



SUPREME AUDIT INSTITUTION OF INDIA  
लोकहितार्थ सत्यनिष्ठा  
Dedicated to Truth in Public Interest

**Report of the  
Comptroller and Auditor General of India  
on  
Scheme for Faster Adoption and Manufacturing  
of (Hybrid &) Electric Vehicles in India**

**Union Government  
Ministry of Heavy Industries  
Report No. 10 of 2026  
(Performance Audit - Civil)**



**Report of the  
Comptroller and Auditor General of India  
on  
Scheme for Faster Adoption and Manufacturing  
of (Hybrid &) Electric Vehicles in India**

**Union Government  
Ministry of Heavy Industries  
Report No. 10 of 2026  
(Performance Audit - Civil)**



## CONTENTS

| CHAPTER/<br>PARAGRAPH | SUBJECT                                                        | PAGE No. |
|-----------------------|----------------------------------------------------------------|----------|
|                       | Preface                                                        | v        |
|                       | Executive Summary                                              | vii      |
| <b>Chapter I</b>      | <b>INTRODUCTION</b>                                            |          |
| 1.1                   | Introduction                                                   | 1        |
| 1.2                   | Mechanism for implementation of FAME India Scheme              | 1        |
| 1.3                   | Phase-I of FAME India Scheme                                   | 2        |
| 1.4                   | Phase-II of FAME India Scheme                                  | 3        |
| 1.5                   | Fund allocation and utilisation                                | 3        |
| 1.6                   | Physical progress under the Scheme                             | 4        |
| 1.7                   | Trend in growth of xEVs in India                               | 4        |
| 1.8                   | Audit objectives                                               | 5        |
| 1.9                   | Audit scope and sampling                                       | 5        |
| 1.10                  | Audit criteria                                                 | 5        |
| 1.11                  | Audit methodology and Engagement with Stakeholders             | 6        |
| 1.12                  | Acknowledgment                                                 | 6        |
| <b>Chapter II</b>     | <b>DEMAND INCENTIVES</b>                                       |          |
| 2.1                   | Procedure for claiming and disbursement of demand incentive    | 7        |
| 2.2                   | Financial and Physical progress                                | 8        |
| 2.3                   | Demand Incentive Delivery Mechanism (DIDM) portal in Phase-I   | 8        |
| 2.4                   | Non-reliable data of demand incentive under Phase-I            | 9        |
| 2.5                   | Demand Incentive Delivery Mechanism (DIDM) portal for Phase-II | 10       |
| 2.6                   | Deficiencies in DIDM Portal (Phase-II)                         | 11       |
| 2.7                   | Timeliness in submission and processing of claims              | 12       |
| 2.8                   | Demand aggregation for e-3-wheelers                            | 13       |
| 2.9                   | Non-inclusion of cost of onboard charger in ex-factory price   | 14       |
| 2.10                  | Electric buses                                                 | 15       |
| 2.11                  | Summing up                                                     | 18       |

| CHAPTER/<br>PARAGRAPH | SUBJECT                                                                                                  | PAGE No. |
|-----------------------|----------------------------------------------------------------------------------------------------------|----------|
| <b>Chapter III</b>    | <b>TESTING AND CERTIFICATION</b>                                                                         |          |
| 3.1                   | Procedure for testing and certification of electric vehicles                                             | 20       |
| 3.2                   | Audit findings:                                                                                          |          |
|                       | 3.2.1 - Timelines for testing and certification                                                          | 21       |
|                       | 3.2.2 - Tests for conformity of production                                                               | 22       |
|                       | 3.2.3 - Testing standards for EV charging stations/<br>equipment                                         | 23       |
|                       | 3.2.4 - Testing standards for determining compliance to<br>localisation requirements                     | 24       |
|                       | 3.2.5 - Claims made by the OEMs in violation of<br>localisation requirements                             | 25       |
|                       | 3.2.6 - Release of demand incentive for ineligible<br>claims                                             | 26       |
| 3.3                   | Summing up                                                                                               | 28       |
| <b>Chapter IV</b>     | <b>CHARGING INFRASTRUCTURE</b>                                                                           |          |
| 4.1                   | Approval of charging infrastructure projects                                                             | 30       |
| 4.2                   | Status of implementation of charging infrastructure<br>projects                                          | 31       |
| 4.3                   | Audit sampling                                                                                           | 32       |
| 4.4                   | Audit findings relating to Phase-I of the Scheme:                                                        |          |
|                       | 4.4.1 - No roadmap for creating charging infrastructure<br>and approval of projects without inviting EoI | 32       |
|                       | 4.4.2 - Non-installation of envisaged charging<br>infrastructure                                         | 33       |
|                       | 4.4.3 - Delay in installation of charging infrastructure                                                 | 33       |
|                       | 4.4.4 - Non-functional charging infrastructure                                                           | 34       |
|                       | 4.4.5 - Non-execution of Central Management System<br>for Charging Stations                              | 35       |
|                       | 4.4.6 - No revenue model for charging stations                                                           | 37       |
| 4.5                   | Audit findings relating to Phase-II of the Scheme:                                                       |          |
|                       | 4.5.1 - Negligible progress of projects                                                                  | 37       |
|                       | 4.5.2 - Charger type and compatibility                                                                   | 39       |
|                       | 4.5.3 - Status of charging stations – Joint physical<br>inspection                                       | 40       |
| 4.6                   | Summing up                                                                                               | 45       |

| CHAPTER/<br>PARAGRAPH | SUBJECT                                                    | PAGE No. |
|-----------------------|------------------------------------------------------------|----------|
| <b>Chapter V</b>      | <b>TECHNOLOGY DEVELOPMENT (R&amp;D)</b>                    |          |
| 5.1                   | Project approval process                                   | 47       |
| 5.2                   | Audit findings:                                            |          |
|                       | 5.2.1 - Status of Technology Development projects          | 48       |
|                       | 5.2.2 - Non-signing of MOUs with the Implementing Agencies | 51       |
|                       | 5.2.3 - Monitoring of projects                             | 52       |
| 5.3                   | Summing up                                                 | 53       |
| <b>Chapter VI</b>     | <b>IEC, FINANCIAL MANAGEMENT AND CONVERGENCE</b>           |          |
| 6.1                   | Information, Education and Communication                   | 54       |
| 6.2                   | Financial Management                                       | 54       |
| 6.3                   | Convergence/synergy among different agencies               | 57       |
| 6.4                   | Summing up                                                 | 63       |
|                       | <b>Annexures-I to IX</b>                                   | 67-83    |



## **PREFACE**

This Report of the Comptroller and Auditor General of India has been prepared for submission to the President of India under Article 151 of the Constitution of India. The Report has been prepared in accordance with the Performance Auditing Guidelines, 2014 and Regulations on Audit and Accounts, 2020 of the Comptroller and Auditor General of India.

The Report contains the results of Performance Audit of the Scheme for Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India Scheme) covering the period from March 2015 to March 2024.

The audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.



## Executive Summary

The Ministry of Heavy Industries (erstwhile Department of Heavy Industry) launched the Scheme for Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME-I), for promotion of electric and hybrid vehicles with an outlay of ₹795 crore for a period of two years, commencing from April 2015. The scheme was subsequently extended up to March 2019 with an enhancement in outlay from ₹795 crore to ₹895 crore. Phase II of the scheme (FAME-II) was formulated with an outlay of ₹10,000 crore which was subsequently enhanced to ₹11,500 crore for the period from April 2019 to March 2024. The scheme was implemented through five components, *viz.* Demand Incentive; Charging Infrastructure; Technology Platform (R&D); Pilot Projects; and Information, Education and Communication.

The Performance Audit of the Scheme covered the period from March 2015 to March 2024 with the objectives to assess whether:

- (i) implementation of the various components of the Scheme was done economically, efficiently and effectively as envisaged in the Scheme guidelines, in order to promote the use of electric vehicles; and
- (ii) there was synergy amongst different Ministries/Departments for the growth of e-mobility and its ecosystem.

The Performance Audit covered various aspects of planning, implementation and monitoring of the Scheme by the Ministry of Heavy Industries, testing agencies *viz.* Automotive Research Association of India, International Centre for Automotive Technology and Global Automotive Research Centre; Bureau of Energy Efficiency (under Ministry of Power), selected State Transport Undertakings, and project implementing agencies in respect of technology platform/R&D projects and pilot projects.

The main audit findings are as under:

### Demand Incentives

There were discrepancies in the Demand Incentive Delivery Mechanism (DIDM) portal (Phase I & II) such as non-preparation of Detailed Project Report and non-signing of Service Level Agreement for portal development. As such, important aspects such as key deliverables, timelines, testing protocols, data/system integrity requirements, defects management and change management procedures were not contractually defined. Also, the Portal did not have functionalities for end-to-end online processing of claims by the Ministry, and there was lack of validation controls in the Portal.

**(Paras 2.3, 2.5 and 2.6)**

There were discrepancies in the information/data contained in the physical/e-files and data dump of the Portal (Phase-I) i.e. mismatch in the total amount and number of electric vehicles (EVs) for which demand incentive had been sanctioned/disbursed to the Original Equipment Manufacturers (OEMs). As the physical/e-files relating to processing of demand incentive

claims provided by the Ministry did not contain any vehicle-wise details, Audit was unable to analyse or derive assurance as to the admissibility of the demand incentive reported in these files.

(Para 2.4)

Three OEMs did not include the cost of the onboard charger in the ex-factory price of e-2-wheelers models and instead sold the charger as an accessory so that the ex-factory price of the vehicle did not exceed the notified threshold of ₹1.5 lakh, and the vehicle models became eligible for demand incentive. The OEMs refunded ₹296.52 crore to the customers as a cost of charger and a sum of ₹29.45 crore was yet to be refunded till February 2025.

(Para 2.9)

Under Phase-I of the Scheme, proposal of State Transport Undertakings/Municipal Corporations for 425 e-buses were approved by the Ministry in 10 cities across the country involving a subsidy of ₹278.42 crore from the Ministry. All the e-buses had been deployed. Under Phase-II, as of 31 December 2025, 5,195 e-buses had been deployed under the Scheme, out of the revised target of 6,862 buses.

(Para 2.10.2)

The central server required to be developed for monitoring performance of e-buses had not been developed by the Ministry despite an assurance given (November 2019) in the third meeting of the Project Implementation and Sanctioning Committee that the central server would be available by December 2020.

(Para 2.10.3)

***Recommendations:***

- 1) The Ministry may develop a robust mechanism for end-to-end processing of demand incentive claims on DIDM portal for more transparency and timely disbursement of demand incentives.***
- 2) The Ministry may identify the constraints leading to low target achievement of e-buses under the Demand Aggregation method and take necessary remedial actions to ensure that the targets are achieved in this category.***
- 3) The Ministry may take action for early development of central server for monitoring of performance of e-buses deployed by various State Transport Undertakings.***

**Testing and Certification**

No timelines were notified by the Ministry for testing and issuance of Eligibility Assessment Reports (EARs) by the testing agencies under the FAME India Scheme. In the absence of this, there was no control/monitoring over the time taken by testing agencies to complete the testing and certification process and considerable time (ranging up to 497 days) was taken in issuing EARs by the testing agencies.

(Para 3.2.1)

There was no provision for electric vehicle models to undergo Conformity of Production (COP) tests for annual revalidation in Phase-I, rendering it impossible to ascertain that the OEMs were using the same components that were originally tested and approved at the time of initial eligibility assessment. Further there was no provision in CMVR, 1989 for whole-vehicle safety COP testing for electric/battery-operated vehicles till December 2022, i.e. more than eight years after notification of the FAME India scheme. Provisions for the same were, however, notified (June 2021) by the Ministry of Road Transport and Highways (MoRTH) and implemented from December 2022 for all electric vehicles. Further, component-level COP for ‘traction battery’, was notified by MoRTH in December 2022 and implemented from 31 March 2023.

**(Para 3.2.2)**

Five OEMs violated the localisation requirements stipulated under the Phased Manufacturing Programme despite which demand incentive of ₹467.96 crore was disbursed to them. The violation was discovered at a later stage, after the testing agencies carried out detailed examination of records, physical plant inspection, and strip-down analysis of vehicles, on the specific directions of the Ministry itself. Two out of the five OEMs refunded the entire demand incentive availed by them including interest, amounting to ₹190.90 crore to the Ministry. Further, de-registration/ recovery of demand incentive against the remaining three OEMs was under process.

