Chapter 2
Energy and Power

CHAPTER 2

Energy and Power

Uttar Haryana Bijli Vitran Nigam Limited and Dakshin Haryana Bijli Vitran Nigam Limited

2.1 Implementation of Deen Dayal Upadhyaya Gram Jyoti Yojana

The works for all the 21 projects under the Scheme were awarded with delays ranging between 306 days and 657 days and with average delay of 470 days. None of the works were completed within the scheduled time and delays ranged between 47 days and 690 days. Failure to achieve milestones in respect of timely award and completion of the scheme and non-achievement of targets of reduction in Aggregate Technical and Commercial losses as per trajectory finalised by Ministry of Power, Government of India and power distribution Companies of Haryana are likely to result in loss of opportunity to avail additional grant amounting to ₹ 36.93 crore.

2.1.1 Introduction

Government of India launched (December 2014) the “Deen Dayal Upadhyaya Gram Jyoti Yojana” (DDUGJY) for separation of agricultural and non-agricultural electricity feeders in rural areas. This would facilitate judicious rostering of supply and strengthening and augmentation of sub transmission and distribution infrastructure including metering of distribution transformers/ feeders and consumers. The targets for rural electrification approved under the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) scheme for implementation during 12th and 13th five-year plan periods were subsumed in the DDUGJY scheme.

Ministry of Power (MoP), Government of India was the nodal Ministry for the implementation of DDUGJY scheme. The monitoring of implementation of the Scheme is done by a Committee[1] (MC) under the Chairmanship of Secretary, MoP. Rural Electrification Corporation Limited (REC) is the Nodal Agency for operationalisation and implementation of the DDUGJY scheme under the overall guidance of MoP. REC received grants from Government of India and channelized all funds to the implementing agencies.

[1] Consisting of Secretary, Ministry of Power (Chairman); Special Secretary/ Additional Secretary, Ministry of Power; Principal Adviser (Energy), Planning Commission/ successor organisation; etc. for approval of guidelines, sanction of DPRs/projects, monitoring and review of implementation of scheme, etc.

The two power distribution companies (DISCOMs)[2] in the State of Haryana are responsible for preparation of Detailed Project Reports (DPRs) and online submission of DPRs duly recommended by the State Level Standing Committee[3] (SLSC) to the Nodal Agency and implementation of the scheme as per guidelines.

The Audit objectives were to assess whether the DISCOMs had complied with the DDUGJY guidelines in execution of works and had utilised the available funds economically and efficiently.

The audit was conducted covering head offices of both the State DISCOMs (UHBVNL and DHBVNL) including five[4] selected districts/projects (25 *per cent*) out of 21 and including one[5] district/project (five *per cent*) which was of high value and high risk. The districts/projects were selected by using the simple random sampling without replacement method using IDEA (Interactive Data Extraction and Analysis) software.

2.1.2 Funding Mechanism of the scheme and expenditure incurred

The funding mechanism of DDUGJY scheme in Haryana is depicted in **Table 2.1**.

Table 2.1: Funding mechanism of DDUGJY

Agency	Nature of support	Quantum of support (Percentage of project cost)
Government of India (GoI)	Grant	60
DISCOM Contribution	Own Fund	10
Lender (REC/ FIs/ Banks)	Loan	30
Additional Grant from GoI on achievement of prescribed milestones	Grant	50 *per cent* of total loan component (30 *per cent*) i.e., 15 *per cent*
Maximum Grant by GoI (including additional grant on achievement of prescribed milestones)	Grant	75

Source: DDUGJY guidelines

A summary of amount sanctioned, amount released and actual expenditure on DDUGJY is mentioned in the **Table 2.2**.

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2 Uttar Haryana Bijli Vitran Nigam Limited and Dakshin Haryana Bijli Vitran Nigam Limited.

3 As per the REC guidelines on DDUGJY and Tripartite Agreement executed (January 2016) amongst Rural Electrification Corporation (REC), Govt. of Haryana (GoH) and DISCOMs, the Government of Haryana was to set up a State Level Standing Committee (SLSC) under Chairmanship of the Chief Secretary.

4 Kurukshetra, Rohtak, Jhajjar, Sirsa and Bhiwani.

5 Bhiwani.

Table 2.2: Amount sanctioned, amount released and actual expenditure incurred under DDUGJY

(₹ in crore)

Year	Uttar Haryana Bijli Vitran Nigam Limited			Dakshin Haryana Bijli Vitran Nigam Limited			Total Haryana		
	Amount sanctioned	Grant amount released	Actual expenditure incurred	Amount sanctioned	Amount released	Actual expenditure incurred	Amount sanctioned	Grant amount released	Actual expenditure incurred
2015-16	153.38	Nil	Nil	162.69	Nil	Nil	316.07	Nil	Nil
2016-17		Nil	Nil		Nil	Nil		Nil	Nil
2017-18		9.16	Nil		43.72	64.27		52.88	64.27
2018-19		18.47	40.09		Nil	11.28		18.47	51.37
2019-20		17.81	66.24		29.88	39.99		47.69	106.23
2020-21			46.23		3.74	13.78		3.74	60.01
2021-22		37.06	11.45		Nil	Nil		37.06	11.45
Total	**153.38**	**82.50**	**164.01**	**162.69**	**77.34**	**129.32**	**316.07**	**159.84**	**293.33**

Source: Compiled from information provided by DISCOMs.

