru LIS and concluded (October 2010) supplementary agreements worth ₹ 80.94 lakh for the same. On completion of works, Pulachinta LIS was commissioned in March 2014 and Soganuru in August 2014.

In case of Chilakaladona, Government instructed (January 2014) the SE to invite bids after preparation of separate estimates. The Department proposed a revised estimate for ₹ 35.58 lakh. However the Government was yet to accord revised administrative approval for the same. The work was yet to be taken up and the scheme had not been commissioned as of May 2016.

Thus, non-inclusion of electrical equipment in the original estimates/ agreements and further delay in taking up these works resulted in delay in completion of the Schemes. Further, there was increase in cost as supplementary agreements had to be entered into on the basis of SSR

of 2009-10 and 2014-15. Audit could not calculate the increase in cost due to non availability of required information with the Department.

Government Reply: *Government replied that the department applied (December 2004) for two HT service connections for chilakadona LI scheme for stage I and stage II. According to the demand notices issued (January 2006) by the APCPDCL, the department paid (February 2006) Rs 1.16 crore towards development charges, service line charges and inspection charges.*

Provision for 33 KV and 11 KV bay extensions, 33 KV and 11 KV production and metering arrangements and transformer yard were not made in the original estimate. Accordingly the government had instructed to recast the estimate for provisions with SSR 2014-15. The electrical items were entrusted to the existing agency with cost data 2014-15 of APCPDCL, Hyderabad without tender premium to save delay and to put the LI scheme in use, and the agency completed the works.

(ii) Excess deposit of ₹ 69 lakh with APSPDCL[8]: In Chilakaladona LIS, the Department applied (December 2004) for two HT service connections for Stage-I and Stage-II lifts. According to the demand notice issued (January 2006) by APSPDCL, the Department paid (February/March 2006) ₹ 1.16 crore against the demand of ₹ 1.41 crore. However, the power supply was not provided as the contractor failed to complete the work of laying HT lines. When the Department requested (August 2008) the APSPDCL authorities for according necessary approval of service line, APSPDCL raised (May 2015) a reduced demand for ₹ 47 lakh without taking into account the already deposited amount of ₹ 1.16 crore. The Department intimated (June 2015) APSPDCL authorities that they had already paid ₹ 1.16 crore. After adjusting for the fresh demand of ₹ 47 lakh, there was an excess payment of ₹ 69 lakh. The service line has still not been provided (May 2016).

Audit observed that due to delay in execution of Chilakaladona LIS works and non-completion of electrical works even after a lapse of 12 years after concluding agreement by the agency, an amount of ₹ 69 lakh was blocked for 10 years (March 2006 to March 2016). There was no evidence to show that the Department made any efforts for refund/adjustment of the excess amount paid to APSPDCL.

Government Reply: *Government replied that the excess amount deposited with APSPDCL is adjusted towards Pulakurthy LI Scheme.*

2.1.11.4 Observations relating to Pulikanuma LIS

Government accorded (January 2008) administrative sanction for Pulikanuma LIS to irrigate 26400 acres at a cost of ₹ 261.19 crore. The work was technically sanctioned in April 2008. The work was awarded to a contractor in June 2008 for an agreement value of ₹ 263.10 crore under EPC contract to be completed by June 2011.

(i) Incorrect provision of ₹ one crore for railway bridge in the estimate: As per agreement conditions, a railway bridge was to be executed by the Railway authorities as a deposit work

---

[8] Southern Power Distribution Company of Andhra Pradesh Ltd. (formerly APCPDCL)

for the Department and the role of the EPC agency was only to prepare the proposals. The Department would process the proposals with Railway authorities for execution.

The IBM estimate of the Pulikanuma LIS included provision of ₹ one crore for construction of Railway bridge and tender was invited based on this estimate. However, it was stated in the NIT that the cost of bridge was not included in the bid. The work was subsequently awarded to an EPC agency including the provision of ₹ one crore. However, the Department subsequently paid ₹ 5.14 crore to the Railways for construction of the bridge. Despite this, the Department had not taken any action to recover ₹ one crore from the agency.

The Department stated (December 2016) that efforts were being made to recover the amount from the agency.

Government to direct the railway crossing amount of Rs one crore recovered in the bill of December 2017.

(iii) Non-accrual of savings due to non-inclusion of cost variation clause for pressure main component: It was observed from the sanctioned estimate that the length of Pressure Main was to be 28000 RMT and was to cost ₹ 60.20 crore. However, the Department neither executed this length of pressure mains nor included a suitable variation clause in the agreement for adjustment of cost of pressure main according to the actual length executed.

It was observed that the total length of pressure mains approved (July 2009) by the Department and executed by the agency was only 26600 RMT, which was 1400 RMT less than the quantity provided in the sanctioned estimate. In the absence of a suitable variation clause, the cost savings of ₹ 3.01 crore[9] on account of reduction in work has not accrued to Government.

The Department replied (December 2016) that the basic parameters for pumping stations, as per Government memo (May 2008), would be the locations of starting and ending of pressure mains only and accordingly length was not mentioned. It was also stated that any increase or decrease in the cost of execution of on any component due to implementation of approved design was to accrue to the contractor under EPC system unless there was a change in basic parameters.

The reply was not acceptable as the Department had failed to assess the actual requirement while preparing the estimate. Thus, preparation of estimates without assessing actual requirement and absence of suitable clause in the agreement led to non-accrual of savings of ₹ 3.01 crore to Government but also resulted in undue benefit to the contractor.

---

[9] Quantity as per estimate: 28000 RMT; Quantity actually executed : 26600 RMT; Reduction in length of pressure mains: 1400 RMT; Rate per RMT as per estimate: ` 21500; Total savings: 1400 RMT X ` 21500 = ` 3.01 crore

Government Reply: *Government replied that the basic project parameters for pumping ations as per government Memo (May 2008), would be the locations of starting and ending f pressure mains only and accordingly length was not mentioned. It is also to submit that the ost on any component due to implementation of approved design shall be on contractors count within the cost of total contracted amount under EPC system unless the designs fectively change the basic parameters. The work was entrusted on EPC turn key system. e length of pressure-main is not mentioned as basic parameters to consider. The locations starting and ending of pressure mains are only criteria to be considered as basic rameter in terms of government circular memo.No.34843/reforms/2006 dt 7.5.2008.*

) Delay in commissioning due to delay in approaching Railways for approval: As per agreement conditions, the EPC agency was to provide 33 KV HT lines from APSPDCL -stations to pump house locations, which were to cross the Chennai – Mumbai railway e. Further, as per the agreement conditions, the Department was to take up the issue with ilways and the EPC agency was to follow up on the progress.

ough the work was awarded in June 2008, the Department had not approached the ilways for approval to construct Railway line crossings till the date of audit. Proposals re however sent to APSPDCL for vetting and forwarding to the Railway authorities. The SPDCL forwarded (April 2016) the line diagram to SC Railway authorities for ormation rather than approval. The Department has thus not pursued the laying of 33 KV line with the Railways for more than eight years and this may delay the completion of the ject.

e Department replied (December 2016) that the proposal submitted by the agency was ler scrutiny by the Railway authorities.

vernment Reply: *Government replied that the department continuously pursued the SPDCL authorities since beginning and kept in correspondence and deposits are also le available based on the demand notices in time. As such there is no lapse whatsoever. Railway crossing works is completed and the scheme is ready for commissioning.*

Delay in applying for HT power connection: It was observed that after completion of e than six years from the date of agreement, the Department applied (November 2014) for power supply for a Contracted Maximum Demand (CMD) of 7540 KVA (at Sathanur -station) and 10106 KVA (at Deverabetta Sub-station) for Pulikanuma LIS Stage-I and II ıp houses. The SE, Operation, APSPDCL, Kurnool issued (July 2015) demand notice for 31 crore and ₹ 1.77 crore (total ₹ 4.08 crore) towards development charges, supervision ges and security deposit charges for Pulikanuma Stage-I and II, respectively. The amount paid in March 2016.

as observed from the correspondence of the SE, Operation, APSPDCL (January 2016) to SE, O&M Circle, AP Transco that new HT services to Pulikanuma LIS were not possible n the 132/33 KV EHT Sub-station (under construction) at Madhavaram as the power was posed to be utilized for other purposes. Pulikanuma LIS had not received HT connection the date of Audit.