**(Para 3.2.5)**

There were violations of Scheme guidelines such as sale of vehicle after the validity period of FAME Eligibility Assessment Certificate resulting in recovery of ₹6.18 crore (894 EVs) from the OEMs and non-availability of CMVR and FAME Eligibility Certification resulting in recovery of demand incentive of ₹0.60 crore (58 EVs) done from the OEMs.

**(Para 3.2.6.1)**

In respect of 5,198 e-3-wheelers of two OEMs, the Ministry disbursed demand incentive without restricting it to the amount specified by the testing agencies in eligibility certificates, resulting in excess disbursement amounting to ₹1.65 crore.

**(Para 3.2.6.2)**

***Recommendations:***

***1) Testing agencies may develop and strictly follow the timelines for testing and issue of Eligibility Assessment Reports. An online platform for certification system may also be developed to achieve transparency and efficiency.***

***2) The Ministry may formulate comprehensive Standard Operating Procedure for testing and certification under FAME and other schemes and for adherence to localisation guidelines for the testing agencies.***

***3) The Ministry may include important details of vehicle testing (i.e. CMVR and FAME eligibility certification details including effective period, admissible demand incentive) as validation rules in FAME portal for processing of demand incentive claims.***

## Charging Infrastructure

There was no roadmap/action plan for setting up of adequate public charging infrastructure in Phase I. The Project Implementation and Sanctioning Committee (PISC) awarded (during 2015-19) charging infrastructure projects to three agencies (i.e. BHEL, Rajasthan Electronics and Instruments Ltd. (REIL) and Mahindra Reva), without inviting any Expression of Interest. Charging infrastructure projects were sanctioned based on proposals received from implementing agencies.

**(Para 4.4.1)**

In case of one project awarded to REIL in January 2019, expenditure of ₹12.66 crore was rendered infructuous as 122 KW chargers and power transformers were not powered; solar plants were not commissioned and unused cable was reportedly lying with the installation agency.

**(Para 4.4.4)**

Under the sanctioned charging infrastructure projects, funds had been allocated by the Ministry for creation of Central Management System (CMS) software for managing the charging stations. Audit observed that IIT Madras had already developed a CMS in June 2017 out of funds released by the Ministry under the Technology Development (R&D) component, but the same was not adopted/operationalised by the Ministry.

**(Para 4.4.5)**

There was negligible progress in setting up of charging infrastructure in Phase II. Out of a total of 2,877 charging stations (20 implementing agencies) approved by PISC for 'Cities', only four implementing agencies commissioned a total of 148 charging stations. Besides, no funds were released under 'Highways and Expressways' Project as there was negligible progress in installation/commissioning of charging stations under this project. The Ministry cancelled all 1,576 charging stations approved under this project. Further, none of 8,412 charging stations awarded to three oil marketing companies was commissioned as on the stipulated completion date of 31 March 2024.

**(Para 4.5.1)**

Audit team and officials of implementing agencies jointly inspected (February to July 2023) 104 charging stations/chargers including 25 solar plants installed at such charging stations. Various issues were seen during the joint physical inspection such as chargers not being powered, chargers removed from installation site, chargers not found installed at sites, non-awareness of the staff about charging procedure, non-functional Charging Management System, vandalism to occupy parking space designated for EV charging, damaged chargers, car chargers installed at parking designated for two-wheelers, etc.

**(Para 4.5.3)**

**Recommendations:**

- 1) The Ministry may consider instituting an integrated and outcome-oriented framework for planning, installation, and operation of EV charging infrastructure so as to address the systemic issues relating to non-installation, delays in commissioning, non-functioning of charging infrastructure, and lack of commercial viability. This may be done through a clearly designated nodal agency with end-to-end accountability,**
- 2) A comprehensive approach may be adopted encompassing (i) identification and development of strategically located charging sites, including intra-city urban areas and inter-city highways/expressways, through geospatial planning with prior convergence and formal agreements with land-owning agencies; (ii) establishment of a single-window, time-bound mechanism for according all statutory clearances and ensuring parallel processing of approvals; and (iii) advance creation and augmentation of requisite electrical infrastructure, including transformers and cabling, by DISCOMs to enable plug-and-play deployment.**
- 3) The Ministry may prescribe standardised concession agreements, a transparent and viable tariff framework, and clear guidelines for levy and collection of user charges, so as to provide commercial certainty to operators and landowners. Mandatory integration of all charging stations with a functional Central Management System may also be ensured for real-time monitoring, interoperability, and improved utilisation.**
- 4) A robust mechanism for operation and maintenance, including capacity building of site personnel, installation of adequate signage, and periodic performance audits of assets such as solar plants and charging equipment, may be instituted to ensure sustained functionality. The Ministry may also delineate accountability across implementing agencies, including Oil Marketing Companies and retail operators, through clearly defined roles, milestones, and enforceable performance standards to ensure timely commissioning and effective utilisation of EV charging infrastructure.**

**Technology Development (R&D)**

Out of the 16 technology development projects approved during Phase-I of the Scheme, nine projects had been completed. Of the remaining seven projects, four projects were closed, one project was cancelled, and two projects were still in progress. Out of nine completed projects, eight projects were completed with delays ranging from 1 month to 24 months without any approval from Project Sanctioning and Implementation Committee for extension of the timelines.

**(Para 5.2.1)**

In four projects for which the Ministry had contributed a total grant of ₹13.08 crore, no formal MoU was entered into with the implementing agencies elaborating the objectives, scope and deliverables of the project, and the roles and responsibilities of implementing agencies, monitoring mechanism, etc. to facilitate expeditious progress of the projects.

**(Para 5.2.2)**

**Recommendation:**

***1) The Ministry may identify the constraints leading to non-completion/pre-mature closure of R&D projects and take necessary remedial actions to ensure that such projects reach their logical conclusion by the respective implementing agencies in respect of deliverables of projects and utilisation of funds released to them under the Scheme.***

**IEC, Financial Management, & Convergence**

Out of the aggregate amount of ₹48 crore allocated for Information, Education and Communication (IEC) activities during Phase-I and Phase-II of the Scheme, the Ministry could utilise an amount of ₹7.52 crore for such activities. Further, the Ministry was required to implement a suitable IEC program for creating consumer awareness and promotion of the Scheme. However, the Ministry did not devise any policy/action plan in this regard.

**(Para 6.1)**

Due to shortage of manpower, National Automotive Board (NAB) did not effectively perform the functions designated to it at the time of its setting up, viz. act as the nodal professional agency for automotive sector, issuance of homologation certificates, coordination amongst testing agencies, MoRTH and other Ministries, etc.

**(Para 6.3.1)**

Notifying electricity tariff for EV charging stations at higher than Average Cost of Electricity (ACOS), two-part tariff or not notifying the tariff had a cascading effect of increasing the service charges leviable for use of EV charging facility by EV users. Only 15 out of 36 States/UTs had notified a single-part tariff aligned with ACOS in terms of the guidelines for charging stations issued by the Ministry of Power (MoP).

**(Para 6.3.2.1)**

Instances were observed where electricity connections with required load were not released to charging stations even after considerable period in contravention of the guidelines for charging stations issued by the Ministry of Power (MoP). It was also seen that there was no evidence of load enhancement in 91 out of 104 charging stations jointly inspected.

**(Para 6.3.2.2)**

Only 22 States and 5 union territories had nominated (January 2022) their nodal agencies to expedite the setting up of charging infrastructure while nodal agencies in remaining States/UTs were not notified. Further, the Ministry selected implementing agencies for establishment of charging infrastructure without consulting respective DISCOMs. Since, major aspects such as provision of upstream infrastructure, electrical connection under appropriate category, load enhancement, discounted service charges, etc. come under the domain of respective DISCOMs, non-involvement of DISCOMs in implementation of the projects resulted in resulted in impediments in targeted implementation of the projects.

**(Para 6.3.2.4)**

***Recommendations:***

- 1) The Ministry may devise a comprehensive policy for creating consumer awareness including preparation of an annual plan.***
- 2) The Ministry may adequately equip National Automotive Board for carrying out its mandate of issuing homologation certificates and being a nodal professional agency for automotive sector-related efforts of the Government.***
- 3) The Ministry may consider setting up a coordination mechanism with representation from all stakeholders for ensuring synchronisation in the establishment of charging infrastructure.***



## Chapter-I Introduction

### 1.1 Introduction

The Government of India approved (March 2011) the National Mission for Electric Mobility (NMEM) in order to promote electric mobility and manufacturing of electric vehicles in India. Subsequently in 2013, the National Electric Mobility Mission Plan 2020 (NEMMP 2020) was unveiled, with the vision to encourage reliable, affordable and efficient hybrid and electric vehicles, collectively termed as xEVs, through collaboration of the Government and Industry for promotion and development of indigenous manufacturing capabilities, required infrastructure, consumer awareness and technology thus enabling Indian automotive industry to achieve global xEV manufacturing leadership and contributing towards National Fuel Security.

As part of NMEM, the Ministry of Heavy Industries (erstwhile Department of Heavy Industry) formulated a Scheme viz. Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) having five components, viz. Demand Incentives, Charging Infrastructure, Technology Platform (R&D), Pilot Projects and Information, Communication and Education (ICE). The Scheme was implemented in two phases – Phase-I from March 2015 to March 2019, and Phase-II from April 2019 to March 2024.

### 1.2 Mechanism for implementation of FAME India Scheme

The mechanism for implementation of FAME India Scheme involved the following stakeholders:

- (i) Ministry of Heavy Industries:** The Ministry of Heavy Industries is the nodal agency for planning, implementation and review of the Scheme, and is responsible for allocation of funds for various components of the Scheme.
- (ii) Project Implementation and Sanctioning Committee (PISC):** The PISC is headed by the Secretary, Ministry of Heavy Industries and includes members<sup>1</sup> from other Ministries/Agencies/Industry. PISC approves specific projects under various components of the Scheme. It also approves flexibility in distribution of funds within and across various components of the Scheme.
- (iii) National Automotive Board (NAB):** NAB is the operating agency for implementation of the Scheme, including disbursement of funds for various components under the overall supervision and direction of the Ministry of Heavy Industries. The

<sup>1</sup> *Chairman, National Automotive Board; Additional Secretary and Financial Advisor, Ministry of Heavy Industries; Additional Secretary/Joint Secretary in charge of Auto Division in the Ministry of Heavy Industries; Joint Secretary, Ministry of Road Transport and Highways; Director, Automotive Research Association of India (ARAI), Director General, Society of Indian Automobile Manufacturers (SIAM); Director General, Automobile Components Manufacturers Association (ACMA); Director, Society of Manufacturers of Electric Vehicles; and Director (Auto), Ministry of Heavy Industries.*

Ministry/NAB reimburse/settle demand incentive claims of manufacturers of vehicles (i.e. Original Equipment Manufacturers) and hybrid retrofit kit manufacturers/suppliers.

Further, NAB is also the nodal agency for creation and upgradation of automotive testing infrastructure for R&D, testing and homologation.

**(iv) Technology Advisory Group (TAG) on Electric Mobility:** It is the nodal body under joint supervision of Ministry of Heavy Industries and Department of Science and Technology, to focus on technology development (R&D) component of the Scheme. It recommends specific projects for approval to PISC.

### 1.3 Phase-I of FAME India Scheme

The Ministry of Heavy Industries notified Phase-I of the Scheme on 13 March 2015 for implementation in FY 2015-16 and 2016-17 with an outlay of ₹795 crore. The period of implementation of Phase-I, was extended till 2018-19 and the budget allocation was enhanced to ₹895 crore.

The Scheme components under Phase-I were as follows:

**(i) Demand Incentive:** The demand incentive was available to the buyers of xEVs in the form of an upfront reduced purchase price.

**(ii) Charging infrastructure:** The Scheme envisaged setting-up of adequate public charging infrastructure to instill confidence amongst xEV users, through active participation and involvement of various stakeholders. Both normal and fast charging infrastructure were to be created under the Scheme. Public places were to be mandated through amendment in by-laws and building codes, etc. by the relevant agencies. Interlinking of renewable energy sources with charging infrastructure, smart grid, use of ICT etc. was to be encouraged.