The cost of total projects sanctioned for the two DISCOMs under DDUGJY scheme was ₹ 316.07 crore while actual expenditure incurred was ₹ 293.33 crore. In UHBVNL, the expenditure (₹ 164.01 crore) had exceeded the sanctioned amount of ₹ 153.38 crore whereas DHBVNL could incur expenditure of ₹ 129.32 crore against the sanctioned cost of ₹ 162.69 crore.

Audit findings

Audit noticed deficiencies in implementation of DDUGJY scheme by the DISCOMs.

2.1.3 Project delays and impact

a. DDUGJY guidelines (December 2014) stipulated that the projects were to be awarded within six months of the date of communication of Monitoring Committee's approval, i.e. by 20 March 2016. The project work was to be completed within 24 months (by March 2018) from the date of issue of Letter of Award (LoA) in case of turnkey contract and within 30 months in case of partial turnkey contract/departmental execution.

Audit observed delays in issue of Letters of Intent (LoI) and their completion in respect of all the 21 projects of both the DISCOMs as detailed in ***Table 2.3***. The LoI were issued between October 2017 and January 2018 in UHBVNL and January 2017 and April 2017 in DHBVNL. The delay was in the range of 306 days (Hisar, Jind and Fatehabad) to 657 days (Yamunanagar, Panipat and Ambala) of the date prescribed (March 2016) in DDUGJY guidelines. Further, there was delay in completion of projects in the range of 47 days (Yamunanagar) to 410 days (Jhajjar) in UHBVNL and 163 days (Bhiwani) to 690 days (Fatehabad) in DHBVNL from the scheduled date of completion

Table 2.3: Delays in award and completion of the Projects

Sr. No.	Name of the Project	Scheduled date of Award	Date of award of project by DISCOM	Delay in award (in days)	Scheduled date of completion	Date of completion of the Project	Date of closure of Project (Provisional)	Delay in Completion (in days)
	Uttar Haryana Bijli Vitran Nigam Limited							
1	Panchkula	31 March 2016	3 October 2017	551	2 October 2018	June 2019	28 November 2020	242
2	Rohtak		16 November 2017	595	15 May 2019	January 2020	05 January 2021	230
3	Jhajjar		16 November 2017	595	15 February 2019	March 2020	03 March 2021	380
4	Kaithal		19 December 2017	628	18 June 2019	December 2019	05 March 2021	166
5	Kurukshetra		19 December 2017	628	18 June 2019	December 2019	09 March 2021	166
6	Yamunanagar		17 January 2018	657	16 July 2019	September 2019	15 March 2021	47
7	Sonepat		3 October 2017	551	2 October 2018	September 2019	28 November 2020	334
8	Panipat		17 January 2018	657	16 January 2019	September 2019	05 January 2021	228
9	Ambala		17 January 2018	657	16 July 2019	March 2020	18 March 2021	229
10	Karnal		Departmental execution			February 2020	11 February 2021	--
	Dakshin Haryana Bijli Vitran Nigam Limited							
1	Bhiwani	31 March 2016	02 March 2017	336	30 March 2019	09 September 2019	15 December 2020	163
2	Gurugram		27 April 2017	392	26 April 2018	21 May 2019	27 November 2020	390
3	Faridabad		27 April 2017	392	26 April 2018	12 October 2019	10 December 2020	534
4	Fatehabad		31 January 2017	306	30 April 2018	20 March 2020	03 December 2020	690
5	Jind		31 January 2017	306	30 July 2018	09 October 2019	03 December 2020	436
6	Mohindergarh		02 March 2017	336	01 June 2018	22 August 2019	15 December 20	447
7	Mewat		27 April 2017	392	26 July 2018	15 January 2020	09 December 2020	538
8	Palwal		27 April 2017	392	26 July 2018	20 May 2019	09 December 2020	298
9	Rewari		27 April 2017	392	26 October 2018	25 November 2019	07 December 2020	395
10	Sirsa		02 March 2017	336	1 September 2018	26 December 2019	01 December 2020	481
11	Hisar		31 January 2017	306	Departmental execution	07 August 2019	14 January 2021	--

Source: Information provided by DISCOMs

The average delay in award of projects was 470 days while average delays in completion of projects were 340. The delay in completion of projects was mainly on the part of contractors such as paucity of funds, due to failure of samples of cables and their payments being stopped, slow progress of works, delay in rectification of defects.