Thus, the delay of more than six years on part of the Department in applying for sanction of HT power supply coupled with lack of continued pursuance contributed to delay in commissioning of Pulikanuma LIS.

Government Reply: *Government replied that the SE, Operation, APSPDCL Kurnool issued demand notice during July-2015 to deposit Rs 4.08 crores towards development charges, supervision charges and security charges for Pulikanuma LIS stage-I & II. The amount was paid during March 2016. Construction of 132/33KV substation at Madhavaram is completed and power supplied to Pulikanuma LIS. The scheme is ready for commissioning.*

2.1.12 Observations relating to Pattiseema LIS

The contract for Pattiseema LIS was awarded in March 2015 and the work was completed within the target date of March 2016.

As per clause 39.3 of the General Conditions of Contract of the agreement, the cost on any component due to any implementation of approved design should always be on the contractor's account within the cost of the total contracted amount under EPC until and unless such designs effectively change any of the basic parameters as defined. In such a situation, where there is any revision in design due to changes in the basic parameters, then the modalities for effecting such a change shall be decided with the prior approval of the employer.

However, the contract included terms which turned out to be unduly beneficial to the contractor as there was an increase in cost of the items covered under the cost variation clause though there was no change in basic parameters and there was decrease in cost of items not covered under the clause though basic parameters had changed. Audit observed the following:

(i) Adoption of alternative technology instead of conventional technology resulted in additional cost: As per the IBM estimate, pump house was to be constructed at a cost of ₹ 147 crore through conventional technology. During execution, the contractor requested the Department to allow it to use RCC Diaphragm Wall technology. The same was approved by the Department. As per the cost estimate furnished by the contractor for construction of pump house by diaphragm wall method, the cost was shown as ₹ 234.60 crore (excluding tender premium), which was ₹ 87.60 crore in excess of cost of pump house estimated in IBM. Considering the tender premium of 21.9991 *per cent*, the additional cost works out to ₹ 106.17 crore.

This resulted in increase in the cost of construction even though there was no change in the basic parameters of the pump house. Further, there was no time savings since the work was completed in 12 months as stipulated in the agreement. The Department also stated that it was possible to complete the work within the stipulated time i.e., 12 months by adopting the conventional method which could have been completed with lesser cost.

Audit observed that the Government had cleared all the hurdles for execution by completing the land acquisition within the agreement period and a special mechanism was created to

ve the designs on fast track basis. Hence, it was possible to execute the work within the ated period by adopting the conventional method as contemplated at the time of calling der. There was no need to adopt alternative technology and bear the additional cost.

epartment accepted (December 2016) the fact and stated that overall additional burden nly about ₹ 100 crore. The reply of the Department was not tenable as additional charge exchequer was without any additional benefit /change in basic project parameters.

nment Reply: *Government replied that the construction of pump house in conventional d involves huge excavation and taking up the well foundation at the banks of river ari which could have delayed the project completion as well as partial commissioning. the above method would take more time and more man hours, it was decided to nent the new construction technology i.e Diaphragm wall wells. By allowing this d of construction, the work has been completed well in time and in addition to this 4.21 water was also delivered within 5 ½ months. By allowing the introduction of new logy, even though there is an increase in cost of pump house, the cost of the other component i.e pressure main cost was reduced considerably there by the work was ted within the original contract price.*

... in framing contract terms resulted in non-accrual of savings to the
ment: As per the basic parameters mentioned in the agreement, 30 Pumps and motors be erected with a discharge capacity of eight cumecs each to lift 240 cumecs of water. ost of pumps and motors and other Electro Mechanical equipment and Hydro nical equipment were adopted from the estimates of Chintalpudi LIS (2008) by the ment to arrive at the estimates by considering ₹ 2.062 crore per Megawatt as unit rate.

; execution, basic parameters like the head from which water was to be lifted, the r of pumps and the height to which water was to be lifted were changed. However, tems were not included under the cost variation clause. The impact on cost due to these s could not be calculated as the relevant details were not furnished to Audit. However, observed that the power requirement of the pumps was reduced from 123 MW to 113 ue to these changes. Considering this reduction, there was a saving of ₹ 20.62 crore d out by Audit (10 MW X ₹ 2.062 crore) on the basis of Department's estimate of 2 crore per MW. However, the savings did not accrue to Government due to non- on of this component under cost variation clause.

ment Reply: *Government replied that as per the basic project parameters 30 pumps ot less than 8 Cumecs each to lift 240 cumecs. Now the scheme consists of 24 pumps) cumecs to lift 240 cumecs. It has resulted to savings in the size of the Pump house, r of rows of the pressure main which indirectly causes savings in the cost of land for ouse and pressure main without altering basic project parameters of the project. To ard the interest of the Ryots of Godavari delta the lifting head was altered. However, ment has issued operational rules for operating Pattiseema Lift Irrigation scheme .O.Rt.No.200, Dt.27.03.2015 (Copy enclosed) to protect the rights of Godavari Delta dars. The water through Pattiseema LIS will be drawn only when water level in river ari at Pattiseema Pump site is at +14.00 Mts and above. First priority will be given to ari Delta at Sir Aurthor Cotton Barrage (SACB) and only excess over flood waters*

would be lifted through Pattiseema LIS. Hence it is evident that the Bid was uploaded with the parameters as per the design considerations much prior to the GO issued by the Govt.

(iii) Payment of Central Excise Duty on exempted items: Government of India in January 2004, issued a notification fully exempting all items of machinery, equipment, pipes, etc., required for setting up water supply schemes intended for agricultural or industrial use, from payment of Central Excise Duty (CED). CED was neither a part of IBM nor any provision was made in the estimate in this regard. An amount of ₹ 32.01 crore was paid to the contractor towards reimbursement of CED on pressure mains executed in the work. Despite availability of CED exemption, the Department included a clause in the agreement that the CED would be reimbursed to the contractor as per actuals paid.

During the exit conference, the Department stated (December 2016) that CED was reimbursed based on the agreement conditions and only on production of invoices by the contractor.

Thus, inclusion of agreement clause for reimbursement of CED despite availability of exemption led to avoidable extra expenditure of ₹ 32.01 crore.

Government Reply: *Government replied that as per the agreement, Central Excise Duty is beyond the quoted contract price. It will be reimbursed on production of evidence of payment by the contractor. The reimbursement was made against the evidences submitted as per the agreement clause 18.2. Initially the Agency procured the components for construction of Pump houses by paying the CED to the Govt. of India on emergency.*

(iv) Incorrect reimbursement of Labour Welfare Cess - ₹ 14.22 crore: As per NIT, the contractor was required to quote his bid considering all taxes, duties, etc. except Central Excise Duty and VAT. The agreement conditions also stipulated that Labour Welfare Cess at the rate of one *per cent* would be recovered from the gross value of each bill. Thus, the price quoted by the contractor was deemed to be inclusive of Labour Welfare Cess. It was however observed that the Department reimbursed (December 2016) the Labour Welfare Cess of ₹ 14.22 crore to the contractor which was irregular.

Department stated (December 2016) that Labour Welfare Cess was reimbursed as per the agreement conditions. The reply was not tenable as the quoted price was inclusive of all taxes and duties including Labour Cess and there was no condition in the agreement for its reimbursement. This resulted in undue benefit of ₹ 14.22 crore to the contractor.