**(iii) Technology Development (R&D):** Technology development was to be taken up through a collaborative approach with the industry and academia, including both Government-funded as well as PPP projects. Department of Science and Technology was to play a pivotal role. The automotive testing infrastructure for R&D, testing and homologation was to be upgraded for meeting the requirements of new regulations and standards.

**(iv) Pilot Projects:** The pilot projects were intended to fulfil objectives of introduction of new technologies, trial of new business models etc. with special focus on public transportation. Proposals for pilot projects were to be approved/sanctioned by the Project Implementation and Sanctioning Committee.

**(v) Information, Education and Communication (IEC):** An extensive IEC programme was to be undertaken for creating consumer awareness and promotion of the Scheme, on a need basis, through education and training, publicity, organisation of business meets/seminars/conferences/symposia etc. jointly by the Ministry of Heavy Industries, voluntary organisations, etc.

## 1.4 Phase-II of FAME India Scheme

The Ministry notified Phase-II of the Scheme on 8 March 2019 for a period of three years, commencing from 1 April 2019, with an outlay of ₹10,000 crore including committed liabilities of ₹366 crore from Phase-I. In June 2021, the Scheme was extended up to March 2024 and fund allocation was enhanced to ₹11,500 crore (October 2023).

The Scheme components under Phase-II were as follows:

**(i) Demand Incentives:** In the e-3-wheelers, e-4-wheelers and e-buses segments, demand incentive was applicable to vehicles used for public transportation or those registered for commercial purposes. However, for e-2-wheelers segment, demand incentive was also applicable for privately owned vehicles. Demand incentive for all segments, except e-buses was to be disbursed through an e-enabled framework (FAME portal<sup>2</sup> for Phase-I and II).

**(ii) Charging Infrastructure:** A total of 2,500 charging stations were to be established so as to have at least one charging station in a grid of 3 km x 3 km. About 100 charging stations were to be established on both sides of about 1,500 km of major highways at an interval of approximately 25 km each. In addition, about 200 charging stations were to be installed on express highways connecting twin cities. All the charging infrastructure was to be established as per the notification<sup>3</sup> issued by the Ministry of Power, as amended from time to time.

**(iii) IEC activities:** For administration, monitoring, IEC activities, an outlay of ₹38 crore was made.

## 1.5 Fund allocation and utilisation

The component-wise fund allocation and financial progress under the Scheme was as under:

**Table 1: Component-wise allocation and utilisation Phase-I and II**

(₹ in crore)

| Component                                                      | Phase-I    |             | Phase-II   |             |
|----------------------------------------------------------------|------------|-------------|------------|-------------|
|                                                                | Allocation | Utilisation | Allocation | Utilisation |
| Demand incentive (e-2 wheelers, e-3 wheelers and e-4 wheelers) | 495        | 364.93      | 7,048      | 6,224.00*   |
| Demand incentive (e-buses)                                     | -          | -           | 3,209      | 1,322.07    |
| Charging infrastructure                                        | 30         | Nil#        | 839        | 633.45      |

<sup>2</sup> FAME Portal is an e-enabled framework and mechanism set-up under the Ministry/NAB through which demand incentive was disbursed. The manufacturers of vehicles (Original Equipment Manufacturers) and hybrid retrofit kit manufacturers/suppliers were to submit their claims for reimbursement of demand incentive on a monthly basis through this Portal which were to be settled by the Ministry/NAB in not more than a month's time.

<sup>3</sup> Notification issued vide No. 12/2/2018-EV dated 14 December 2018 on the subject 'Charging Infrastructure for Electrical Vehicles - Guidelines and Standards'

| Component                                                            | Phase-I    |               | Phase-II      |                 |
|----------------------------------------------------------------------|------------|---------------|---------------|-----------------|
|                                                                      | Allocation | Utilisation   | Allocation    | Utilisation     |
| Technology platform (R&D)<br>(including testing infrastructure)      | 190        | 150.73        | Dropped       | Dropped         |
| Pilot projects                                                       | 70         | 342.39        | Dropped       | Dropped         |
| IEC                                                                  | 10         | 0.86          | 38            | 21.38           |
| Committed expenditure of Phase-I                                     | -          | -             | 366           | 329.73          |
| Allocation enhanced without indicating<br>component wise enhancement | 100        | -             | -             | -               |
| <b>Total</b>                                                         | <b>895</b> | <b>858.91</b> | <b>11,500</b> | <b>8,530.63</b> |

(Position as of March 2024)

\* Includes under process and withheld claims.

# Although no amount was utilised in Phase-I from the funds allocated under the component 'Charging infrastructure', amount of ₹43.10 crore and ₹1.00 crore were released for charging infrastructure projects out of the funds available under other components viz. Pilot Projects and Technology Platform respectively.

## 1.6 Physical progress under the Scheme

In Phase-I, no component-wise targets were set. The component-wise targets in Phase-II and the component-wise achievements in both the phases were as follows:

**Table 2: Component-wise physical progress under Phase-I and Phase-II**

| Component                                                        | Phase-I       |             | Phase-II          |              |
|------------------------------------------------------------------|---------------|-------------|-------------------|--------------|
|                                                                  | Target        | Achievement | Target            | Achievement* |
| Demand incentive for e-2-wheelers, e-3-wheelers and e-4-wheelers | No target set | 2,80,988    | 17,36,222         | 15,18,029    |
| Demand incentive for e-buses                                     |               | 425         | 7,262             | 4,604        |
| Charging Infrastructure<br>(EV Public Charging Stations)         |               | 495#        | 8,560             | 148          |
| Technology Development                                           |               | 16          | Component Dropped |              |

(Position as of March 2024)

\* Achievement in respect of demand incentives includes under process and withheld claims.

# These were installed from the funds allocated for 'Pilot Project' rather than from the funds allocated for installation of Charging infrastructure.

## 1.7 Trend in growth of xEVs in India

Since the inception (March 2015) of FAME India Scheme, the share of electric vehicle registration in the total vehicle registration has grown from 0.08 per cent to 6.82 per cent up to the year 2023-24, as shown below:

**Table 3: Registration of Electric Vehicles (EVs) from 2015-16 to 2023-24**

| Year    | Total vehicles registered | Total EVs registered <sup>4</sup> | Percentage share of EV |
|---------|---------------------------|-----------------------------------|------------------------|
| 2015-16 | 2,01,24,808               | 16,176                            | 0.08%                  |
| 2016-17 | 2,16,50,783               | 55,847                            | 0.26%                  |
| 2017-18 | 2,39,59,,052              | 96,493                            | 0.40%                  |
| 2018-19 | 2,53,14,381               | 1,46,950                          | 0.58%                  |
| 2019-20 | 2,45,91,216               | 1,73,604                          | 0.71%                  |
| 2020-21 | 1,75,20,165               | 1,42,386                          | 0.81%                  |
| 2021-22 | 1,84,43,944               | 4,59,058                          | 2.49%                  |
| 2022-23 | 2,23,30,911               | 11,83,342                         | 5.30%                  |
| 2023-24 | 2,46,41,140               | 16,81,343                         | 6.82%                  |

Source: Vahan<sup>5</sup> Dashboard

## 1.8 Audit objectives

The Performance Audit was conducted to assess whether:

- implementation of the various components of the Scheme was done economically, efficiently and effectively as envisaged in the Scheme guidelines, in order to promote the use of electric vehicles; and
- there was synergy amongst different Ministries/Departments for the growth of e-mobility and its ecosystem.

## 1.9 Audit scope and sampling

The Performance Audit covered various aspects of the implementation of both Phase I and II of the FAME India scheme for the period from March 2015 to March 2024. The coverage of audit included the Ministry of Heavy Industries; testing agencies viz. Automotive Research Association of India, International Centre for Automotive Technology and Global Automotive Research Centre, Bureau of Energy Efficiency (under Ministry of Power), selected State Transport Undertakings, and project implementing agencies in respect of technology platform/R&D projects and pilot projects. Details of audit sampling have been given under relevant chapters/paras of this Report.

## 1.10 Audit criteria

Audit criteria was derived from the following sources:

- Scheme notifications/guidelines as amended from time to time.
- National Electric Mobility Mission Plan (NEMMP) 2020.
- Minutes of meetings of Project Implementation and Sanctioning Committee, Cabinet Committee on Economic Affairs, Expenditure Finance Committee, and Technology Advisory Group.

<sup>4</sup> This represents the total vehicle registered i.e. eligible and non-eligible in FAME India Scheme.

<sup>5</sup> <https://vahan.parivahan.gov.in/vahan4dashboard/vahan/vahan/view/reportview.xhtml>

- Guidelines of Ministry of Power relating to charging infrastructure.
- Model Building Bye Laws 2016 of the Ministry of Housing and Urban Affairs for Electric Vehicle charging infrastructure.
- Standards relating to electric vehicles such as safety standards, battery standards, charging standards.
- Central Motor Vehicle Rules, 1989 and General Financial Rules.
- Sanction letters and demands for grants, Memoranda of Understanding, agreements, contracts, etc., Invitation for Expression of Interest, letter of award, tender documents, bids submitted by bidders, purchase orders.
- Publications of NITI Aayog on e-mobility, Annual reports of Ministry of Heavy Industries and implementing agencies.

### 1.11 Audit methodology and Engagement with Stakeholders

Before taking up the Performance Audit, meetings with various stakeholders were held **(Annexure-I)** to gain insight of the electric mobility ecosystem and the role of various agencies involved in the implementation of FAME India Scheme.

The Performance Audit commenced with an Entry Conference with the Ministry of Heavy Industries on 13 February 2023. Thereafter, examination of records of the Ministry and implementing agencies was conducted between February 2023 and March 2024.

The draft Performance Audit Report was issued to the Ministry on 11 December 2024. The response of the Ministry was received in February 2025. Audit findings were also discussed with the Ministry in the Exit Conference held on 17 February 2025. The responses of the Ministry on the draft Audit Report and those expressed during the Exit Conference have been considered and suitably incorporated while finalising this Report.

### 1.12 Acknowledgment

Audit acknowledges the cooperation and assistance extended by the Ministry of Heavy Industries, its implementing units and other stakeholders associated with the Scheme and their officials during various stages of audit.

## Chapter-II

### Demand Incentives

Under the FAME India Scheme, demand incentive was provided to end users/ purchasers upfront in the form of a reduction (discount) in the purchase price of the electric vehicle and the discount provided is subsequently claimed by the Original Equipment Manufacturers (OEMs) from the Ministry of Heavy Industries. An e-enabled framework/ online system for submission and processing of claims of OEMs and reimbursement of demand incentive was envisaged under the Scheme. Demand incentive was applicable to the electric vehicles which had been tested and certified as compliant with the provisions of Central Motor Vehicle Rules (CMVR), 1989 and the FAME India Scheme guidelines, by the testing agencies notified under CMVR, 1989.

This Chapter first deals with audit observations on the disbursement of demand incentive to OEMs of electric 2-wheelers (e2W), electric 3-wheelers and auto-rickshaws (e3W), and electric 4-wheelers passenger vehicles (e4W) under Phase I & II of the Scheme. The issues relating to demand incentive for electric buses have been discussed later in the Chapter.

#### 2.1 Procedure for claiming and disbursement of demand incentive

The procedure for claiming and disbursement of demand incentive for Electric Vehicles (EVs) under the Scheme consists of the following steps:

- (i) Pre-registration of OEM followed by registration of OEM with NAB/Ministry:** OEM to apply for registration to National Automotive Board (NAB) in prescribed format offline or through the Portal developed by the Ministry.
- (ii) EV Homologation & Eligibility Assessment by Testing Agencies:** Testing agency to conduct assessment of pre-registered EV models to check eligibility under Scheme, compliance with provisions of CMVR, 1989, and assessment of technology functions as prescribed in Scheme guidelines; and to issue Eligibility Assessment Report (EAR) certifying eligibility of EV model under the Scheme and specifying the amount of demand incentive permissible for the EV model.
- (iii) Registration of EV Model:** OEM to register EV models for which they intend to avail demand incentive on the Portal developed by MHI.
- (iv) Vehicle Sale and Registration:** Vehicle dealer to collect information from purchaser/customer as per Scheme guidelines (e.g. identity proof, address proof, driving license, mobile number, email ID of purchaser, RTO Registration number, etc.), and send the information to OEM.
- (v) Claim Submission by OEM:** OEM to submit the reimbursement claim of demand incentive once in a month but not later than 120 days from the sale of vehicle. After submitting the claim for reimbursement, each OEM to submit an undertaking regarding compliance with Scheme guidelines.