DISCOMs replied (January 2022) that delay in award was due to frequent change in terms by REC and poor response by bidders. They added that delay in execution was due to certain contractual issues, Right of Way issues, public hindrances and that Liquidated Damages have been imposed on the contractors for the delays. The point stays that none of the projects was completed within scheduled time and the benefits envisaged were delayed.

b. In addition to 60 *per cent* grant admissible under DDUGJY, additional grant equal to 50 *per cent* of loan component (i.e., 15 *per cent*) was to be released by REC subject to achievement of following milestones besides timely completion of the scheme.

a) Reduction in Aggregate Technical & Commercial (AT&C) losses as per trajectory finalised by MoP in consultation with State Government (DISCOM wise)

b) Upfront release of admissible revenue subsidy by State Government based on metered consumption

The trajectory of reduction in AT&C losses finalised by MOP in consultation with State Governments (DISCOM-wise) was conveyed along with the guidelines (December 2014) for DDUGJY. The actual AT&C loss figure of the utility were to be compared with the corresponding AT&C loss level as per the trajectory finalised in order to assess the compliance of the condition. The AT&C loss trajectory finalised for DISCOMs and its actual position is given in ***Table 2.4***:

Table 2.4: AT&C losses of DISCOMs

(in percentage)

Year	2016-17	2017-18	2018-19	2019-20	2020-21
Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL)					
Target	24.48	22.20	20.44	19.31	18.17
Actual	30.71	25.46	21.12	20.10	16.55
Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL)					
Target	18.74	17.01	15.66	14.79	13.92
Actual	21.66	16.31	14.67	16.30	15.97

Source: Compiled from information provided by DISCOMs.

Due to the failure to achieve milestones in respect of timely award and completion of the scheme and non-reduction in AT&C losses as per trajectory finalised by MoP for UHBVNL in 2016-17 to 2019-20 and for DHBVNL in 2016-17, 2019-20 and 2020-21, the DISCOMs are likely to lose additional grant amounting to ₹ 36.93 crore (₹ 19.87 crore[6] in UHBVNL and ₹ 17.06 crore[7] in DHBVNL). The additional grant was claimable immediately after completion of the projects by March 2021. DHBVNL claimed the additional grant in March 2022 while UHBVNL had not claimed as of May 2022.

UHBVNL stated (January 2022) that although projects were completed within extended time but the target of reduction in Aggregate Technical & Commercial losses could not be achieved. DHBVNL stated that the Company has achieved all the milestones for claiming of additional grant component and the matter was being taken up with Nodal Agency for release of additional grant component.

The reply was not convincing as there were slippages in achievement of set milestones. Moreover, State Government had failed in upfront release of admissible revenue subsidy which was third milestone for claiming additional grant. Thus, DISCOMs are likely to lose the opportunity to avail additional grant.

[6] Awarded cost ₹ 149.30 crore less State GST ₹ 13.09 crore, less liquidated damages ₹ 3.74 crore = ₹ 132.47 crore X 15 *per cent*= ₹ 19.87 crore.

[7] Executed cost ₹ 129.18 crore, less State GST ₹ 11.26 crore, less liquidated damages ₹ 4.17 crore = ₹ 113.75 crore X 15 *per cent*= ₹ 17.06 crore.

2.1.4 Separation of Agricultural and non-agricultural feeders

DDUGJY scheme envisaged that it was possible to provide increased hours of power supply to non-agricultural consumers and assured power supply to agricultural consumers by separating agricultural and non-agricultural feeders. The summary of requirements of Haryana State, sanctions by Ministry of Power (MOP) and achievements of the Separation of Feeders/new Feeders component are as per detail given in ***Table 2.5*** below:

Table 2.5: Separation of Feeders/new Feeders

Name of component	Requirements of Haryana as per DPR	Sanctioned by MOP	Actual achievement	Remarks
Separation of Feeders/new Feeders (Nos.)	331 (UHBVNL-112 & DHBVNL-219)	331	211 (DHBVNL)	UHBVNL had already separated its feeders.

From the above, it is noticed that 331 feeders were sanctioned for separation in Haryana. In case of DHBVNL, actual achievement in respect of feeder separation was 211 against the sanctioned number of 219. In case of UHBVNL, the DISCOM had mentioned that all the feeders were already separated.

DHBVNL replied (January 2022) that work in respect of remaining eight feeders could not be executed due to Right of Way issues/public hindrance.

2.1.5 Strengthening and augmentation of sub transmission and distribution system in rural areas including metering of Distribution Transformers

Strengthening and augmentation of sub-transmission and distribution infrastructure alongwith adequate metering arrangements is an essential component to ensure reliable and quality power supply in rural areas and to complete the process of village electrification. The summary of requirements of Haryana, sanctions by Ministry of Power (MOP) and achievements against each component are as per detail given in ***Table 2.6*** below:

Table 2.6: Strengthening and augmentation of sub transmission and distribution system

Name of component	Requirements of States as per DPR/State Plan	Sanctioned by MOP	Actual achievement
Laying of 33KV/66KV lines (CKM)	123	123	136.21
Construction of new substations (Nos.)	14	14	14
Augmentation of existing substations (Nos.)	1	1	19
Metering (Nos.)	46,044	46,044	85,695

Source: Compiled from information provided by DISCOMs

The above table indicates that DISCOMs in Haryana had achieved targets in respect of strengthening and augmentation of sub-transmission and distribution infrastructure. Out of 19 sub-stations, 18 sub-stations were augmented by UHBVNL against the target of nil. Similarly, against the target of 15,583 and 30,461 nos. of metering, UHBVNL and DHBVNL exceeded the targets by 1,964 and 37,687 nos. respectively.