Government Reply: *Government replied that the provision for labour cess was made in outside the ECV of the original estimate. Hence, the same provision was reimbursed. In the NIT, it was envisaged that the bid including all Taxes & duties, royalties etc., excluding Excise duty, Customs duty and VAT. But it is Cess intended for the Welfare of the Labour. The Government had issued instructions vide Memo No.636/Reforms-A1/2008, dt.08.06.2011 to all Departments duly stating that the Authority shall not deduct any amount towards cess, unless the corresponding amount is included in the estimates to reimburse the same to the Agency who fulfilled the Terms and conditions of the Govt. Memo. The Department shall include 1% cess in the estimates for the works which they propose to undertake, if the work continues for, or beyond 12 months and involves engagement of 10 workers or more. Duly*

sidering the I.B.M estimate provisions, Government instructions and Agreement ditions, the labour cess was reimbursed.

13 Observations relating to Pushkara Project

ıkara LIS was taken up (2003) as there was delay in completion of Polavaram project. cost of the project originally estimated at ₹ 297.25 crore in 2003. However, during ution, due to several changes in the project and delay in execution of the project, the cost he project increased (September 2014) to ₹ 674.52 crore. Observations relating to ution and contract management in this project are given below:

ack of planning in obtaining clearances for crossings on National Highways, Oil/Gas lines and Railway crossings: The Department had contemplated to complete the main l and distributaries by September 2006. The canal system under the project had several ings on National and State Highways, railway lines, oil/gas pipelines and water ines. Execution of work at these crossings required clearances from the concerned orities. The Department had to make necessary arrangements to ensure that permissions obtained within the targeted period i.e., September, 2006. It was observed that there eight NH crossings in the main canal and five crossings on distributary network. There also Gas Authority of India Limited (GAIL) oil/gas pipeline crossings at two locations ıe main canal and 14 locations on distributary network. Similarly, there were Hindustan leum Corporation Limited (HPCL) pipeline crossings at two locations on main canal 13 locations on distributaries. The distributaries were also to cross Railway lines at 10 s.

t observed that though the Department was required to issue letters to the concerned ies immediately after awarding the work (i.e, October 2004), it addressed letters to , HPCL, NH and Railways only during 2006-2009. The Department did not pursue the r with any of the agencies despite being aware of the deadlines for completion of the

ıck of pursuance by the Department added to the delay in completion of the work. As of nber 2016, execution of distributaries at seven crossings of gas/oil pipelines was yet to en up due to non-obtaining of clearances.

epartment accepted that there was delay in obtaining clearances.

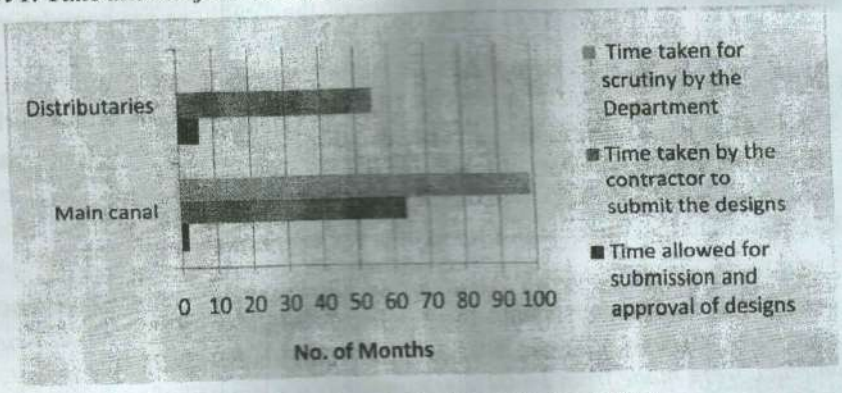
ıment Reply: *Government replied that lot of efforts made by the Department and for getting clearances from other Departments. After obtaining the drawings for GAIL crossing, discussions were held on 31-01-2005 with HPCL, GAIL authorities rrespondence were made from 14-02-2005 onwards for a particular crossings of main ınd at last the Department could get permission from HPCL on 29-05-2006 after ing drawings, Revised drawings, depositing money etc. Similarly, for the Distributory also the correspondence was made from 2006 to 2011 as per the necessity and ction programme. Similarly in case of NH crossings, the provision was made in the ıtimate for construction of four-lane bridge as per the existing NH bridges. ngly, the agency contacted NH authorities and asked about Pushkara canal crossings ıonth of 06/2005. The first two NH crossings viz at KM 33.000 & KM 42.000 were*

taken up by the agency in 1st phase and approached the NH authorities. As the NH authorities insisted six lane work, the agency asked the department to treat the crossings as additional works. And the agency submitted designs and drawings during 03/2006. The NH authorities informed that NH crossings can be got executed by NHAI as deposit work. NHAI accorded permission and requested to deposit the amount in favour of NHAI. Finally a G.O was issued in 07/2006 to deposit the amount, and to recover the amount from the EPC agency. The Agency did not accept the recovery and approached the Hon'ble High Court. Hon'ble High Court directed not to recover the deposit amount. Subsequently, the Government have taken a policy decision to delete all the NH crossing bridges from the scope of EPC works vide Memo No. 17873 Major Irr.I(2)/2006-15 Dt 26-06-2007. In the light of the above facts, there is no lack of seriousness and efforts on the part of Department and as well as agency.

(ii) Submission and approval of designs: The work of canal excavation was awarded in October 2004 to a contractor for ₹ 197.82 crore under EPC contract for completion by September 2006. As per clause 10.2 of additional special conditions of the agreement, the contractor was to submit all designs and layout within the time period as stipulated in the construction programme.

As observed from the construction programme, the drawings and designs of main canal were to be completed by November 2004 and the drawings and designs of the distributaries by March 2005. The designs submitted by the contractor were to be processed at four levels i.e., the EE, SE, CE of the project and the CE, Central Designs Organization (CDO). It was observed that there was delay in submission of designs in respect of 175 structures of main canal and 34 structures of distributaries. There was delay of three to 64 months (from December 2004) in submission of designs of main canal and six to 54 months (from April 2005) in submission of designs of distributaries as shown below:

Chart 1: Time allowed for submission and scrutiny of designs and the actual time taken



***Source:** As per the information obtained from the Department*

There is no specific timeline at CE/CDO level to approve the designs. It took nine to 98 months in submission of 96 designs to the CE/CDO. There was delay ranging from one to 25 months in approval of the designs of 28 structures of main canal. The details of time taken by the Department for scrutiny in respect of distributary system were not furnished to Audit.

absence of fixed timelines at CE/CDO level for approval of designs led to abnormal in approval and consequent delay in project execution. Though the work was ated for completion by September 2006, the same is still in progress (June 2016) with a verrun of more than nine years.

nment Reply: Government replied that the work of investigation was delayed due to nt objections by the ryots for surveying. The land acquisition is also delayed due to ions raised by the ryots, number of court cases. After acquisition of required land also, of the ryots objected for carrying out investigation work. This resulted in delay in ration of designs and drawing. In some areas the objection of the ryots continued for and the department struggled hard to hand over the physical possession of land. er, due to massive programme Jalayagnam targeted by the Government under tion sector, there was some delay in scrutiny and approval of designs. The work is d due to various reasons beyond the scope of Department and Contractor for which ion of time is granted by the Government.

ndue benefit to the contractor in violation of agreement terms: In the canal package shkara LIS, the NIT/agreement conditions (clause 42.4) stipulated that no price ment would be paid for any variation in prices and wages. The work of execution of the and its distributaries/field channels was scheduled for completion in September 2006. ver, extension of time was allowed on various occasions up to June 2016 on the ds of delay in handing over of site, objections from farmers due to non-payment of ensation and non-finalisation of design and drawings. Audit observed that on the t of the contractor, the Department made extra payment of ₹ 21.81 crore (between July and July 2015) towards price escalation on steel and other materials though it was ry to the contract conditions.

r agreement conditions, for all the crossings of canal system at National/State Highways &B roads, suitable bridges were to be provided as per the standards and permission of spective Departments. The cost of these bridges was deemed to have been included in ntract price quoted.

ver, Department deleted construction of nine bridges from the scope of work and ered the allocated amount of ₹ 6.17 crore. The Department subsequently deposited .6 crore with NHAI/R&B Department for which Government accorded sanction[10]. deletion of the bridges from the scope of original contract and executing them as it works through NHAI/R&B led to avoidable additional expenditure of ₹ 27.09 crore.