**(vi) Clearance of demand incentive by NAB/Ministry:** After scrutiny of claims/ records submitted by OEMs, the Ministry to approve and pay the demand incentive to OEMs in their designated bank account through NAB.

The features of demand incentive component under Phase-I and Phase-II of the FAME Scheme are given at **Annexure-II**.

## 2.2 Financial and Physical progress

The total budget allocation and expenditure under the demand incentive component of the Scheme in respect of e-2-wheelers, e-3-wheelers and e-4-wheelers (except e-buses<sup>6</sup>) was as under:

**Table 4: Budget Allocation and Expenditure for demand incentive component**

| Sl. No. | Phase    | Year               | Total Budget<br>(₹ in crore) | Expenditure<br>(₹ in crore) |
|---------|----------|--------------------|------------------------------|-----------------------------|
| 1.      | Phase-I  | 2015-16 to 2018-19 | 495.00                       | 364.93                      |
| 2.      | Phase II | 2019-20 to 2023-24 | 7,048.00                     | 6,570#                      |

# Expenditure up to 16 January 2025 and includes under process and withheld claims.

Under Phase-I, no targets were specified for the number of e-vehicles to be covered. Under Phase-II, category-wise targets for e-vehicles were set. The details of physical targets and achievements in respect of demand incentive for e-2-wheelers, e-3-wheelers and e-4-wheelers (except e-buses) was as under:

**Table 5: Physical Progress for demand incentive component (as of 16 January 2025)**

| Component        | Category     | Phase-I        |             | Phase II  |             |
|------------------|--------------|----------------|-------------|-----------|-------------|
|                  |              | Target         | Achievement | Target    | Achievement |
| Demand Incentive | e-2W         | No targets set | 2,80,988    | 15,50,225 | 14,28,009   |
|                  | e-3W         |                |             | 1,55,536  | 1,64,180    |
|                  | e-4W         |                |             | 30,461    | 22,548      |
|                  | <b>Total</b> | -              | 2,80,988    | 17,36,222 | 16,14,737   |

## 2.3 Demand Incentive Delivery Mechanism (DIDM) portal in Phase-I

As per proposal (18 September 2014) submitted by the Ministry of Heavy Industries to Expenditure Finance Committee (EFC), an IT system was to be developed by a professional IT service provider for simple, efficient and robust mechanism for transfer of incentives to the intended beneficiaries. The task of developing this IT system was awarded to a private agency viz. M/s Net Creative Mind Solutions Pvt. Ltd., a vendor empanelled with National Informatics Centre Services Incorporated (NICS). In

<sup>6</sup> Audit observations on e-buses have been separately discussed in para 2.10

September 2015, the Ministry launched DIDM Portal for Phase-I. An expenditure of ₹17.78 lakh was incurred on development of the Phase-I Portal.

As per the above-stated proposal submitted to EFC, a Detailed Project Report (DPR) was to be prepared by the IT service provider, describing the network design, hardware, system architecture, software and security, database structure, MIS features/packages for impact assessment, system of manual checks, oversight and audit to ensure the accuracy, correctness, and robustness of the system. Further, as per the best practices followed for procurement of services, a Service Level Agreement was required to be entered into with the vendor for defining the terms and conditions of service delivery. Audit, however, observed that the vendor did not prepare and submit the DPR and the Ministry did not sign any formal Service Level Agreement with the vendor. As such, important aspects such as key deliverables, timelines, testing protocols, data/system integrity requirements, defects management and change management procedures were not contractually defined. Instead, a work order was issued, which included only the schedule of work, payment terms and penalty clauses.

Further, the proposal submitted to EFC envisaged an efficient and robust IT system for transfer of incentives to the intended beneficiaries. Audit, however, observed that the DIDM Portal only allowed the Original Equipment Manufacturers (OEMs) to submit claims online. It did not have the functionalities for end-to-end online processing of claims. Thus, the Ministry had to process all the claims manually/offline.

Thus, the objective of developing an efficient and fully automated incentive transfer system remained largely unachieved.

The Ministry replied (February 2025) that the deliverables by the IT vendor were governed by the terms of the work order issued and the General Financial Rules. The vendor did all the works assigned as per work order. DPR for the e-enabled IT system was not part of the work order while a separate Service Level Agreement was not issued.

The reply needs to be seen in the context that the vendor executed the tasks based on the work order, which did not specify the key deliverables, timelines, testing protocols, or quality benchmarks etc. In the absence of a DPR and Service Level Agreement, there were no comprehensive parameters against which the performance of the Portal could be evaluated or monitored, which also impacted the completeness and integrity of the data in the DIDM portal, as discussed in the next para.

## **2.4 Non-reliable data of demand incentive under Phase-I**

According to the information provided by the Ministry, demand incentive amounting to ₹364.93 crore was sanctioned and released by the Ministry to the National Automotive Board (NAB) during Phase-I of the Scheme and further disbursement of the demand incentive to the OEMs was to be done by NAB.

On analysis of the data provided by the Ministry through three sources viz., (a) access to DIDM Portal<sup>7</sup> (Phase-I); (b) data dump<sup>8</sup> of DIDM Portal (Phase-I); and (c) physical files/e-files relating to processing of demand incentive claims, Audit observed the following discrepancies:

- (i) **Discrepancies in the data on DIDM Portal (Phase-I):** The DIDM Portal did not have any data on demand incentive for the period November 2017 to March 2019. Further, the figures of the total demand incentive amount on the Portal's homepage (i.e. ₹359.58 crore claimed against 2,80,830 vehicles), did not match with the total demand incentive amount reflected on the DIDM Portal (i.e. ₹201.84 crore<sup>9</sup> against 1,57,256 vehicles).
- (ii) **Discrepancies in data dump of DIDM Portal (Phase-I):** The data dump reflected (-)₹423.28 crore as demand incentive claimed against 2,80,830 EVs, which did not match with the amount shown on the Portal.
- (iii) **Discrepancies and non-availability of vehicle-wise data in physical/e-files:** While the physical files/e-files did not contain any vehicle-wise details, the total demand incentive disbursed to OEMs under Phase-I, as per these files, was ₹320.87 crore for 2,57,095 vehicles.

Due to the above stated discrepancies, Audit could not derive assurance on the admissibility as well as correctness of the demand incentives sanctioned under Phase-I of the Scheme.

The Ministry replied (February 2025) that the data on the DIDM Portal may not be updated and therefore in case of any discrepancy between data on the Portal and that in e-office/physical files, the data in e-office/physical files may be considered as final.

While Audit acknowledges the response of the Ministry, the fact remains that the physical/e-files did not have the vehicle-wise data. As such, Audit was unable to derive any assurance as to the admissibility of the demand incentive reported in these files.

## 2.5 Demand Incentive Delivery Mechanism (DIDM) portal for Phase-II

For Phase-II of the Scheme, a new portal viz. DIDM Portal (Phase-II) was developed and rolled-out at a cost of ₹5.13 lakh per annum, for submitting demand incentive claims by the OEMs for further processing by the Ministry. Audit observed the following discrepancies in connection with development of DIDM Portal (Phase-II):

### (i) Award of work to same vendor despite issues in DIDM Portal (Phase-I)

There were persistent issues such as absence of end-to-end processing mechanism in the DIDM Portal (Phase-I) for disbursement of demand incentive and unreliable data in the

<sup>7</sup> Front-end access to the system was provided with login credentials through the URL: <http://fame-india.gov.in/index.aspx>

<sup>8</sup> SQL data dump was provided in a DVD through NIC. The data dump was imported and analysed using IDEA software.

<sup>9</sup> Demand incentive released (i.e. disbursed to OEMs): ₹196.69 crore; approved but pending for payment: ₹ 0.43 crore; pending for payment: ₹4.72 crores

portal (as discussed in paras 2.3 and 2.4). Audit, however, observed that the work of design and development of DIDM Portal (Phase-II) along with integration of portal with Direct Benefit Transfer (DBT) Bharat Portal was awarded (August 2019) to Net Creative Mind Solutions Pvt. Ltd., i.e. the same vendor who had developed DIDM Portal (Phase-I), on nomination basis. While approving the award of work to vendor, it was recorded that ‘the department is already running an online portal for FAME-I successfully’.

The Ministry replied (February 2025) that the selection of the same vendor for Phase II Portal was driven by the urgency of the task and their familiarity with FAME-I portal, leveraging Rule 194 of General Financial Rules, 2017 to ensure timely delivery under exceptional circumstances.

The reply needs to be viewed in light of the fact that persistent issues related to Phase-I Portal were not taken into consideration while awarding the work to the same vendor for development of Phase II Portal.

## **(ii) Non-availability of Service Level Agreement**

The Service Level Agreement (SLA) with the vendor specifying the scope of work, key deliverables, timelines, etc. was not found on the records of the Ministry. In the absence of SLA, it was not clear how the Ministry satisfied itself about the completion of work of developing the portal, and its proper functioning as per the business rules. It was also observed that the performance of Net Creative Mind Solutions Pvt. Ltd. was not found satisfactory by the Ministry and therefore in February 2023, the Ministry awarded project management including portal-related work to IFCI Limited for the period up to March 2025.

The Ministry replied (February 2025) that the deliverables by the IT vendor were governed by the terms of the work order dated 19 August 2019 and the General Financial Rules, 2017.

The reply needs to be viewed in light of the fact that the work order did not specify performance parameters for the vendor resulting in manual processing of the claims and several deficiencies as discussed in the next para.

## **2.6 Deficiencies in DIDM Portal (Phase-II)**

Audit observed the following deficiencies in the DIDM Portal (Phase-II) and its data dump:

- (i) Portal incapable of end-to-end processing:** After OEMs had submitted their claims on the Portal, further processing of the claims was being done manually/offline by the Ministry.
- (ii) Lack of validation control:** The Portal accepted invoice dates for period beyond/before the Scheme period, such as, 2027, 2044, 2088, 1975, 1990, 2001 and 2002, etc. The Portal accepted duplicate entries of vehicle registration number, and the Ministry paid for such duplicate claims received from the OEMs. Thus, there was no validation control regarding the claims submitted in the portal.

**(iii) Delayed integration of Portal with Vahan/Sarathi:** The demand incentive claims were being verified by calling for 'Vahan Portal' data from the Ministry of Road Transport and Highways in MS-Excel files. As such, integration of DIDM Portal with Vahan/Sarathi portal would have facilitated expeditious verification of claims. However, the Ministry integrated DIDM Portal with Vahan/Sarathi portal in November 2023 after sales of electric vehicles had grown. As a result, there were instances of demand incentives being paid to OEMs for ineligible vehicles, viz. non-electric vehicles.

**(iv) Portal downtime:** The Portal, on some occasions, did not allow demand incentive claims to be submitted even if the claim was lodged within the prescribed time limit. Also, there were several instances when the Portal remained unavailable.

The Ministry replied (July 2024/February 2025) that:

- IFCI Limited had been appointed as the Project Management Agency (PMA) in February 2023 and they were instructed to automate the system. Post induction of IFCI as PMA, separate automated module for claims processing along with the validations pertaining to Scheme guidelines, Operational Guidelines and integration with Vahan portal had been inbuilt.
- Data entry in the Portal was susceptible to human/clerical errors and basic principles of Scheme guidelines were checked before approving the claims. Hence, there was adequate control mechanism in the Ministry for processing the claims and there was no wrongful processing on this count.
- After IFCI had taken control of the Portal, there had been only a single instance of downtime of the Portal.

Audit acknowledges the response of the Ministry. However, it may be noted that IFCI took control of the Portal in March 2023, after major duration of the Scheme period for Phase-II had already elapsed.