2.1.6 Erection of 11 kV Cross Linked Polyethylene cable

Work for supply and erection of material for rural electrification works under DDUGJY scheme in Yamunanagar district (under UHBVNL) was awarded (January 2018) to a contractor at a total cost of ₹ 17.12 crore.

UHBVNL observed (March 2018) that High Tension Aerial Bunched (HT AB) Cable provided in Notice Inviting Tender (NIT) were prone to frequent damages and had to be repaired. They, therefore, decided to use 11 kV HT Cross Linked Polyethylene (XLPE) cable. However, the Contractor did not agree (May 2018) to supply and erect 11 kV HT XLPE cable as this was not part of NIT and added at a later stage. The contractor wanted to be allowed to offer new rates for this item as per the Standard Bidding Document (SBD) which provides that if the rates and prices of any change item were not available in the contract, the parties thereto should agree on specific rates. However, UHBVNL awarded (June 2018) the work for supply and erection of 48.450 KM 11 kV HT XLPE cable at the rate of ₹ 796.61[8] per meter determined by the UHBVNL itself.

The contractor approached (July 2018) the Hon'ble High Court for quashing the work order where the contractor was allowed to appear before the Managing Director for personal hearing. The Company offered after negotiation rate of ₹ 1139.80[9] per meter in place of ₹ 940[10] per meter including GST of 11 kV HT XLPE Cables.

The Contractor supplied and erected 48.968 km of 11 kV HT XLPE cable and an additional expenditure of ₹ 97.84 lakh[11] was incurred in comparison to the approved rates of the UHBVNL.

Audit noticed that other contractors had supplied and erected same cable under DDUGJY projects in Ambala, Kurukshetra, Rohtak and Kaithal districts which was earlier not provided in the NITs. In all these Districts, rates allowed to contractors were rates as calculated by Planning and Design wing of the UHBVNL (PD rates) plus quoted premium.

UHBVNL stated (January 2022) stated that rate was fixed on the basis of quotation received from authorized dealer of Havells brand of cables. The reply was not acceptable as justification for fixing price of cable (valuing ₹ 5.58 crore) was based on single quotation which was higher than the already discovered rates by the Company.

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8 Rates determined by the Planning & Design (PD) wing of the Company at ₹ 741.790 per meter plus premium @ 7.39 *per cent*.

9 ₹ 814 + ₹ 146.52 (GST 18 *per cent* on ₹ 814)+ overheads ₹ 100.85 (10.5 *per cent* of ₹ 960.52) + premium ₹ 78.43 (7.39 *per cent* on ₹ 1,061.37) = ₹ 1 139.80 per meter.

10 PD rate @ ₹ 741.790/meter + ₹ 54.82 (premium @ 7.39 *per cent*) + ₹ 143.39 (GST 18 *per cent* on ₹ 796.61) = ₹ 940/ meter.

11 ₹ 1,139.80 per meter - ₹ 940 per meter= 199.8/meter X 48.968 km.

During Exit Conference, Additional Chief Secretary (Power), Haryana stated that cable could have been excluded from scope of contract and directed to examine at what level decision was taken. Further, instead of single quotation competitive bid should have been invited.

2.1.7 Non-recovery of differential cost in respect of material supplied by DHBVNL

In case of turnkey projects, the contractors were required to supply material as per work order along with erection of same within scheduled period of completion. Audit noticed that work orders for supply of plant and equipment (including installation) for Rural Electrification works of Sirsa and Bhiwani districts which, *inter-alia*, included construction of new 11 kV line, augmentation of existing 11kV lines, construction of new LT line, construction of new sub-station were issued (during March 2017 to March 2018) to different contractors[12].

The contractors citing financial crunch requested (November 2018 and February 2019) DHBVNL to provide material such as Aluminum Conductor Steel Reinforced (ACSR) conductors, distribution transformers, Plain Cement Concrete (PCC) poles, meter cover boxes, Gang Operated (GO) Switch, power transformers (for sub-station), 11 kV 8 panel board which otherwise they were required to purchase and install/erect in respect of allotted works. DHBVNL, in the interest of projects, decided (February 2019) to allocate material to contractors subject to availability in store and recovery of differential cost, if any, applicable.