Department stated (December 2016) that due to legal issues in execution, the nment deleted the works from the scope of the contract and entrusted them to /R&B Department. However, against the agreement conditions, the cost of the ures was borne by the Department instead of by the contractor.

Ms.No.50 Irrigation & CAD (Proj.I) Department, dated 22 September 2014

Thus, Department made an additional expenditure of ₹ 48.90 crore (₹ 21.81 crore + ₹ 27.09 crore) on payment of price escalation and additional cost on construction of bridges against the conditions of the contract.

Government Reply: *Government replied that due to abnormal variations of prices in cement, steel and fuel, the Government had provided price adjustment clauses in other EPC contracts in the state. Though there is no provision towards price adjustment in this agreement, the agency had represented the Government to allow price adjustment on par with other EPC contracts. The State Government considered the request of the agency and issued orders.*

As per the agreement conditions suitable bridges have to be constructed, in case of NH crossings existing bridges are four lane bridges and same is provided in the bid document. But, during execution, the NH authorities have insisted for six lane against the existing four lane and correspondence was made with the agency and NH authorities as explained in detail in the above replies. The reasons for paying extra towards NH crossings are under unavoidable circumstances. The Government had issued orders for recovery of Rs5,99,85,000/- from the agency, but the Agency has approached the honourable High Court. High Court stayed the Government orders and finally Government have deleted all NH crossings from the contractors purview.

(iv) Payment of price escalation even after defect liability period: The work of second pump house at Purushothapatnam under Pushkara LIS, was awarded (July 2004) to a contractor under EPC contract for ₹ 50.26 crore for completion by January 2006. In this EPC contract, the amount agreed to for the work was to be the final amount and there was no provision for price adjustment in the agreement.

The work was completed and completion certificate was issued (September 2009). After five years of completion, based on the representation of the contractor, the Department paid (October 2014) ₹ 1.57 crore towards price escalation for the work though it was completed five years ago. This was irregular and led to extension of undue financial benefit to the contractor.

Department replied (December 2016) that the Government took a decision to apply the price escalation clause on all ongoing works and since the Pushkara LIS was an ongoing project, price escalation was allowed. However, price escalation was not admissible as per the terms and conditions of the EPC contract. Further, completion certificate for the work was issued in September 2009 and it was not ongoing at the time of payment.

Government Reply: *Government replied that since PLIS is the 1st EPC contract in the state and there was no provision for price adjustment in the estimate and agreement. Subsequently, the Government has issued instructions to allow price adjustment for all the ongoing works vide G.O.Ms.No.94 Dated 16.04.2008. Accordingly, the agency has represented for claim of price adjustment and the Government has also considered the request of the agency and issued orders and payment was made accordingly.*

.14.1 Observations relating to Guru Raghavendra Project

P works were taken up for serving an ayacut of 85,790 acres[11]. The ayacut served during 1-16 ranged from 7,092 acres (i.e. 8.27 *per cent*) in 2011-12 to 23,490 acres (27.38 *per t*) in 2014-15. Observations relating to operation and maintenance of some of the sub-emes are given below:

Suguru MI Scheme – Not providing irrigation facilities due to non-taking up of repairs supply channel: Suguru MI Scheme was initially administratively sanctioned (October 03) for ₹ 6.49 crore. The Government accorded (November 2005) revised administrative ction for ₹ 8.72 crore. Suguru MI tank was completed (January 2006) to serve 2,925 s. Out of the total targeted ayacut of 2,925 acres, 800 acres was proposed as new ayacut. wever, no evidence was available on record to show that distributary network for this new cut was created. The EE, TBPLLC Division, Adoni could not furnish this information, igh specifically sought for by Audit.

as further observed that though the project was to supplement 2,125 acres of already ting ayacut, water was not being supplied to the ayacut from 2009-10 due to damages to supply channel in the floods that occurred in 2008. The Department had prepared (May 8) an estimate for ₹ 1.07 crore for restoration of supply channel. Thereafter, multiple nates were prepared but the same were not approved (May 2016) for the reasons not on rd. As per the last estimate prepared (January 2014), the cost of restoration of supply nel was ₹ 2.13 crore.

to non-restoration of supply channel, no irrigation benefits were derived since 2008 from project constructed at a cost of ₹ 8.72 crore. Besides, the cost of restoration work ased from ₹ 1.07 crore (May 2008) to ₹ 2.13 crore (January 2014) and would increase er with the current SSR.

rnment Reply: *Government replied that the estimate for restoration of supply channel amages occurred during unprecedented floods in October 2009 is under scrutiny at the rrigation Circle, Kurnool.*

Munagala LIS – Not providing water to 1,149 acres in Parla village: The works of agala LIS was awarded to a contractor in March 2006 for ₹ 12.30 crore. The scheme, n was intended to serve an ayacut of 4,365 acres in six villages during Khariff, was leted in July 2012 at a cost of ₹ 11.88 crore. The work was executed by APSIDC. It six years to complete the project against the original completion period of 16 months.

of the total ayacut of 4,365 acres proposed under the project, distributary system ing 1,149 acres was proposed in Parla Village, Kallur Mandal of Kurnool district. After un of the scheme in November 2011, APSIDC requested the Department to restore the

---

lization of 81,662 acres and new ayacut of 4,128 acres

distributary system in Parla village for this ayacut. However, the Department had not initiated any action in this regard till the date of audit in spite of issue of reminder (December 2014) by APSIDC. Due to this, ayacut in Parla village remained unserved. Thus, inaction of the Department in taking up restoration work on distributary system in Parla village resulted in sub-optimal utilization of the LI Scheme.

Government Reply: *Government replied that the 15 R canal work is under MGNREGS scheme and is identified in due course. The estimate is prepared and after administrative sanction under MGNREGS the work will be started.*

(iii) Absence of Manpower for Operation and Maintenance (O&M): As per terms and conditions of the agreements of irrigation projects, the contractor has to maintain the project/work for a period of two years, after which the Department takes over the project/work.

The Department had taken over Mugaladoddi LIS in February 2013 and Pulachinta LIS in March 2014. Since the Department had taken over the LI Schemes, for operation of pumps and motors for supply of water to ayacut, engaging qualified operational crew was essential. The EE requested (April 2015) the SE for recruitment of 25 qualified O&M crew for maintenance of LI Schemes. However, Audit observed that only 25 unskilled lascars were deployed (August 2015) on outsourcing basis for O&M operations.

Department accepted (December 2016) that required number of qualified staff were not available for carrying out O&M operations of completed LI Schemes and stated that proposals for sanction of permanent staff had been sent to the Government for sanction.

Government Reply: *Government replied that the department is calling the tenders for O&M operations of the pump houses and canals.*

2.1.14.2 Observations relating to Pushkara LI scheme

The Pushkara LIS was administratively sanctioned[12] for ₹ 297.25 crore. The scheme is broadly categorized into three components viz., (i) Head works and lifts, (ii) excavation of main canal (97 Km), distributaries and field channels including necessary CM&CD works and (iii) construction of 11 sub-lifts on main canal.

(i) Non-creation/utilisation of ayacut due to non-completion of works: As per the agreement conditions of canal package, the agency was to create an ayacut of 1.86 lakh acres by 2006. As of June 2016, the headworks/lifts and main canal were completed and the work of distributary network was in progress. The Department stated that total ayacut of 1.45 lakh acres had been created as of June 2016. However, Audit observed the following:

Government Reply: *Government replied that the ayacut could not be created due to objections of ryots and land acquisition problems on the distributory system of Pedanapalli*

---

[12] Vide G.O. Ms. No. 126 of I&CAD Department dt. 27.8.2003 (for ` 144.25 crore) and G.O. Ms. No. 167 of I&CAD Department dt. 31.10.2003 (for ` 153 crore)

d Dharmavaram lifts and also due to incomplete CM and CD works. Most of the omplete structures and balance protection works are not hindrance to the flow of water to intended ayacut. It is proposed to complete the balance works by the end of EOT.