## 2.7 Timeliness in submission and processing of claims

Audit observed that demand incentive was disbursed by the Ministry despite delay in submission of claims by OEMs, as discussed below:

### **(i) Submission of claims by OEMs**

As per the operational guidelines for the disbursement of demand incentives for Phase-II (March 2019), OEMs were to submit the reimbursement claims once a month but not later than 120 days after the sale of the vehicle at the dealer's end.

Audit observed that out of a total 13,59,081 electric vehicles for which demand incentive claims were approved and paid as of 31 March 2024, in case of 30,490 vehicles (2.24 per cent of total vehicles sold), the OEMs submitted demand incentive claims after more than 120 days from the date of generation of invoice. These claims were approved, and amount of ₹112.21 crore was paid to the OEMs by the Ministry.

The Ministry replied (February 2025) stated that due to instances of downtime of FAME portal, OEMs were allowed to upload their claims beyond 120 days, only after assessing the reason for delay by the OEM. Post appointment of IFCI as the Project Management Agency in February 2023, the dependence on bucket creation with the limit of 2,000 claims had been removed, and multiple bucket numbers could be generated without first filling 2,000 claims.

Audit acknowledges the response of the Ministry. However, it may be noted that even after appointment of IFCI as the Project Management Agency, demand incentive claims for 12,291 electric vehicles were processed by the Ministry despite delayed submission of claims by the OEMs, which was in violation of the Scheme guidelines.

### **(ii) Delay in disbursement of demand incentive to OEMs**

Audit observed that there was no timeline prescribed for processing and settlement of demand incentive claims by the Ministry. Scrutiny of data relating to demand incentives in Phase-II provided by the Ministry as of 31 March 2023 revealed that the Ministry took time up to 400 days in settlement of demand incentive claims of OEMs, as detailed in **Annexure-III**.

The Ministry replied (February 2025) that the claims were processed manually since there was no provision available on FAME portal for automatic processing of the claims. The FAME portal was mainly used for lodging of claims by OEMs. Once OEMs lodged the claim, corresponding Vahan data was sought from the Ministry of Road Transport and Highways and the claims were processed in MS-Excel sheet. Post induction of IFCI as Project Management Agency in February 2023, separate automated module for claims processing with the validations pertaining to Scheme guidelines, operational guidelines and integration with Vahan has been inbuilt.

The reply may be seen in light of the fact that the Ministry has still been processing the claims as the expenditure on demand incentives for electric vehicles sold as of 31 March 2024, was stated as ₹6,224 crore in April 2024 which was subsequently stated as ₹6,570 crore as on 16 January 2025.

## **2.8 Demand aggregation for e-3-wheelers**

The Project Implementation and Sanctioning Committee entrusted (June 2021) Energy Efficiency Services Limited (EESL) for demand aggregation and centralised procurement of 3 lakh e-3-wheelers (by March 2022) for onward supply to interested entities, with the aim of lowering their initial cost burden. Accordingly, Convergence Energy Services Limited (CESL), a subsidiary of EESL, issued an Expression of Interest (EoI) on 16 July 2021 for aggregation of demand for e-3-wheelers from interested entities, with two options *viz.* outright purchase or lease/EMI. In response to the EoI, demand for a total of 82,699 e-3-wheelers was aggregated. CESL initiated a tender process on 6 August 2021 for procuring one lakh e-3-wheelers. The Board of Directors (BoD) of CESL approved (23 October 2021) the procurement of one lakh e-3Ws, subject to budgetary clearance and endorsement from BoD of the parent company EESL.

Audit observed that whereas CESL was in need for approval of equity infusion of ₹72 crore from EESL for financing the procurement, proposal for the same was never submitted to EESL nor was any communication made with the Ministry/PISC. As a consequence, there was no further progress and there was no procurement/supply of e-3-wheelers through demand aggregation as of March 2024.

The Ministry replied (February 2025) that CESL approached all the stakeholders to ascertain the e-3-wheelers market scenario on asset lite model<sup>10</sup> as per the approval from CESL's Board. Due to several market constraints, response was negative from the market even with the partial investment proposed by CESL. Accordingly, it was decided not to put up the proposal to CESL's Board of Directors. Since the aggregation model did not work in the case of e-3-wheelers, the demand incentive was passed on to individual buyers, etc. of e-3-wheelers. As against the target number of 1,55,536 e-3-wheelers, incentive was disbursed for 1,64,890 e-3-wheelers (106 *per cent* of target).

While the reply of the Ministry is acknowledged, it may be noted that the target was revised from the initial target of 5 lakh e-3-wheelers to 1.55 lakh e-3-wheelers in 9<sup>th</sup> PISC meeting (19 October 2023). The achievement of demand incentive disbursement to the extent of 106 *per cent* was made only with reference to the revised target.

## 2.9 Non-inclusion of cost of onboard charger in ex-factory price

The Ministry's notification dated 8 March 2019 stipulated that 'maximum ex-factory price' of e-2-wheelers should not cross ₹1.5 lakh. Further, the notification for Phased Manufacturing Programme (PMP) issued by MHI in March 2019 (as revised from time to time) specified that on-board charger was one of the components required to be indigenised/localised for eligibility under the FAME Scheme. Compliance with Scheme guidelines and notifications was to be checked by the testing agencies and the Eligibility Assessment Report (EAR) containing details of all the components used along with the ex-factory price of the e-vehicle was to be issued for electric vehicle models.

Audit observed that three OEMs did not include the cost of the on-board charger in the ex-factory price of e-2-wheeler models, and instead sold the charger as an accessory. By doing this, the ex-factory price of the vehicle remained below the notified threshold of ₹1.5 lakh, and the vehicle models became eligible for demand incentive. The Ministry accordingly disbursed demand incentive amounting to ₹1,418.62 crore to these OEMs for such models of e-2-wheelers. The testing agencies<sup>11</sup> also certified the eligibility of these models for the demand incentive under the scheme, ignoring the fact that onboard charger was an integral part of e-2-wheelers.

The Ministry replied (February 2025) that the total amount refundable to the customers on account of non-inclusion of cost of charger in the ex-factory price amounted to ₹325.97 crore. Out of this, OEMs had refunded ₹296.52 crore upto December 2024 to the customers towards cost of chargers and a sum of ₹29.45 crore was yet to be refunded.

---

<sup>10</sup> *An asset-lite model is a business strategy where a company minimises its ownership of physical assets, relying instead on partnerships or outsourcing to provide services or products.*

<sup>11</sup> *Automotive Research Association of India and International Centre for Automotive Technology.*

OEMs deposited ₹61.66 crore with IFCI (Project Management Agency) which shall be released to the OEMs only upon their making the balance refund to the eligible customers.

The reply may be viewed in light of the fact that the Audit observation was not related to non-refund of the cost of charger to the customers but to the non-inclusion thereof in the ex-factory price of e-2-wheeler models by three OEMs which would otherwise have the effect of making those vehicle models ineligible for demand incentive. Further, the responsibility of testing agencies which had certified the eligibility of such models should also be fixed.

## 2.10 Electric buses

The FAME India Scheme aimed at creating market for electric vehicles by incentivising, through demand incentives, all the vehicle segments i.e. 2-wheelers, 3-wheelers, passenger 4-wheelers, light commercial vehicles and Buses. In respect of electric buses (e-buses), the demand incentive was extended to the State Transport Undertakings (STUs)/ Municipal Corporations (MCs) against procurement/deployment of e-buses. E-buses were deployed in cities across the country through respective STUs/MCs during both Phase I and II of the Scheme, for which demand incentive was released by the Ministry.

### 2.10.1 Process of approval of demand incentive for e-buses

The process for initiation of proposals, procurement/deployment of e-buses, and approval/sanction of demand incentive under Phase-I and II of the Scheme is explained below:

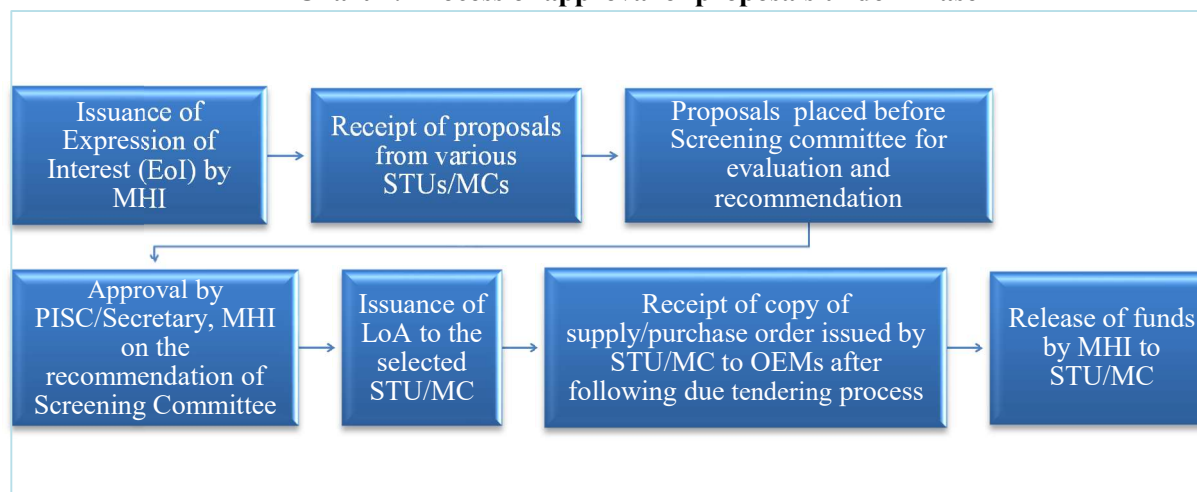
#### (i) Process followed during Phase-I

When the Scheme was initially launched, e-buses were approved for purchase and deployment by the Project Implementation and Sanctioning Committee (PISC) under the 'Pilot Project' component<sup>12</sup>, on the basis of individual proposals submitted by different STUs/MCs for various cities. Later, in October 2017, the Ministry issued an Expression of Interest (EoI) for obtaining proposals from STUs/MCs to deploy multi-modal public transport on CAPEX<sup>13</sup> model; approval of proposals was to be done using selection parameters such as population of the city, average PM 2.5 of the city, number of vehicles registered in the city, ranking in Swachhata Abhiyan, etc.

The process of approval of proposals during Phase-I involved the following steps:

<sup>12</sup> *The pilot projects are intended to fulfil objectives of introduction of new technologies, trial of new business models etc. with special focus on public transportation.*

<sup>13</sup> *In the CAPEX model (also known as the Outright Purchase Model), the Vehicle Manufacturer (OEM) supplies the bus, battery and chargers to the STU/MC who purchases them and undertakes ownership, operations, and maintenance.*

**Chart 1: Process of approval of proposals under Phase-I**

Demand incentive of 60 *per cent* of the purchase cost of e-bus or ₹1.5 crore, whichever is less, was to be borne by the Ministry and released to the respective STU/MC, while the remaining 40 *per cent* was to be borne by STU/MC itself.

## **(ii) Process followed during Phase-II**

Under Phase-II of the Scheme, the Ministry adopted two methods for inviting proposals for deployment of e-buses in cities across the country. The first method involved the issuance of an Expression of Interest (EoI), while the second method was through a process of demand aggregation<sup>14</sup> facilitated by Energy Efficiency Services Limited (EESL).

### **(a) EoI method**

The Ministry issued an EoI on 4 June 2019, inviting proposals from STUs and MCs to avail incentives under Phase-II on an Operational Cost Model (OPEX)<sup>15</sup> basis. The proposals from STUs and MCs were examined by the PISC based on parameters such as availability of power at an affordable price, availability of space/locations for installation of charging infrastructure, dedicated depot for parking of buses and installation of chargers, concession in registration fees of such vehicles, etc.

As per the EoI issued by the Ministry, a Model Concession Agreement, as prepared by the NITI Aayog, was to be adopted by the STUs for the selected cities, and the same was to be incorporated in the bid documents. The process of approval for the deployment of e-buses through EoI was similar to that followed during Phase-I (refer Chart 1 above).

### **(b) Demand Aggregation method**

In the 5<sup>th</sup> PISC meeting dated 9 June 2021, it was realised that the Scheme was in its third year; however, expenditure of only ₹842.14 crore (including ₹326 crore committed

<sup>14</sup> Demand aggregation was a process of combining/aggregating demand from various STUs/MCs for centralised procurement to yield better value for money through economies of scale.