DHBVNL had booked cost of own issued material on PD rates[13] in DDUGJY scheme for claiming grant, but differential cost of ₹ 37.83 lakh had not been recovered from four contractors. The differential cost was recoverable as per decision taken by DHBVNL while agreeing for issuing material from store, non-recovery was an irregular benefit to contractors and loss to the DISCOM.

DHBVNL stated (January 2022) that there was no additional financial implication for the Company as negative differential (₹ One crore appx.) amount was higher than the positive differential (₹ 76 lacs appx.) amount in case of all the projects. The reply was not tenable as material was supplied to contractors with condition that differential cost would be recovered and amount recoverable in case of these projects (Sirsa and Bhiwani) was net of positive and negative differential cost.

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[12] Sirsa district (TED-240)- M/s Ridhi Sidhi Elect. Engg. & Const. Co. Bhiwani (EOI-05) - M/s Electrical Sales Corp., Gurugram, M/s Net Ram Mani Ram Elect. Co., Hanumangarh and M/s Sardana Electric & Mach. Store, Tosham.

[13] Rates used for preparation of estimates which include purchase price plus overheads on account of Contingencies, establishment, transportation, interest & finance cost, etc.

During Exit Conference, Additional Chief Secretary (Power), Haryana directed DISCOM officials to prepare and submit the cost sheet in such cases.

2.1.8 Non-installation and non-maintenance of distribution boxes for protection of distribution transformers

As per specifications provided in bidding document, there was a provision of installation of Distribution Box for maximum utilisation of transformer capacity, providing protection to transformer and feeder against overload and short circuit so that there could be minimum interruption in power supply.

A review of the closure reports of 11 projects (in 11 districts[14]) executed by DHBVNL showed that 311 (including augmentation) Distribution Transformers (DTRs) of different capacities[15] were installed in six[16] districts.

Audit noticed that in case of 135 DTRs (out of 311 DTRs), distribution boxes were not installed. This was because no provision for these was made in work orders despite being clearly laid down in the bidding documents. 83 *per cent* of the DTRs were installed without distribution boxes in Sirsa district. These distribution boxes were for protecting the DTRs from overloading. In the absence of adequate protection there was a risk of damage to DTRs worth ₹ 1.60 crore in addition to non-compliance with the guidelines of REC.

In UHBVNL, under Operation circles Rohtak and Jhajjar, it was noticed that 12 (out of 17) and six (out of eight) distribution boxes (70 to 75 *per cent*) installed in seven villages[17] in Rohtak and Jhajjar were found damaged and were resultantly by-passed. Therefore, in the absence of proper maintenance/ repair of damaged distribution boxes, the total expenditure of ₹ 110.04 lakh (Rohtak-₹ 82.81 lakh[18] and Jhajjar-₹ 27.23 lakh[19]) incurred on these distribution boxes have not been fully utilised. Besides, there was risk of damage to DTRs and feeders in the absence of their protection.

UHBVNL stated (January 2022) that directions had been issued to field offices to rectify/ replace all the damaged LT Distribution Boxes and to recover the amount from the contractors if the material was under warranty. However, copy of directions issued to field offices along with compliance with the same were awaited in audit. DHBVNL stated (January 2022) that distribution box was not provided in works of DTR augmentation as the existing DTR structures already

[14] Hisar, Sirsa, Bhiwani, Fatehabad, Faridabad, Gurugram, Mewat, Palwal, Jind, Mahendragarh and Rewari.

[15] 25 kVA/63 kVA/100kVA.

[16] Fatehabad, Hisar, Jind, Mahendragarh, Rewari and Sirsa.

[17] Chulliana, Ismaila 9B, Garhi Sampla, Morkheri, Kahanaur, Timarpur (Rohtak) and Islamgarh (Jhajjar).

[18] 19 Nos. 63 kVA X ₹ 27,506 + 222 Nos. 100 kVA X ₹ 29,259 = ₹ 70,18,112 + 18 *per cent* GST.

[19] 19 Nos. 63 kVA X ₹ 27,506 + 61 Nos. 100 kVA X ₹ 29,259 = ₹ 23,07,413 + 18 *per cent* GST.

had LT Fuse Units which were used for purpose of protection against overload. The reply was not tenable as technical specification of the scheme as per standard bidding document (SBD) were not followed by the Company.

2.1.9 Delay in compliance of observations/ discrepancies pointed by REC resulted in interest loss due to non-receipt of 3rd tranche of grant

In January 2018, REC intimated that in order to reduce unspent balance with DISCOMs and ensure efficient fund management, 3rd tranche (60 *per cent* of Grant) under DDUGJY new projects would be released in two equal parts (Part-1 at the rate of 30 *per cent* of Grant and Part-2 at the rate of 30 *per cent* of Grant) subject to achievement of milestones[20].