Non-completion of field channels: As per the agreement for the canal, the scope of work included construction of distributary system with micro irrigation network (field channels) so as to irrigate contemplated ayacut of 1.86 lakh acres. Though the Department stated that total ayacut of 1.45 lakh acres had been created, Audit observed that out of 1312.95 Km of field channels required to serve the targeted ayacut, field channels for only 645.73 Km (i.e. 49 *per cent*) were created as of June 2016, even after 12 years of the commencement of the project.

The Department accepted (December 2016) the fact and stated that action was being taken to create distributary system in a phased manner.

vernment Reply: *Government replied that as per Government policy, there is no mpensation to the farmer for the land required to excavate the field channel. The land ners were not interested in excavating the field channels in the lands/fields without mpensation. However, they are utilizing the water as per their convenience. Wherever ners came forward, it facilitated excavation of field channel by the agency. The reasons non construction/excavation of field channels are due to land acquisition problems and ners objection. At few locations, though the agency excavated field channels, the farmers ed the field channels. However, it is the responsibility of the agency to complete all field nnels by the end of EOT.*

Non-completion of structures: As per the status reports (May 2016) submitted by the Divisions, 44 structures out of 228 were still incomplete. Non-completion of structures could be one of the reasons for short-creation of ayacut. For example, an ayacut of 446 acres could not be created due to non-completion of a culvert at a road crossing on a distributary (on the main canal at Km 59.363) under Peddanapalli lift. However, completion certificate was issued to the agency in July 2009 with a condition to complete the pending works in the maintenance period of two years. Even after lapse of more than seven years from the issue of completion certificate, neither the agency resumed the work nor did the Department make any alternative arrangement to complete the pending work through other agencies. The Department stated (December 2016) that action was being taken to complete the work.

ernment Reply: *Government replied that though the balance structures to be completed only on sub-minors and minors. The ayacut is not directly affected for non-completion of ctures. Alternative arrangement has been made to supply water by laying pipe lines in e of culverts etc. However, action is being taken to complete the balance structures by agency. The completion certificates were issued to the agency as per the agreement h states that completed portion of the canal system can be taken over by the Department if some miscellaneous balance works left over as majority of the distributory network is pleted. Issue of completion certificate for a portion of work does not mean that the cy is released and discharged from the scope of the work.*

Non-localisation of ayacut: Once the field channels are constructed and ayacut is created, the ayacut is to be localized in coordination with the Revenue Department.

Further, the AP Farmers' Management of Irrigation Systems (APFMIS) Act, 1997 provides for encouraging participation of farmers in management of irrigation system by forming Water Users Associations (WUAs).

Audit observed that the project started functioning from 2006 and completion certificates for the portions of canals completed were issued by 2011-12. Though 1.45 lakh acres of ayacut was stated to be created, the ayacut created had not been localised and WUAs had not been formed so far due to non-completion of the project in its entirety. Further, though the EPC agreement conditions stipulated that the EPC agency had to prepare and submit ayacut registers (which specify the details of lands being covered under the ayacut) to the Department, the Department had not obtained the same from the contractor till the date of Audit.

Government Reply: *Government replied that localization proposals were submitted to the District Collector, Kakinada for Gazette publication in 11/2014 and 08/2015. The District Collector addressed the Chief Commissioner of Land Administration vide Lr No. D7/1137/2013 dt 21.11.2015 for approval and publication in the state gazette which is under process, soon after the Gazette publication, the formation of WUAs will be initiated.*

- **Short lifting of irrigation water:** The Pushkara LIS was designed to lift 11.5 TMC of water per year. It was observed that though the lifts were commissioned in September 2009, the total quantum of water actually lifted ranged from 13 to 54 *per cent* of the total capacity during 2011-16, even though 78 *per cent* of total targeted ayacut was stated to be created.

While the targeted ayacut of 1.86 lakh acres has not been created fully due to non-completion of distributary system, even the 1.45 lakh acres of ayacut stated to be created had not been authenticated through localisation process.

Government Reply: *Government replied that the scheme is intended for 24% wet crops and 76% dry crops. The ryots are habituated to paddy crops only which consumes almost double the water requirement of ID crops and hence, the tail end reaches are suffering for water. The shortfall of ayacut is due to above main reason only. If rains are normal the tail end reaches will also get water. Since the water supply is purely by lifting frequent power failures also affects the water supply to the ayacut. All the above factors contributes to short lifting of water apart from creation of ayacut.*

(ii) Drinking Water facilities: As per the DPR of the Pushkara LIS, the project also contemplates providing drinking water facilities to a population of 5.23 lakh in 143 villages en route. The Basic Project Parameters in the canal agreement (October 2004) also stipulated providing drinking water to villages en route. However, details of facilities to be provided were not discussed anywhere in the contract. Audit observed that though the main canal had been developed, no drinking water facilities had been extended to the villages as of June 2016.

The Department stated (June 2016) that there were no specific points allocated for tapping of drinking water and since it was an open channel, people were using water as per their requirement. During exit conference (December 2016), it was replied that Department

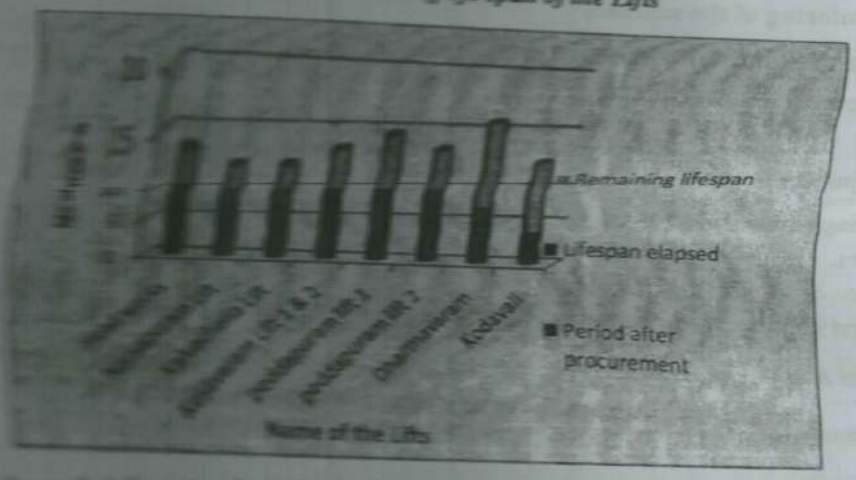
provided only the source and it was the responsibility of Rural Water Supply (RWS) Department to utilize the source.

However, it was observed that there was no correspondence between the RWS Department which is responsible for providing drinking water in the villages and the Water Resources Department to identify the specific tapping points or storage facilities for supplying drinking water. Further, the project had contemplated providing drinking water to the villages and not untreated water.

Government Reply: Government replied that steps have been provided for pot water collection by the public near villages and structures. In summer and in acute drought condition, the scheme is operating for supply of water to fill up the tank of villages enroute the canal for drinking water as well as for cattle feeding.

(ii) Maintenance of Project system: In the DPR, the life span of the pumping system (E&M — mechanical equipment) was taken as 12 years. The [illegible] September 2005 and September 2009. As per the Agreement conditions, the project should have been completed in two years. However, Audit observed that the project had not been completed and Extension of Time (EOT) was given for completion of the project up to 2016. Meanwhile, the life of the Electro Mechanical & Hydro Mechanical equipment is about to expire as shown in chart below:

Chart 2: Remaining life span of the Lifts



Source: As per the information obtained from the Department

On analysis of the dates of procurement, erection and operation of pumps and motors of the pumping system in nine lifts/sub-lifts (out of 13), for which the date of procurement was made available, Audit observed the following:

- Though the pumping equipment of head works of the scheme were procured during 2005 and 2006, all were erected and testing was done with a delay of five to 15 months.
- The life span of Lift-I at Purushothapatnam would expire by January 2019. The [illegible] as of January 2016 was only 25 *per cent*.