<sup>15</sup> Under the OPEX Model (or Gross Cost Contract), the vehicle manufacturer (OEM) owns, operates, and maintains the buses, batteries, and charging infrastructure and gets a fixed remuneration from the STUs/MCs based on assured kilometers.

expenditure of Phase-I) had been incurred. To overcome the low uptake of e-buses, it was decided to aggregate the demand for e-buses through EESL. Accordingly, a notification/corrigendum of the Scheme guidelines was issued (11 June 2021) by the Ministry stating that for demand aggregation in respect of e-buses, nine cities (having 4-million plus population) would be targeted by EESL on OPEX basis. The same was undertaken by Convergence Energy Services Ltd. (CESL), a subsidiary of EESL.

#### **Release of funds under both the methods:**

The entire subsidy amount was to be released to STU/MC for further payment to the selected bidder in the following instalments.

**Table 6: Manner of release of funds to STUs/MCs**

| Instalment no.  | Activity being completed                                                                                                         | Percentage of demand incentive to be released by the Ministry |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| 1 <sup>st</sup> | Mobilisation advance to be released after the issue of supply order and signing of the agreement by STU/MC with selected bidders | 20%                                                           |
| 2 <sup>nd</sup> | Delivery of e-buses                                                                                                              | 40%                                                           |
| 3 <sup>rd</sup> | After six months of the successful commercial operation of e-buses                                                               | 40%                                                           |

#### **2.10.2 Status of deployment of e-buses**

Under Phase-I of the Scheme, proposal of STUs/MCs for 425 e-buses were approved by the PISC in 10 cities across the country involving a subsidy of ₹278.42 crore from the Ministry. All the e-buses had been deployed as of March 2023. City/STU-wise deployment of e-buses is given in **Annexure-IV**.

Under Phase-II of the Scheme, 3,738 e-buses were sanctioned by the PISC against the EoI issued in June 2019 to STUs/MCs in 26 cities across the country involving a subsidy of ₹1803.06 crore from the Ministry. As of March 2023, 2,776 e-buses had been deployed with a total released amount of ₹1,026 crore. City/STU/MC-wise deployment of e-buses under Phase II is given in **Annexure-V**. In addition, a total of 3,472 e-buses were sanctioned through the Demand Aggregation method in five cities (with 4 million plus population). As of March 2023, no e-buses had been deployed through demand aggregation. However, ₹155.35 crore had been released for two out of five cities, which was lying with the STUs.

In the 8<sup>th</sup> PISC meeting held on 19 May 2023, it was observed that as per the Scheme outlay for Phase-II, an amount of ₹3,545 crore was to be utilised for supporting 7,090 buses, however, due to savings on account of reduction in prices during the bidding process managed by CESL and STUs, the target for deployment of e-buses was increased to 9,458 e-buses with a total outlay of ₹4,307 crore. Subsequently, in the 9<sup>th</sup> PISC meeting held in October 2023, the target for deployment of e-buses was again reduced to 7,262 e-buses with an outlay of ₹3,209 crore. Out of the revised target of 7,262 buses, as

of March 2024, 4,604 buses (EoI method: 3,133 e-buses; and Demand Aggregation method: 1,471 e-buses) had been deployed under the Scheme. The target was further reduced to 6,862 from time to time against which the actual deployment as of 31 December 2025 was 5,195 e-buses.

### 2.10.3 Monitoring performance of e-buses

As per Clause 14 of the EoI issued (4 June 2019) by the Ministry, each STU was required to develop an online platform to monitor the performance of e- buses deployed under the Scheme. The online platforms developed by STUs would monitor various parameters including daily running kilometers, equivalent fuel saved in litres/day, equivalent CO<sub>2</sub> reduction per day, etc. Further, these online platforms would be interconnected with a central server developed by the Ministry so that all the data is available with the Ministry for monitoring purposes.

Audit observed that the central server to be developed for monitoring performance of e-buses had not been developed by the Ministry as of December 2023. This was despite the assurance given by the Ministry in the 3<sup>rd</sup> PISC meeting (25 November 2019) that the central server would be available by December 2020. However, despite a lapse of three years, the Ministry could not develop the central server.

The Ministry replied (February 2025) stated that Covid-19 pandemic had resulted in disruptions and the activities directly related to e-buses could be restarted only after March 2022. The requirement of a central server was directly linked to the operation of e-buses. In the absence of manufacturing and delivery of e-buses, the priority was to ensure procurement and availability of e-buses for STUs. However, the Ministry engaged with States and Cities and worked with them to create online portal. Further, the Phase-II Scheme period ended on 31 March 2024.

The reply needs to be viewed in light of the fact that over 40 *per cent* of the e-buses had been deployed by STUs as of March 2023. Non-development of central server for monitoring e-bus performance could have hampered the Ministry's ability to effectively track the performance of e-buses deployed by STUs and to initiate corrective action wherever required, etc.

### 2.11 Summing up

Under Phase-I of FAME India Scheme, the Ministry developed the Demand Incentive Delivery Mechanism (DIDM) Portal without having a Detailed Project Report (DPR)/deliverables and timelines. While submission of claims for demand incentives by the Original Equipment Manufacturers (OEMs) could be made online on the Portal, it did not have any mechanism for end-to-end processing and disbursement of demand incentive claims as envisaged by the Expenditure Finance Committee. Further, the Portal did not have any data on demand incentive claimed/sanctioned/disbursed for the period November 2017 to March 2019.

The data of demand incentives disbursed during Phase-I, as made available by the Ministry from three sources, did not tally with the final figures of demand incentive

reported by the Ministry. As such, Audit was unable to derive an assurance on the admissibility and correctness of the demand incentive sanctioned under the Scheme.

For Phase-II of the Scheme, the work for development of the DIDM Portal was assigned to the same vendor (of Phase I), without considering the deficiencies in Phase I portal. In the absence of any timelines for processing of claims, Audit could not assess the delay or effectiveness of the incentive delivery mechanism. The Portal was not integrated with Vahan/Sarathi portal for most of the period of the Scheme.

In respect of e-buses, Audit observed that during Phase-I, 425 e-buses were deployed as allocated in 10 cities through CAPEX model. During Phase-II, 5,195 e-buses were deployed against the target of 6,862 e-buses. Further, the Ministry did not develop a central server, as envisaged, for monitoring the performance of e-buses.

***Recommendations:***

- 1) The Ministry may develop a robust mechanism for end-to-end processing of demand incentive claims on DIDM portal for more transparency and timely disbursement of demand incentives.***
- 2) The Ministry may identify the constraints leading to low target achievement of e-buses under the Demand Aggregation method and take necessary remedial actions to ensure that the targets are achieved in this category.***
- 3) The Ministry may take action for early development of central server for monitoring of performance of e-buses deployed by various State Transport Undertakings.***

## Chapter-III

### Testing and Certification

As per the Scheme guidelines, in order to meet the qualifying criteria for demand incentive, the electric vehicles (xEVs) including its variants and versions shall, *inter alia*, (a) be manufactured in the country; (b) be duly type-approved<sup>16</sup> under the provisions contained in Central Motor Vehicles Rules (CMVR), 1989; and (c) be tested for the qualifying targets, prescribed under the Scheme for various vehicle parameters, by any of the authorised testing agencies in the country as per eligibility assessment procedure (**Annexure-VI**).

#### 3.1 Procedure for testing and certification of electric vehicles

Each Original Equipment Manufacturer (OEM) had to approach a designated testing centre for testing and homologation services. The testing centres were to certify whether a particular vehicle was entitled to get the benefit under demand incentive component and to specify the level of benefit (i.e. amount of demand incentive) that the vehicle would get. The authorised test centres were: (a) Automotive Research Association of India (ARAI), Pune; (b) International Centre for Automotive Technology (ICAT), Manesar; and (c) Central Institute of Road Transport (CIRT), Pune.

##### (i) Eligibility Assessment of xEV Models

Testing agencies were authorised to test and certify the e-vehicles against eligibility parameters for FAME India Scheme. After receipt of vehicle model from OEM, each testing agency was expected to first type-approve the vehicle model with reference to CMVR, 1989, and also test the vehicle model as per eligibility criteria for FAME India Scheme. After completion of testing, testing agency was expected to issue necessary certificate of eligibility, i.e. Eligibility Assessment Report (EAR).

##### (ii) Conformity of Production (COP)

Conformity of Production refers to the process of establishing compliance of components from the production series of a vehicle which has already been type-approved, to the provisions of the notified standard (Clause 2.10 of Automotive Industry Standards). All vehicle models approved under FAME India Scheme have to undergo Conformity of Production tests against all eligibility parameters by the recognised testing agencies at least once a year.

#### 3.2 Audit findings

Audit examined the testing-related records at two testing agencies (ARAI, Pune, and ICAT, Manesar). The audit observations relating to testing and certification process are discussed in the succeeding sub-paragraphs.

<sup>16</sup> *Type Approval: The procedure whereby a testing agency certifies that a type of vehicle or its systems satisfies the relevant provisions of CMVR*

### 3.2.1 Timelines for testing and certification

#### (i) Non-formulation of timelines by the Ministry

Timelines are fundamental for effective time management of any project/activity and for facilitating monitoring, bringing uniformity in the time taken to perform similar activities by different agencies and creating accountability. Audit, however, observed that no timelines had been notified by the Ministry for testing and issuance of Eligibility Assessment Reports by the testing agencies under the Scheme. In the absence of this, there was no control/monitoring over the time taken by testing agencies to complete the testing and certification process.

The Ministry replied (February 2025) that timelines were not prescribed for testing/certification as the testing agencies (ARAI and ICAT) were autonomous bodies and were empowered to formulate guidelines according to their requirements.

However, absence of a defined timeline raises concerns about the accountability of testing agencies and the efficiency of the testing and certification process.

#### (ii) Non-formulation of timelines by ICAT, Manesar

Audit observed that ICAT, Manesar had not specified any internal timeline for the completion of tests under CMVR, 1989 or for FAME eligibility assessment.

ICAT had an online portal (ICAT Online Certification System - IOCS) for end-to-end processing of applications for homologation from customers/OEMs, and for monitoring the progress of testing and certification by ICAT and OEMs. However, end-to-end processing of applications received from OEMs for testing/certification of vehicle models was not being done on IOCS portal. Only OEM registration and application submission was being done on the portal, and all other downstream processes and communications were being done by ICAT offline/by email.

Further, there was no consolidated/real-time record of status of testing requests, status of mandatory tests conducted, reason for rejection of application/delay in processing of application, etc. in IOCS. Hence, neither ICAT nor OEMs were able to monitor the status/progress of testing on the portal.

The Ministry, while endorsing the reply of ICAT, stated (February 2025) that CMVR certification involves multiple steps and stakeholders, making it impossible to define a generic timeline. It allows flexibility for corrections and submissions. With reference to the IOCS portal, ICAT stated that they are in process to develop IOCS 2.0 with all the advanced features as suggested, by March 2026.

The reply may be seen in light of the fact that a structured timeline would provide clarity, facilitate smoother implementation, and prevent potential bottlenecks. It would also help in fixing accountability and putting a check on the whole process.

#### (iii) Time taken in issue of Eligibility Assessment Reports

The Automotive Research Association of India (ARAI), Pune had formulated a standard operating procedure as per which maximum time of 45 days was prescribed for

processing of application for testing. With reference to this timeline of 45 days, Audit observed that there was delay in issuance of Eligibility Assessment Reports (EARs) by testing agencies as detailed in the table below:

**Table 7: Number of days taken to issue Eligibility Assessment Reports (EARs)**

| Sl. No.      | Number of days taken to issue EARs | ARAI                                                |            | ICAT                                                |            |
|--------------|------------------------------------|-----------------------------------------------------|------------|-----------------------------------------------------|------------|
|              |                                    | No of vehicle models against which EARs were issued | Percentage | No of vehicle models against which EARs were issued | Percentage |
| 1.           | 0 to 15 days                       | 181                                                 | 25%        | 30                                                  | 12%        |
| 2.           | 15 to 30 days                      | 137                                                 | 19%        | 26                                                  | 10%        |
| 3.           | 30 to 45 days                      | 90                                                  | 13%        | 18                                                  | 7%         |
| 4.           | More than 45 days                  | 312                                                 | 43%        | 181                                                 | 71%        |
| <b>Total</b> |                                    | <b>720</b>                                          |            | <b>255</b>                                          |            |

Thus, in 312 out of 720 requests (43 *per cent*) received by ARAI between April 2015 to September 2023, EARs were issued after a period of 45 days. The actual time taken in issue of EARs ranged up to 428 days. Further, in 181 out of 255 requests (71 *per cent*) received by ICAT between March 2015 to May 2023, EARs were issued after a period of 45 days and the actual time taken ranged up to 497 days.