As per the guidelines for Quality Assurance Mechanism, Stage-I inspection of REC Quality Monitors (RQM) should have commenced when 30 *per cent* of villages under Intensive Electrification (IE) were completed in all respects. Stage-II inspection of RQM should have commenced and concluded in a project when 70 *per cent* of IE villages were completed in all respect. However, as on February 2019, work in only 170 villages was completed against the requirement of 486 villages (30 *per cent* of 1619) required to be completed for Stage-I RQM inspection in UHBVNL. The work relating to construction of eight new sub-stations was also incomplete as of February 2019. As of October 2020, project wise 569[21] number of defects noticed by RQM were yet to be resolved.

Thus, due to delay in resolution of pending defects and finalisation of closure reports, UHBVNL could get only ₹ 17.82 crore against ₹ 54.96 crore due in respect of 3rd tranche (Part I & II). UHBVNL had carried out these works from own sources/ borrowed funds and it had to make payment of interest of ₹ 3.47 crore[22] (calculated for 14 months, April 2020 –May 2021) on bank limits utilized to meet its obligation. Had the resolution of pending defects been made immediately, UHBVNL could have received the grant earlier and avoided the payment of interest of ₹ 3.47 crore.

UHBVNL stated (January 2022) that all the defects were attended to and there was no delay in realisation of grant. The reply was not acceptable as despite completion of projects by March 2020 the third tranche was received in June 2021 due to delay in compliance of observations/ discrepancies pointed out by REC.

During Exit Conference, Additional Chief Secretary (Power), Haryana directed that DISCOMs need a better management module so that defects should be

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[20] Utilization of 90 *per cent* of grant released, Sanction/Utilisation of loan component, Rectification of quality defects observed by REC inspection agency, if any, etc.

[21] Ambala (12), Jhajjar (266), Karnal (81), Panipat (117), Rohtak (10), Sonepat (60) and Yamunanagar (23).

[22] ₹ 54.96 - ₹ 17.82= 37.14 X 8 *per cent* = 2.97 x 14= ₹ 3.47 crore.

pointed out concurrently. Further, ACS directed that in future, lodging of claims should not be delayed beyond the financial year and claim should be lodged project wise to avoid delay.

2.1.10 Use of sub-standard material in DDUGJY, Hisar Project

Standard Bid Document (Quality Assurance and Evaluation Mechanism) provides that the Project Implementation Agency (PIA) shall be solely responsible for assuring quality in DDUGJY works. PIA should ensure that the quality of materials/equipment supplied at site and execution of works carried out at field was in accordance with Manufacturing Quality Plan (MQP)/Guaranteed Technical Particulars (GTP) and Field Quality Plan (FQP)/ Approved Drawings.

Audit noticed that the work of electrification of Hisar district was awarded (January 2017) to a Contractor[23] at a total cost of ₹ 18.92 crore. The scope of work also included conversion of existing Low Tension (LT) overhead lines to Aerial Bunched (AB) Cable. As per the work order a total of 315.819 circuit kilometer (ckm) of LT AB Cable was to be provided by the Contractor which was increased to 515 ckm after the foot survey. Audit noticed that against the total required quantity of 515 ckm, the Contractor had supplied 310 ckm cable of Relemac or Kalinga make.

During execution of the project, the Contractor was found involved in unfair business practices. The contractor took excess payment against the actual supplied material and resultantly the contract was terminated (23 February 2018). The matter was pending before the Arbitrator.

After termination of contract, DHBVNL got conducted the acceptance test of the cables already supplied and erected by the Contractor. As per the test reports, the cable of Relemac make (297 ckm) valuing ₹ 9.06 crore failed to conform to required specifications and was declared defective/sub-standard by the National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited laboratories. DHBVNL had not made any efforts to replace the same and resultantly defective cable of 297 ckm continue to be under use. By not replacing the defective cable, DHBVNL compromised with the safety norms.

DHBVNL stated (January 2022) that the firm has disputed the non-conformation of the cable to the specifications and matter is under adjudication before arbitrators and in such circumstances, it would have not been in the fitness of things to get the below standard cables replaced departmentally. The Management thus confirmed that sub-standard cables are still under use.

[23] M/s Duhan Electrical Works, Hisar

2.1.11 Conclusion and Recommendations

- The works for all the 21 projects, were awarded with delay. These projects also could not adhere to the timelines set for completion which was attributed to paucity of funds with contractors and delay in rectification of defects.

- Failure to achieve milestones of timely award and completion of the scheme and non-achievement of targets of reduction in Aggregate Technical and Commercial losses as per trajectory finalised by Ministry of power, the two DISCOMs may lose the opportunity to avail additional grant amounting to ₹ 36.93 crore.

- Due to delay in compliance of pending defects and finalisation of closure reports, UHBVNL could get grant of only ₹ 17.82 crore against ₹ 54.96 crore due in respect of 3rd tranche which had made adverse impact on its financial management as UHBVNL had carried out these works from borrowed funds.

It is recommended that the DISCOMs may strive to complete the works within the time schedule so that the intended benefits are achieved under DDUGJY scheme and achieve the milestones of the scheme to avail the maximum grant, i.e., 75 per cent available in the scheme.