- In seven out of the nine lifts/sub-lifts, the gap between procurement of motors/pumps and erection and testing ranged from six to 39 months. However, in respect of Peddapuram and Dharmavaram LIS, the gaps were 20 and 39 months, respectively. While calculating BC ratio of the project, the annual interest on capital was estimated to be 10 *per cent*. Interest calculated at 10 *per cent* on the capital cost of these lifts during the idle period worked out to ₹ 1.24 crore.

Thus, non-completion of the works on time led to non-utilisation of the equipment procured in all these cases.

Government Reply: *Government replied that due to delay in completion of pump house due to heavy floods and in completion of well sinking the erection of EM & HM parts has been delayed to that extent. The EM &HM equipment should be utilized for the period of 12 years from the date of completion of the project. The life span of a motor/pump begins only from the date of starting of motor/pump but not date of procurement. All the motors and pumps are working since erection and the entire life period will be utilized.*

In case of sub lifts as these are small lifts no agency has come forward to take up the entire scheme and hence, the works are divided into the three components (civil works, pressure main, EM&HM parts) and carried out. For pressure main the diameter of PSC pipes are ranging from 1300 mm to 1800 mm, which are normally not available in the market. Due to various reasons the civil works as well as pressure main works are delayed, suitable EOT was granted to the agency. However after the completion of the civil works, the EM & HM parts utilized and commenced the pump house for the supply of water to the ayacut.

2.1.14.3 Monitoring of the schemes

National Water Policy 2002 stipulates close monitoring and supervision of projects so that works are executed in time and with economy. There should also be a system to monitor and evaluate the performance and socio-economic impact of the project/ scheme which is essential to judge their success or failure.

Audit scrutiny revealed that no evaluation was conducted to assess the performance of any of the schemes. Economical viability and efficiency of the LISs were not assessed by the Department. Such studies by a third party would facilitate corrective actions on lapses observed and improve the functioning of the projects.

Government Reply: *Government replied that the observation of the audit will be considered.*

2.1.15 Conclusion

Lift Irrigation Schemes are major sources for supply of water for irrigation, domestic and industrial uses and cater to the needs of drought prone areas. Guru Raghavendra and Pulikanuma schemes were proposed for stabilization of ayacut of Tungabhadra Project and Pattiseema and Pushkara LIS were proposed to derive early benefits due to delay in execution of Polavaram Project. Audit observed that the projects were commenced either without DPRs or with deficient DPRs. The components of the Projects were not synchronised in many cases leading to delay in deriving the benefits. For example, in Pattiseema project distributary systems were not ready while the pumps were commissioned. There was also lack of coordination among various agencies and Departments involved in the execution of the Projects. There were also cases of abnormal delay in approval of designs. As a result none of

cted LIS could achieve the targeted objectives. Audit also noticed deficient contract ment leading to excess payments, avoidable additional expenditure, etc. Monitoring ementation of the projects at various levels was deficient in Guru Raghavendra and a projects.

Recommendations

commends that:

PRs may be prepared with proper survey and investigation to avoid deviations.

he various components of the projects may be synchronized to ensure utilization of frastructure after its creation.

he Department may ensure execution of works in accordance with the estimates epared and include suitable clauses in the agreement to protect its interest in case of ajor changes in design leading to cost variations.

melines may be fixed for approval of designs.

ordination with NHAI, Power Distribution Companies, Railways and other agencies ay be ensured to allow for timely completion of projects.

Appendix-2.1

(Reference to paragraph 2.1.8.2, page 15)

f discharges of TBP LLC distributaries at the joining points of GRP LI Scheme hannels

of the eme	Name of the TBP LLC Distributary	Chainage of joining point of GRP	Discharge capacity of TBP LLC Distributary in cusecs	Discharge capacity of GRP Schemes in cusecs	Percent-age of shortfall
nta	CK Major	At 12.965 Km of CK Major	27.61	61.8	55.32
doddi	4TE of Narayanapuram	At 3.424 Km of 4TE Narayanapuram Distributary	10.98	17	35.41
	Gangavaram Major Distributary	At 7.000 Km of 12 TE Minor (Reverse flow)	7.79	24.29	67.92
ladona		At 7.000 Km of 12 TE Minor (direct flow)	7.79	14.84	47.5
		At 0.000 Km of 10L Minor	7.89	21.8	63.80
		At 0.000 Km of 11R Minor	2.1	2.5	16.00
	Nandavaram sub-distributary of Gangavaram major Distributary	4TE Dry Minor	10.46	12	12.83

Soganuru	Mittasomapuram Distributary-1 (MSP)	At 1.000 Km of MSP Distributary	2.3	21	89.04
	Mittasomapuram Distributary-2 (MSP)	14.85 Km of MSP Distributary	13.82	21	34.19
	Ponnkuladinne	1.000 Km of PD Distributary	7.8	11.66	33.10
Duddi	Narayanapuram Major of Madhavaram Major Distributary	At Km 20.064 of Madhavaram Distributary	11	33	66.66
Basaladoddi	Suguru Distributary	At Km 11.40 of Suguru Distributary	12.25	40	69.37
Madhavaram	15L & 16L common of Madhavaram major Distributary (by pumps)	At Km 32.360 15L & 16L common of Madhavaram major Distributary	9.16	38	75.89
	Madhavaram Major (By supply channel)	At Km 36.20 of Madhavaram Distributary	7.94	19.6	59.48

Source: Information obtained from the Department

Appendix-2.2

(Reference to paragraph 2.1.8.5, page 19)

Benefit-cost ratio of Pattiseema Project.

Component of benefit/cost	Rate of benefit/ cost	Amount as per DPR	Amount as worked out by Audit	Remarks
Annual Benefit				
Benefit from IP of 1.2 lakh acres under Polavaram RMC	₹10000 per acre	120	0	Audit did not consider this benefit as the work of distributary system of Polavaram RMC has not been taken up so far.
Benefit from other ayacut of 3.46 lakh acres	₹8000 per acre	276.80	276.80	
Revenue from industrial water supply	₹4.5 per 1000 gallons	41.51	0	Audit did not consider this benefit as the industrial users were not identified.
Total benefit		**438.31**	**276.80**	
Annual Cost				
Interest on capital cost	10%	130	166.71	The Department computed the BCR considering the project cost as ₹1300 crore. Audit computed the BCR with the revised project cost of ₹1667.15 crore[@@]. Audit calculated the depreciation on pumping system and pressure mains[##] as per the guidelines of GoI/CWC and considering the life of civil works as three years.
Depreciation of project		13 (@ 1%)	88.50 (@ 33.33%)	
Depreciation on pumping system		65 (@ 5%)	28.53 (@ 8.33%)	
Depreciation on raising mains			25.89 (@ 3.33%)	
Maintenance of Head works	1%	13	16.67	
Annual O&M charges	₹600 per Ha	11.3	11.3	
Power charges	₹5.5 / unit	28.91	28.91	
Total annual cost		**261.21**	**366.51**	
Benefit cost ratio		**1.68:1**	**0.76:1**	

ised project cost as per the revised administrative approval. The project cost increased due to high der premium, changes in scope of work and increase in the cost of lands.

of civil works: ₹ 265.52 crore; Cost of Pumping system: ₹ 342.48 crore; and Cost of raising mains: 77.41 crore.

Information obtained from the Department and DPR of the project

DISCUSSION BY THE PUBLIC ACCOUNTS COMMITTEE

1.2 Initiating the discussion, the Chairman stated that the initial cost of Guru Raghavendra project was Rs. 566.77 crore and revised cost is Rs. 84.97 crore. Chairman enquired whether the original cost is as of the year 2003. The Secretary, WRD replied that administrative sanctions were accorded between 2003 and 2011. The Department further replied that the revised cost was last worked out in 2015.

1.3 Regarding Pattiseema project, the Committee enquired as to how much of the targeted ayacut under this project pertains to Krishna delta and how much is under RMC of Polavaram. The Department replied that out of the 4.66 lakh acres, 3.2 lakh acres is contemplated under Polavaram RMC and this includes 2 lakh acres covered under Tadipudi LIS and the remaining 1.46 lakh acres pertains to RMC.