The Ministry, while endorsing the replies of testing agencies, stated (February 2025) that delay in issuing certificates after receipt of the application was based on various shortcomings from the OEMs side, which cannot be attributed to the testing agencies.

It is evident from the reply that neither the OEMs nor the testing agencies had the clarity regarding testing and certification process which was necessary to streamline and expedite the process and avoid such delays.

### 3.2.2 Tests for conformity of production

#### (i) Absence of provision for ‘conformity of production’ test during Phase-I

Audit observed that under Phase-I of the Scheme, there was no provision for electric vehicle models to undergo Conformity of Production (COP) tests for annual revalidation, rendering it impossible to ascertain that (i) the OEMs were using the same components that were originally tested and approved at the time of initial eligibility assessment, and (ii) the vehicles under production by OEMs were conforming to xEV technology parameters, as originally tested and approved at the time of initial eligibility assessment.

Thus, the demand incentives under Phase-I of the Scheme had been disbursed without conducting any COP/revalidation testing as there was no provision for the same.

The Ministry replied (February 2025) that COP was already required for vehicles, and CMVR certification was necessary for approvals under the FAME Scheme. In Phase-I,

COP ensured that the electric vehicles met required standards, with initial certification based on prototype testing and COP verifying production models.

The reply needs to be viewed in light of the fact that under CMVR, 1989, the COP requirement existed only for exhaust emission (internal combustion engine) vehicles.

## **(ii) Notification for ‘conformity of production’ tests**

Until December 2022, there was no provision in CMVR, 1989 for whole-vehicle safety COP testing for electric vehicles. Provisions for the same were notified (June 2021) by the Ministry of Road Transport and Highways (MoRTH) and implemented from December 2022 for all electric vehicles. Further, component-level COP for ‘traction battery’ i.e. the power source of electric vehicles, was notified by MoRTH in December 2022 and implemented from 31 March 2023.

There was no assurance on conformity of the traction battery/whole-vehicle safety with performance/ safety parameters and there was no mechanism to ensure that approved components were being used by the OEMs during manufacturing of electric vehicles, till the above notification regarding provisions for COP requirements.

The Ministry replied (February 2025) that as electric vehicles continue to develop, MoRTH keeps updating its rules and guidelines to make sure that the industry grows responsibly and efficiently.

The reply needs to be viewed in light of the fact that until the implementation of provisions relating to safety and performance parameters, there was no assurance that mass-produced electric vehicles continued to meet the parameters that had been approved at the prototype stage. Audit, however, appreciates the remedial action taken by the Government for incorporating the relevant provisions in CMVR, 1989.

### **3.2.3 Testing standards for EV charging stations/equipment**

The Project Implementation and Sanctioning Committee (PISC), in its meeting held on 13 May 2015, had approved in-principle, a project on ‘Preparation of specifications and finalising draft standards of xEV charging stations’ for ARAI, Pune. As per directions of the Ministry, ARAI prepared the draft standards and further submitted the same to the Ministry in a meeting held in February 2018. In the meeting, it was decided to further submit the draft standards to the Bureau of India Standards (BIS) for formulation of BIS standards on the subject. BIS has notified IS-17017 on Electric Vehicle Conductive Charging System between 2018 and 2024.

In order to enforce due compliances by the EV charging stations, the above standards were needed to be made mandatory by the appropriate authority. Audit, however, observed that as of March 2024, these standards had not been made mandatory for all types of manufacturers/charge point operators. Non-mandatory testing of charging equipment/charging stations may pose significant risks/hazards.

The Ministry replied (February 2025) stated that the Ministry of Power vide office memoranda dated 17 September 2024 and 10 January 2025 had also issued Guidelines for

Installation and Operation of Electric Vehicle Charging Infrastructure-2024 which were applicable to battery charging equipment and charging stations.

The reply may be seen in light of the fact that the above guidelines were issued (September 2024) after the end of both the phases of the Scheme. Audit, however, appreciates the remedial action taken by the Government as this would address the safety risks for the users of charging infrastructure in future.

### **3.2.4 Testing standards for determining compliance to localisation requirements**

The Ministry notified Phased Manufacturing Programme (PMP) on 6 March 2019 specifying therein localisation/indigenisation requirements for electric vehicles. As per the Ministry's directions (29 March 2019), all testing agencies were to ensure strict compliance with the localisation requirements stipulated in the PMP notification before issuing Eligibility Assessment Reports to the OEMs.

Audit observations in this context are discussed below:

#### **(i) No provision to validate the undertakings by OEMs**

For getting certification under the FAME Scheme, the OEMs were required to provide 'a sample vehicle' for every approved model for testing along with its technical specifications to a specified testing agency and FAME certificates were issued on the basis of testing of such 'sample vehicles'. It was the responsibility of OEM to ensure that all vehicles manufactured and sold by it conform to the declared specifications and performance of the said sample vehicle. OEMs furnished an undertaking to testing agencies wherein they agreed that:

- the vehicles would be built so as to ensure that they continue to meet the criteria as per PMP and CMVR type approval,
- they would domestically manufacture all parts, components, assemblies or sub-assemblies and CMVR notified safety critical components as per PMP, and
- in the event of breach of any of the assurances/undertakings given, they undertook to indemnify the test agency and its officers.

Also, with each claim for demand incentive, the OEMs has to submit an undertaking that the claim was as per provisions of the Scheme guidelines and the vehicles had been manufactured as per the PMP guidelines.

Audit observed that the Ministry relied upon the undertakings given by the OEMs for disbursing demand incentive. There was no provision to check whether the OEMs, post testing and certification process, were complying with the FAME and PMP guidelines and respective undertakings while manufacturing, registration and sale of vehicles.

#### **(ii) Violation of guidelines by OEMs while manufacturing and sale of vehicles**

Based on certain complaints regarding violations of FAME guidelines and PMP guidelines by the OEMs, the Ministry directed the testing agencies to carry out detailed

examination of records, physical plant inspection, and strip-down analysis of vehicles. The examination revealed the following deviations:

- OEMs had not applied in time to the testing agencies for revalidation of their electric two-wheeler models for obtaining full localisation approval applicable with effect from 1 April 2021.
- OEMs continued selling their vehicles with imported parts. Various parts<sup>17</sup> for which mandatory localisation was required as per PMP notification were being imported by the OEMs even after 1 April 2021.
- The OEMs did not apply for revalidation of all their vehicle models even after expiry of one year in September/October 2022, which was a mandatory requirement as per FAME-II guidelines.

From the examination, it emerged that the Ministry had disbursed demand incentive amounting to ₹467.96 crore to five OEMs despite the above deviations (refer para 3.2.5).

The Ministry replied (February 2025) that in order to bring synergy between testing agencies, SOP for Common Testing Protocol & Strip-down Activity, was drafted and approved by the Committee of all the testing agencies headed by Director, ARAI on 18 December 2024. Additionally, during the Exit Conference (February 2025), the Ministry informed that the learnings from Phase-I and Phase-II of the Scheme had been incorporated while formulation of PM e-drive Scheme, such as addition of strip down procedure, etc.

It is evident from the reply that strict and adequate mechanism to ensure compliance with the localisation requirements was lacking among the testing agencies during the period of implementation of FAME India Scheme. Audit, however, appreciates the remedial action taken by the Ministry for the subsequent Scheme (PM e-drive) wherein the testing agencies are required to conduct annual strip down test for electric vehicles after randomly selecting the vehicles from the customers who have purchased electric vehicles under the Scheme or from OEMs' manufacturing plants.

### 3.2.5 Claims made by the OEMs in violation of localisation requirements

The Ministry had notified (March 2019) Phased Manufacturing Programme (PMP) to promote indigenous manufacturing of electric vehicles, its assemblies/sub-assemblies and parts/inputs of the sub-assemblies thereon. The PMP stipulated different dates for indigenisation of different parts/components of electric vehicles in a phased manner. The Ministry further directed (March 2019) all the testing agencies notified under the Scheme to ensure strict compliance of PMP before issue of eligibility certificate to the OEMs for facilitating registration of their vehicles under Phase-II of the Scheme. The PMP was revised from time to time by the Ministry.

<sup>17</sup> on-board charger, wheel rim integrated with hub-motor, traction motor controller/inverter, electronic throttle, AC-DC converter

As per the revised PMP notification of October 2021, for eligibility under Phase-II of the Scheme, all the vehicle parts/components (except battery cells, and thermal and battery management system) for e-2-wheelers and e-3-wheelers were to be domestically manufactured with effect from 1 April 2021, and for e-4-wheelers with effect from 1 April 2022.

Audit observed that the Ministry had disbursed demand incentive amounting to ₹467.96 crore (as of 7 June 2024) to five OEMs which had not fulfilled the localisation requirements stipulated in the PMP notification. The testing agencies had not found any non-compliance with the localisation requirements stipulated in the PMP notification at the time of testing and issuance of Eligibility Assessment Report to the OEMs. These OEMs had also submitted undertaking regarding compliance with the Scheme guidelines and PMP notification. The violation was discovered at a later stage, after disbursement of demand incentive, and after the testing agencies carried out detailed examination of records, physical plant inspection, and strip-down analysis of vehicles, on the specific directions of the Ministry itself.

The Ministry replied (February 2025) that two out of the five OEMs had refunded the entire demand incentive availed by them including interest, amounting to ₹190.90 crore to the Ministry. However, the remaining three OEMs had not refunded the demand incentive and hence orders for de-registration of those three OEMs along with instructions to repay the entire availed incentive to the Ministry had been issued in October-November 2023. Further, orders to debar the three OEMs from all the Schemes of the Ministry for a period of two years had also been issued. Further, at the request of the Ministry, the Serious Fraud Investigation Office was conducting investigation in the matter, under the provisions of the Companies Act, 2013.

Audit appreciates the action taken by the Ministry against the delinquent OEMs. However, an amount of ₹277.96 crore remains to be recovered from the three OEMs.

### **3.2.6 Release of demand incentive for ineligible claims**

#### **3.2.6.1 Claims without assurance on conformity with Scheme eligibility criteria**

Scheme Guidelines (March 2019) provided that in order to avail demand incentive, each vehicle model needed to satisfy minimum technical eligibility criteria with regard to performance and efficiency of vehicles to be notified separately and get the vehicle model 'type-approved' as per prescribed/standard testing procedure at recognised testing agencies notified under Rule 126 of Central Motor Vehicle Rules (CMVR), 1989 by the Ministry of Road Transport and Highways (MoRTH).

Further, the guidelines/notifications for FAME India Scheme stipulated the following:

**(a) Eligibility Assessment Procedure:** Under Phase-II, an Eligibility Assessment Procedure was notified in May 2019 by the Ministry for assessment of vehicle models/variants to determine eligibility for demand incentive. The procedure outlined the technical specifications for an electric vehicle to qualify for demand incentive under the

Scheme. Testing agencies were to issue eligibility certificates/Eligibility Assessment Reports (EAR) to the OEMs.

**(b) Revalidation Testing:** OEMs were to provide the list of VINs (Vehicle Identification Numbers) and battery packs (with unique identification number) available in the vehicle production plant to the testing agency which randomly selected one VIN and one battery pack for carrying out the tests. Thereafter, revalidation certificate was to be issued to OEMs.

**(c) Frequency of FAME Eligibility Assessment Tests:** Eligibility certificate issued by testing agencies were valid for one financial year from April to March as per the Ministry's notification of March 2019. OEMs were to submit revalidation certificate to the Ministry/National Automotive Board (NAB) for all vehicle models approved under the Scheme at the frequency of one year. OEMs were allowed an additional time of one month, over and above the one-year period, to provide revalidation certificate for the approved models. Further, as per Ministry's OM of April 2021, demand incentive claims for vehicle models approved by the Ministry/NAB and sold after one year of the certification date were to be admissible only if revalidation was done within an additional time of one month.