Dakshin Haryana Bijli Vitran Nigam Limited

2.2 Inadequacy of Automatic Power Factor Capacitors

The Company had to pay reactive energy charge of ₹ 40.98 crore during 2016-17 to 2020-21 due to non-installation and maintenance of adequate Automatic Power Factor Capacitors.

An Automatic Power Factor Capacitor (APFC) is an electrical device which improves power factor[24] by regulating current flow and voltage. In the event of voltage falling below normal, sufficient capacitor banks[25], if provided in the system, improves the voltage profile and reduces dissipation of energy, thereby saving energy. The Indian Electricity Grid Code seeks the participants in the system to plan, develop, maintain, and operate the power system in the most secure, reliable, economic, and efficient manner. Regulation 48 of Haryana Electricity Regulatory Commission's Multi Year Tariff Regulations, 2012 states that 'Reactive Energy Charges were payable by distribution licensee (*viz.*

[24] The power factor of an Alternating Current electrical power system is defined as the ratio of the real power absorbed by the load to the apparent power flowing in the circuit.

[25] A capacitor bank is a physical group of several capacitors that are of the common specifications.

Dakshin Haryana Bijli Vitran Nigam Limited and Uttar Haryana Bijli Vitran Nigam Limited) to the transmission licensee (*viz.* Haryana Vidyut Prasaran Nigam Limited) in terms of Regulation 5.5.1 of Haryana Grid Code' - Scheme for payment of Reactive Energy Exchange. The reactive energy charges so paid by distribution licencees were not recoverable through annual revenue requirements.

Audit noticed that there was consistent shortfall in the number of capacitors installed by the Company against requirements during 2016-2017 to 2020-21. ***Table 2.7*** depicts year wise deficiency of capacitors, defective capacitors and reactive energy compensation paid by the Company during the last five years.

Table 2.7: Details of APFCs and reactive energy charges paid during 2016-17 to 2020-21

Year	New Capacitors required during the year	Defective Capacitors repaired	Net Defective Capacitors need revival	Reactive energy charges paid
	(In MVAr[26])			(₹ in crore)
2016-17	285.920	Nil	185.889	7.81
2017-18	116.430	36.60	136.827	7.95
2018-19	103.730	13.80	171.187	9.64
2019-20	200.030	19.00	208.767	11.31
2020-21	301.230	Nil	260.762	4.27
Total		**69.40**		**40.98**

Source: Information provided by Company

The requirement of new capacitor banks ranged from 103.730 Megavolt Ampere reactive (MVAr) to 301.230 during the period 2016-17 to 2020-21. The net defective capacitors requiring revival also increased consistently from 2017-18 onwards and capacitors of 260.762 MVAR capacity were defective as on 31 March 2021.

The Company added capacitors of 298.80 MVAR during 2016-17 and 2017-18 at a cost of ₹ 17.47 crore and thereafter no addition has been made up to March 2021. At the same time, the Company failed to repair the defective capacitors and only 69.40 MVAr capacitors were repaired during 2016-17 to 2020-21.

Thus, due to inadequate/ defective capacitor banks, the Company had to pay reactive energy charge of ₹ 40.98 crore during 2016-17 to 2020-21. Had the Company added adequate capacitors by installing new capacitors and by repairing the existing damaged capacitors, the Company could have reduced the Reactive Energy charges.

During Exit Conference (May 2022), Additional Chief Secretary (Power) confirmed that had there been working capacitors installed, the payment of reactive energy charges could have been avoided.

[26] MVAR means megavolt ampere of reactive power.

It is recommended that the Company may procure and install adequate APFCs as well as repair the damaged ones to avoid payment of reactive energy charges.

The matter was referred (February 2022) to the Government and the Company; their replies were awaited (May 2022).

Haryana Vidyut Prasaran Nigam Limited

2.3 Infructuous expenditure on construction of 220 kV Sub-station

The Company awarded and executed the work of construction of a substation without waiting for the decision of Court on land acquisition resulting in infructuous expenditure of ₹ 12.76 crore and loss of interest of ₹ 9.47 crore on idle sub-station equipments.

Haryana Shahri Vikas Pradhikaran (HSVP) acquired (July 2013) 15.52 acres of land in village Shikohpur, Tehsil and District Gurugram at a cost of ₹ 1.55 crore per acre for setting up 220 kV sub-station and other utilities. Of this, HSVP allotted (December 2013) land measuring 12 acres to Haryana Vidyut Prasaran Nigam Limited (Company) for setting up of 220 kV sub-station in Sector- 77, Gurugram which was, however, later revised (May 2017) to 11.20 acres. In the meantime, the Whole Time Directors of the Company granted (November 2013) in-principle approval for creation of 220 kV sub-station in Sector-77, Gurugram with installed capacity of 2X100 MVA, 220/33 kV transformer along with associated transmission lines. The cost of project was to be shared between HSVP and the HVPNL in the ratio of 50:50 as per the standing instructions (February 2007) of HSVP.