1.4 When the Committee enquired about the total expenditure on Pattiseema project, the Department replied that the total expenditure is Rs. 1667 crores including land acquisition.

1.5 The Committee desired to know the reasons for increase in the project cost of Pattiseema LIS. The Department replied that the IBM value of the work was Rs.1170 crores and the lowest bidder quoted 21.99 per cent excess and the agreement value increased.

1.6 The chairman enquired as to why the tender value is so high when this project is similar to the other lifts commissioned in Malyala and Tadipudi.

1.7 The Committee stated that Pattiseema LIS is a wonderful project and appreciated the Department and the contractors for its timely completion as it has given lot of boon for agriculture sector. However, the Committee questioned as to why the 5% cap on tender premium was removed exclusively for this particular tender and whether the Department knew before hand that the contractors would quote beyond 5%.

1.8 The Department replied that since the flows in Krishna were far less than expected and water was also required for the projects taken up in Rayalaseema region, Government ordered to complete the Pattiseema project early so as to release water during the same season. It further replied that while calling tenders itself proposal was sent to Government for relaxing the tender sealing and on receipt of approvals from Government amendment was issued to the tender notice. The Department added that a condition was also stipulated that the interim payments would be released only with 5% premium and the balance above the 5% limit would be paid only if the work is completed within the stipulated period of 12 months. It was also replied that the Department contemplated to operationalise 4 pumps within 5 ½ months and considering the magnitude of work involved, the execution period was compressed to the barest minimum. This was the reason for relaxing the tender ceiling.

1.9 When the Chairman referred to the audit observation on the DPR of Guru Raghavendra project and inconsistencies in levels, the Department replied that levels at merging points did not tally at one or two places due to lack of coordination. The Department further stated that this is being taken care of now.

1.10 Regarding the status of GRP, the Department replied that 13 out of 14 sub-projects under GRP have now been completed, the latest being Pulikamma project which was completed in January 2008.

1.11 On the audit observation on the DPR of Pushkara LIS, the Department replied that at the time of preparation of DPRs, about 10% area only will be surveyed for distributary network. During detailed survey after entrustment of EPC mode several upland areas and

1.12 When the committee enquired about the status of the 11 lifts under Pushkara LIS, the Department replied that all the 11 lifts are operational now.

1.13 The Chairman opined that DPR is a base document for any project but now it has become a mere formality.

1.14 Regarding the difference in levels at merging points in Mugaladoddi scheme the department replied that it is now rectified and the scheme is operational.

1.15 When the committee raised the issue of non identification of industrial /domestic users [illegible] provision will be made for Guntur is being provided from Pattiseema LIS and industrial water is being [illegible] RMC.

1.16 Discussing the audit observation on the Benefit Cost Ratio (BCR) of Pattiseema project, the Chairman enquired whether water is being provided for only Krishna Delta or for the ayacut of RMC also. The Department replied that water was provided for a few days and that about 1500 cusecs of water was drawn for RMC ayacut.

1.17 The Committee raised the audit observation on the depreciation provided while computing the BCR and asked as to why the Department had considered the life of the project as 100 years whereas the project was proposed to be operated only till completion of Polavaram project.

1.18 When the Committee raised the deficiencies in the BCR of Pattiseema, Pushkara and GRP projects, the Department stated that the revised BCR calculations would be prepared and submitted to the Committee.

1.19 Initiating the discussion on audit observation regarding the additional cost incurred [illegible] Pushkara instead of conventional method, the Committee enquired as to what was the necessity to go for alternative technology when the conventional technology was cheaper by almost Rs.100 crores. The Department replied that it was not possible to make the pump houses functional in 5 ½ months unless diaphragm wall method is adopted.

1.20 The Committee opined that since 5% tender sealing was removed during tender process only to facilitate timely completion of the project it was the responsibility of the contractor to complete the work within the specified time and if the contractor wishes to adopt a superior technology, the Department may accept but without any extra cost to the Department.

1.21 The Committee also referred to the fact that there was no saving in time due to adoption of diaphragm wall method as the work was completed in 12 months as stipulated in the agreement.

1.22 The Department replied that this EPC contract included a variation clause which provides for payment for any variations during execution in respect of the pump house and pressure mains and accordingly the increase in cost due to adoption of diaphragm wall technology was paid. It further stated that in respect of the pipeline there was reduction in expenditure.

1.23 The committee stated that the reduction in cost of pipeline was due to changes in alignment, etc. and it has nothing to do with adoption of Diaphragm wall technology in pump house.

1.24 The Department replied that the agreement did not mention that the pump house was to be constructed using conventional technology.

1.25 When the committee enquired as to what type of foundation was envisaged in the estimate, the Department replied that well foundation was provided in the estimate.

1.26 The Committee referred to the Department's reply that if conventional technology was used the project completion would have been delayed. The Committee reiterated that when the additional tender premium was allowed for timely completion of work, there was no justification for incurring further extra expenditure on change in technology to avoid delays.

1.27 The Committee concluded that there was no convincing reply from the Department regarding justification for this additional cost.

1.28 Referring to the Department's reply to the price variation clause, the Committee questioned as to why price variation clause was not applied when the capacity of pumps and motors was reduced from 123 MW to 113 MW.

1.29 The Chairman referred to a representation received by the Committee which stated that inflated costs/rates higher than the market rates were provided in Pattiseeema project. The Chairman stated that in the representation, which was also given to the Honorable Chief Minister, there was large difference of about Rs.200 crore in the total estimated cost of the project.

1.30 The Department replied that while estimating the cost of pumps and motors was taken as Rs.2.4 crore per megawatt.

1.31 The Chairman stated that the representation says that while the Department provided approximately Rs.277 crores in the estimate for pumps whereas their cost as per market rates was 175 crores. The Chairman further stated that the representation was given by a reputed person and this estimation was got done through reputed agencies.

1.32 The Committee enquired whether the original bills issued by the manufacturers of pumps were verified by the Department. The Committee felt that if these original bills are verified, the Department would know what their actual cost was and how much excess was paid. The Committee opined that such an analysis can result in savings to Government.

1.33 When the Committee referred to the audit observation on reimbursement of Central Excise Duty (CED) to contractor when exemption was available, the Department replied that when similar objections were raised earlier, the Department had studied the issue and found that there are several components and that the Department was not able to know the exact components on which exemption is available. Hence, a clause is provided for reimbursement of CED on production of proof of payment.

1.34 The Committee stated that Rs.32 crores is not a small amount and enquired as to what basis it was paid. The Department replied that the reimbursement was made based on the receipts produced.

1.35 The Committee felt that the reimbursement of CED despite availability of exemption is a serious issue and though it was paid to the Central government, it has added to the project cost. The Committee decided to verify the documents produced by contractor.

1.36 The Department replied that receipts and bills were available for all the components where CED exemption was availed and that in respect of pumps and motors, the contractor was addressed and it was still under process.

1.37 The Committee question as to how the payments were released without submission of the original bills and how it was ensured that the contractor had installed only new pumps and not used ones.

1.38 The Department replied that delivery challans and test certificates are available. The departmental officers showed the same to the Committee.

1.39 The Committee noted that only delivery challans and a certificate given by the Superintendent of Central Excise Department but copies of the invoices issued by the manufacturer were not available. The Committee stated that without invoices, the Department would not know if the contractor procures the equipment for less and giving it at higher rate, as being alleged by some quarters.

1.40 The Committee expressed unhappiness that though it had asked for the copies of invoices in the last meeting, the Department did not produce the same. The Department replied that the contractor was addressed twice.

1.41 The Chairman stated that there is a lot of difference between a delivery challan and invoice. An invoice mentions the exact price, serial number of the motor/ pump, details of CED paid, etc. The Chairman once again referred to the representation received by it alleging that the estimate of Pattiseema LIS contract was inflated and stated that if invoices are available they would have provided evidence.

1.42 The Committee concluded that despite being told in the earlier meetings the bills have not been produced and the department could not provide any tenable reply.