In January 2015, the landowners filed a suit for enhancement in compensation for the land in the Court of Additional District Judge, Gurugram. The Company without waiting for the decision of the Court, awarded (May 2017) the work for construction of the sub-station to a contractor[27] at ₹ 58.24 crore. The field office of the Company however, noticed (July 2014/October 2017) difficulties created by the landowners in preliminary survey and cultivation of this land by the farmers.

In July 2019, the competent Court deciding the compensation case in favour of land owners, raised the land acquisition rates from ₹ 1.55 crore per acre to ₹ 18.38 crore per acre alongwith other statutory benefits. Owing to high compensation awarded by the Court, the Urban Estate Department through Town & Country Planning Department decided (November 2019) to drop the land acquisition proceedings; and to de-notify the land under Section 101A of the 'Right to Fair Compensation and Transparency in Land Acquisition,

[27] M/s Kalpatru Power Transmission Limited, Noida.

Rehabilitation and Resettlement Act, 2013'. This states that when any public purpose, for which the land acquired become unviable or non-essential, the State Government shall be at liberty to denotify such land on such terms as considered expedient by the State Government including payment of compensation on account of damages, if any, sustained by the land owner due to such acquisition.

By that time (November 2019), the Company had already completed work amounting to ₹ 59.80 crore of which ₹ 12.47 crore was in respect of civil and erection works. The Company decided (January 2020) to shift the infrastructure to another location, at Sector-75A, Gurugram and to dismantle the infrastructure of sub-station already constructed at an additional estimated cost of ₹ 28.69 lakh. It was also decided (January 2020) by the State Government that the cost of dismantlement and erection of new sub-station would be shared between HSVP and the Company in the ratio of 50:50. The Company floated notice inviting E-Tender (NIT) in October 2021 for dismantling of 220 kV sub-station at Sector 77, Gurugram and construction of 220 kV sub-station at Sector 75-A Gurugram by utilising the dismantled equipment material on turn-key basis. The outcome of the NIT was awaited (December 2021).

As per procedure defined in notification dated 14 September 2018 for de-notification of acquired land, if the acquiring department is of the opinion that the land acquired under the land acquisition act is unviable or non-essential for the public purpose for which it has been acquired and it should be de notified from acquisition, it will inform the Government about its opinion and seek approval of the Government. The opinion of the acquiring department after preliminary examination shall be referred to the concerned District level sub - committee not later than one month from its receipt. The District level sub - committee after examining the matter shall give its recommendation and reasons as to whether the opinion of the acquiring department referred for consideration deserves to be accepted or not. The District level sub -committee will submit the report to Administrative Secretary of the acquiring department who shall after taking approval of the Government place the matter before the ministerial sub - committee. The ministerial sub-committee report shall be presented for decision by the cabinet, who may allow the de notification. It was however noticed that after approval of the State Government, the matter has not been referred to the District level sub- committee/Ministerial sub Committee so far and no approval of Cabinet Committee has been obtained.

It was also noticed that neither the Company nor HSVP recommended de-notification of the acquired land and decision to de-notify was taken by Urban Estate Department (authority which processes acquisition of land in Haryana). The Urban Estate Department, however, did not follow it to its logical conclusion of de-notifying it even after passage of over two years. Further, the orders (22 November 2019) conveyed to Zonal Administrator, HSVP and Land Acquisition Officer, Gurugram by Urban Estate Department for issuing draft de-notification order has been stayed (December 2021) by the High Court upon a petition filed by a land owner in December 2021.

Audit observed that despite knowing about the suit for enhancement in land compensation filed by the landowners and hindrances created by the landowners in July 2014/October 2017, the Company awarded the work of sub-station and did not stop the work thereafter on the disputed land.

Resultantly, the expenditure of ₹ 12.76 crore (₹ 12.47 crore + ₹ 0.29 crore) on civil works and its dismantlement proved wasteful. The cost of equipment supplied for sub- station amounting to ₹ 47.33 crore was also an idle investment and resulted in loss of interest of ₹ 9.47 crore (calculated at the rate of 10 *per cent* per annum). Further, due to non-construction of the sub-station, the residents were deprived of the benefits to be received from construction of sub-station.

During Exit Conference (May 2022), Additional Chief Secretary (Power) stated that the stay on issue of de-notification was a matter between the acquiring department and the land owners and the station had to be dismantled as early as possible.

The Management replied (May 2022) that the acquisition of land was dropped by the State Government. The decision was taken by the apex authority, keeping in view the financial repercussion based on a decision of the Court, which came across later. The decision was taken by HSVP and the State, which has a mandate to provide land to HVPNL free of cost and HVPNL did not have any involvement in acquisition proceedings. The point remains that the Company went ahead with work of construction of sub - station despite being aware of the disputed status of land. The Company should have looked for alternates (including site/location) or waited for the outcome of the litigation before taking up the construction of sub-station in case it was of an assessment that judicial pronouncement would have had an impact on their infrastructure development and utilization.