1.43 When the Committee raised the issue of reimbursement of Labour Cess, the Department replied that Labour Cess was not included in the working items of Schedule-A, but kept in Part-B of estimate.

1.44 The Committee enquired as to what was the relevance of the estimate once the tender ceiling is removed. The contractor was at liberty to quote over and above the estimate to cover all the contract conditions. Since the tender conditions stipulated that 1% Labour Cess would be deducted from the bills, it means that the bid price was inclusive of Labour Cess also. Since the contractor's quoted price was not exactly as per the estimate, but it was 21% extra, there is no relevance to the estimate.

1.45 The Department replied that after introduction of Labour Cess, a clause for recovery was included in the works agreements but no provision used to be made in the estimates. Subsequently, when recoveries were made in such agreements, some of the contractors went to courts and the courts had given two types of judgments. After reviewing the position, the Finance Department had issued comprehensive orders, which stipulated the procedure to be followed in case of (a) where there is no provision of Labour Cess in the estimate and also in the agreements and (b) where Labour Cess was provided in the estimates and also in the agreements. This order was not clear about the cases where there was no provision in the estimate but the agreement provides for recovery, which meant that Labour Cess has to be recovered and there would not be any change in estimate. Subsequently, they had issued directions for incorporation of labour cess in the estimates/SSRs. There are subsequent directions to keep it outside the estimate contract value.

1.46 The Committee reiterated that since the contract provided for reimbursement of only VAT and Central Excise Duty, reimbursement of Labour Cess was incorrect.

1.47 The Committee raised the issue that a very high rate of Rs.21,353 per cubic meter was provided for removal of earth out from the diaphragm wall. When the Chairman enquired whether Rs.82 crores was provided only for grabbing. The Department replied that Rs.82 crores is the assessed value based on observed data considering the market rates of hire charges of the equipment involved.

1.48 The Committee stated that the cost of the equipment itself would not be more than Rs.20 crores and enquired as to how Rs.82 crores was assessed. The Department replied

Central Water Com
abnormally high.

1.49 The Commi
were provided at
approximately Rs.6

1.50 The Comm
assessed value of
was for pipeline.

1.51 When the
pipelines, the Dep
estimated cost w
would work out
payment of CED

1.52 The Depa
The Committee
why the exemptio
not question this

Recommenda

1.53 After de
Government an
during discussi

1.54 The Co
invariably prep
targeted benef
mis-matches
of intended be

1.55 The C
some sub-sch
was unscient
changes in th
recommends
should prepa
decisions bef

1.56 In Pa
premium an
timely compl
Government

that the rate was worked out considering crew charges, fuel, etc., as per the Manual of the Central Water Commission. The Committee opined that Rs.21,353 per Cum for graving was abnormally high.

1.49 The Committee also pointed out that the transportation charges for excavated earth were provided at the rate of about Rs.230/Cum whereas the rate as per SSR was approximately Rs.69.

1.50 The Committee then enquired whether the CED of Rs.32 crores paid on the total assessed value of Rs.236 crores was for pipeline works. The Department confirmed that it was for pipeline.

1.51 When the Committee asked as to what was the cost of manufacturing and laying pipelines, the Department replied that it was Rs.700 crores. The Committee stated that if the estimated cost was Rs.700 crores, considering the 22% tender premium, the quoted price would work out to about Rs.850 crores as against the value of Rs.236 crores assessed for [illegible] that the [illegible] is about Rs.600 crores.

1.52 The Department replied that CED exemption was taken for only part of the items. The Committee asked the Department to show the details. The Committee questioned as to why the exemption was availed only partly and not availed fully and why the Department did not question this.

Recommendations of the Public Accounts Committee

1.53 After detailed examination of the Audit observations, the written replies given by Government and also the explanations given by the Departmental officers to this Committee during discussions, the Committee makes the following recommendations :

1.54 The Committee recommends that in all the future irrigation projects, DPRs should invariably prepared duly conducting scientific studies about the terrain, scope of works and targeted benefits so as to avoid large scale deviations in the scope of works and technical mis-matches during execution stage and also to ensure timely completion and achievement of intended benefits.

1.55 The Committee found that while Benefit-Cost Ratio (BCR) was not worked out in some sub-schemes of Guru Raghavendra project, the computation BCR in Pattiseema LIS was unscientific and in Pushkara LIS the BCR became irrelevant due to subsequent changes in the project works and substantial increase in cost of execution. The Committee recommends that the in all the future projects involving large investments, the Department should prepare BCRs scientifically so as to enable the Government to take informed decisions before committing the expenditure.

1.56 In Pattiseema LIS, the Committee concluded that relaxing the 5% ceiling of tender premium and acceptance of a bid with 21.99% premium (extra cost: Rs.199 crores) for timely completion of the project was inappropriate and will lead to unhealthy precedence. Government should avoid such practice in the first tender call itself.

1.57 The Committee also feels that the additional payment of Rs.106 crores to the contractor for adopting diaphragm walls instead of well foundations, again on the grounds of facilitating timely completion of the project was unnecessary as this additional cost should have been borne by the contractor as their quoted price with excess of 21.99% was for the timely completion of the project. Government should recover this additional payment and fix the responsibility on the concerned officials.

1.58 The Committee further found that while computing the additional cost of Rs.106 crores, the Department adopted abnormal (assessed rate) high rate of Rs.21,353 per Cum for grabbing of earth out from the diaphragm wall. In case of transportation charges of excavated earth also, the Department adopted Rs.230/Cum whereas the SSR rate was about Rs.69/Cum. The Committee recommends that the matter should be thoroughly investigated and responsibility should be fixed on the officers responsible for preparing these inflated rates causing huge loss to Government.

1.59 The Committee found that in Pattiseema LIS, the Department provided about Rs.700 crores in the estimate towards the cost of manufacturing and laying pipelines and considering the 21.99% tender premium, the cost would work out to about Rs.850 crores. However, the CED of Rs. 32 crore paid by the contractor on the goods valuing Rs.236 crores. The difference between the cost paid to contractor and the assessed value of material procured by him works out to more than Rs.600 crores. The Government should ensure that this inflated tender estimate is investigated and responsibility fixed.

1.60 The Committee is surprised that the Department made payments for the pumps and motors in Pattiseema LIS without obtaining the invoices issued by the manufacturers. The Committee feels that there is no assurance regarding the make and quality of the pumps and motors used in the project. The purchases cost of the pumps and motors was also not ascertainable in the absence of the invoices. The Committee feels that there is abnormal difference between the cost of pumps/motors estimated by the Department and the actual price. Government should investigate this thoroughly and ascertain the realistic cost of the pumps/motors versus the estimates put to tender and fix responsibility.

1.61 In all the future agreements, the Department should stipulate a clause in the agreements specifying the contractors to furnish copies of invoices for all the major components and the Department should verify these invoices and certify before making payments.

1.62 The Committee found that though Central Excise Duty exemption was available, the contractor in Pattiseema LIS had availed the exemption only on part items and paid CED on some items and claimed reimbursement causing additional cost to Government. The Government should investigate into this and take corrective action.

1.63 The Department should review the tax exemptions available on the pipes and equipments used in water supply schemes and incorporate suitable clauses in the agreements to ensure that the contractors invariably avail the exemption and avoid unnecessary expenditure to Government.

1.64 In Pattise crore made to th conditions stipul etc. except Centr reimbursement

1.65 Governm Pattiseema LIS, diaphragm wall

1.64 In Pattiseema LIS, the Department should review the reimbursement of Rs.14.22 crore made to the contractor towards of Labour Welfare Cess, since the tender/agreement conditions stipulated that the contractor should quote his bid considering all taxes, duties, etc. except Central Excise Duty and VAT and there was no condition in the agreement for reimbursement of Labour Cess.

1.65 Government should investigate the abnormal boosting up of the estimates/rates in Pattiseema LIS, specifically the rates paid for pipes, pumps/motors, grabbing of earth from diaphragm wall and for transportation of excavated earth.

****