The validity of the eligibility certificate issued by the testing agencies was extended many times as detailed below:

**Table 8: Validity Extension of Eligibility Certificates**

| Date of Notification     | Effect of Notification / Revision                                                           |
|--------------------------|---------------------------------------------------------------------------------------------|
| <b>22 March 2019</b>     | Certificates issued during 2019-20 were valid till 31 March 2020                            |
| <b>27 April 2020</b>     | Certificates issued during 2019-20 were valid till 30 June 2020                             |
| <b>25 June 2020</b>      | Certificates issued during 2019-20 were valid till 30 September 2020                        |
| <b>23 September 2020</b> | Certificates issued during 2019-20 were valid till 31 December 2020                         |
| <b>13 January 2021</b>   | Certificates issued during 2019-20 were valid till 31 March 2021                            |
| <b>12 April 2021</b>     | Certificates issued during 2020-21 were valid for one year from the date of the certificate |

In the above context, Audit analysed the data on demand incentive under Phase-II in respect of the electric vehicles (EVs) other than electric buses to ascertain whether the sale of EVs (for which demand incentive had been granted) took place within the validity period of the eligibility certificates issued under the Scheme by the testing agencies.

Audit observed that demand incentive amounting to ₹6.78 crore was approved for 952 EVs which were ineligible in terms of the provisions of Scheme guidelines/ notifications. The details are given in the table below:

**Table 9: Demand Incentive approved for ineligible EVs (other than e-buses)**

| Particulars                                                                          | Number of EVs | Demand incentive approved (₹ crore) |
|--------------------------------------------------------------------------------------|---------------|-------------------------------------|
| Sale of vehicle after the validity period of FAME Eligibility Assessment Certificate | 894           | 6.18                                |
| CMVR and FAME Eligibility Certification not available                                | 58            | 0.60                                |
| <b>Total</b>                                                                         | <b>952</b>    | <b>6.78</b>                         |

The Ministry replied (February 2025) that:

- Amount of ₹6.18 crore was recovered/under recovery for cases where EVs had been sold beyond validity period of FAME eligibility certificates; and
- Amount of ₹0.60 crore was recovered for cases where CMVR certificates and FAME eligibility certificates were not available.

Audit appreciates the recovery action taken/initiated by the Ministry.

### **3.2.6.2 Excess disbursement of demand incentive**

The Ministry's notification dated 3 April 2019 required testing agencies to specifically mention in the Eligibility Assessment Report, the amount of demand incentive to which a particular model of vehicle was entitled. Further, as per para 2.1 of the Eligibility Assessment Procedure for FAME-II, notified (28 May 2019) by the Ministry for compliance by all notified testing agencies, while applying for the eligibility certificate, the applicant was to furnish minimum 'ex-showroom price' of the vehicle model/variant(s) for all category of e-vehicles except for e-buses.

The guidelines also specified that the amount of demand incentive would be determined by the testing agencies as ₹10,000 per kWh (battery capacity) subject to a cap of 20 *per cent* of ex-showroom price of the vehicle. The amount so determined was to be specified by the testing agencies in the eligibility certificates.

On test check of records/data, Audit observed that in respect of 5,198 e-3-wheelers of two OEMs, the Ministry disbursed demand incentive without restricting it to the amount specified by the testing agencies in eligibility certificates, resulting in excess disbursement amounting to ₹1.65 crore.

The Ministry replied (February 2025) that the excess disbursement of ₹1.65 crore for 5,198 e-3-wheelers had been recovered from the OEMs.

## **3.3 Summing up**

Testing agencies played a significant role in implementation of FAME India Scheme. They were to test and certify the electric vehicles for eligibility under the Scheme along with compliance to localisation guidelines, and also to determine the amount of eligible demand incentive. Audit observed that the testing agencies did not follow a strict timeline for testing and issue of Eligibility Assessment Reports under the Scheme. Also, there was no end-to-end online platform for certification system to achieve transparency and

efficiency. Also, there was lack of an adequate standard operating procedure with the testing agencies to check on violations of localisation guidelines by the OEMs.

Further, Audit observed that demand incentive amounting to ₹6.78 crore was approved for 952 ineligible electric vehicles in violation of the Scheme guidelines/ notifications.

Audit appreciates the action taken by the Ministry for recovery of ₹190.90 crore from two of the five OEMs to whom demand incentive of ₹467.96 crore had been disbursed despite their failure to comply with the prescribed localisation requirements for parts/components of electric vehicles.

***Recommendations:***

- 1) Testing agencies may develop and strictly follow the timelines for testing and issue of Eligibility Assessment Reports. An online platform for certification system may also be developed to achieve transparency and efficiency.***
- 2) The Ministry may formulate comprehensive Standard Operating Procedure for testing and certification under FAME and other schemes and for adherence to localisation guidelines for the testing agencies.***
- 3) The Ministry may include important details of vehicle testing (i.e. CMVR and FAME eligibility certification details including effective period, admissible demand incentive) as validation rules in FAME portal for processing of demand incentive claims.***

## Chapter-IV

### Charging Infrastructure

An accessible and robust charging infrastructure network is an essential prerequisite for achieving the transition to electric mobility. Under National Electric Mobility Mission Plan (NEMMP) 2020, lack of public charging infrastructure was identified as a key barrier to the large-scale adoption of electric vehicles in India. The FAME India Scheme targeted the creation/development of charging infrastructure network for electric vehicles under both Phase-I and Phase II of the Scheme.

#### 4.1 Approval of charging infrastructure projects

##### (i) Charging infrastructure projects sanctioned in Phase-I

Based on the proposals received from the implementing agencies, the Project Implementation and Sanctioning Committee (PISC) of the Ministry sanctioned five charging infrastructure projects under Pilot Projects/ Technology Platform components of the Scheme at a cost of ₹44.10 crore during Phase-I, as shown in the table below:

**Table 10: Charging Infrastructure Projects under Phase I**

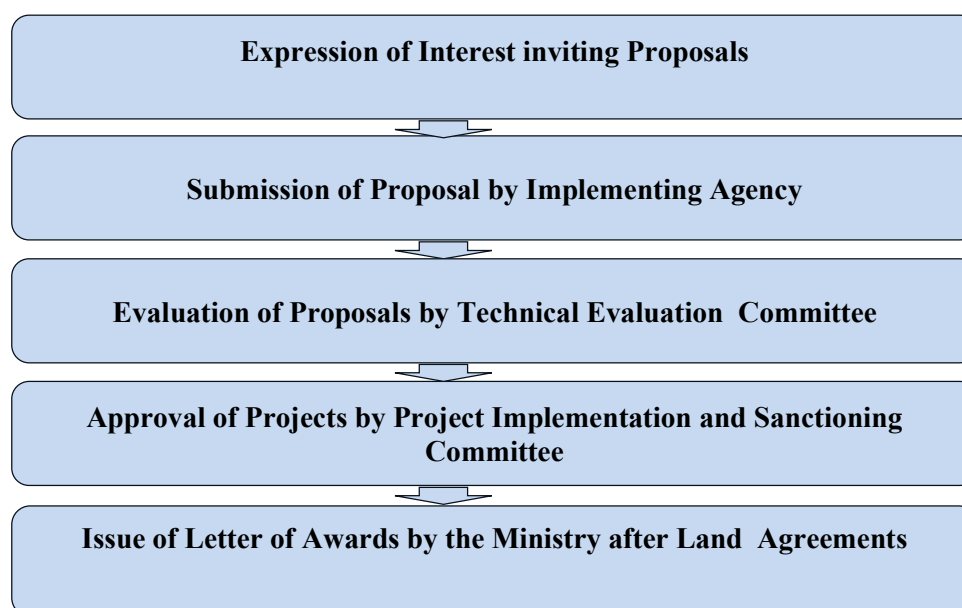
| Sl.No. | Name of Implementing Agency             | Name of project                                                    | No. of charging stations sanctioned | Grant by Ministry (₹ crore) | Date of sanction by PISC |
|--------|-----------------------------------------|--------------------------------------------------------------------|-------------------------------------|-----------------------------|--------------------------|
| 1.     | REIL <sup>18</sup> & BHEL <sup>19</sup> | Solar based charging stations                                      | 4                                   | 1.000                       | 20.08.2015               |
| 2.     | Mahindra Reva                           | Charging infrastructure                                            | 25                                  | 0.687                       | 13.05.2015               |
| 3.     | REIL                                    | Charging stations                                                  | 200                                 | 5.606                       | 15.06.2017               |
| 4.     | REIL                                    | Charging stations (including 25 grid-connected solar based)        | 270                                 | 25.759                      | 03.01.2019               |
| 5.     | BHEL                                    | Grid connected solar charging stations on Delhi-Chandigarh highway | 40                                  | 11.051                      | 03.01.2019               |
|        |                                         | <b>Total</b>                                                       | <b>539</b>                          | <b>44.103</b>               |                          |

##### (ii) Charging infrastructure projects sanctioned in Phase-II

The process chart for approval of charging infrastructure projects during Phase-II was as shown below:

<sup>18</sup> Rajasthan Electronics and Instrumentation Limited (REIL)

<sup>19</sup> Bharat Heavy Electricals Limited (BHEL)

**Chart 2: Stages of Charging Infrastructure Projects Sanction (Phase II)**

Out of the revised allocation of ₹839 crore<sup>20</sup> for creation of charging infrastructure under Phase-II, the Ministry released ₹633.41 crore for three charging infrastructure projects as shown in the table below:

**Table 11: Charging Infrastructure Projects under Phase II**

| Name of Project          | No. of charging stations approved | Funds released (₹ in crore) | Date of sanction by PISC  |
|--------------------------|-----------------------------------|-----------------------------|---------------------------|
| Cities                   | 2,877                             | 21.99                       | 25.11.2019 and 31.08.2020 |
| Highways and Expressways | 1,576                             | Cancelled                   | 08.10.2021                |
| Oil Marketing Companies  | 8,412                             | 611.45                      | 17.03.2023 and 20.02.2024 |
| <b>Total</b>             | <b>12,865</b>                     | <b>633.44</b>               |                           |

PISC sanctioned the ‘Cities’ and ‘Highways and Expressways’ projects after inviting Expressions of Interest. During a review (May 2023) of the progress of implementation of these two projects, the Ministry found that only 148 charging stations had been commissioned under the ‘Cities’ project only. The Ministry, therefore, cancelled the remaining charging stations awarded under these two projects (refer para 4.5.1).

#### **4.2 Status of implementation of charging infrastructure projects**

The status of implementation of charging infrastructure projects sanctioned under Phase I and Phase II is as shown in table below:

<sup>20</sup> Original allocation was ₹1,000 crore

**Table 12: Status of Charging Infrastructure Projects (as on 31 March 2024)**

| Phase        | No. of charging stations sanctioned <sup>21</sup> | No. of charging stations commissioned by Implementing Agencies |
|--------------|---------------------------------------------------|----------------------------------------------------------------|
| Phase I      | 539                                               | 495                                                            |
| Phase II     | 8,560                                             | 148                                                            |
| <b>Total</b> | <b>9,099</b>                                      | <b>643</b>                                                     |

### 4.3 Audit sampling

In addition to examination of records of the charging infrastructure projects, 104 charging stations located in five cities (Delhi, Chandigarh, Ranchi, Shimla and Nagpur) and two Highways/Expressways (i.e. Delhi-Jaipur-Agra and Delhi-Chandigarh) were selected for detailed test-check and joint physical inspection by Audit, out of the 499 charging stations for which data was available at the time of sampling (March 2022).

### 4.4 Audit findings relating to Phase-I of the Scheme

The audit findings pertaining to creation of charging infrastructure during Phase-I of the Scheme have been discussed in the succeeding sub-paragraphs.

#### 4.4.1 No roadmap for creating charging infrastructure and approval of projects without inviting EoI

The Scheme envisaged setting-up of adequate public charging infrastructure to instill confidence amongst xEV users, through active participation and involvement of various stakeholders. Audit, however, observed that there was no formal roadmap/action plan for setting up of adequate public charging infrastructure in Phase I.

As per Rule 144 of the General Financial Rules, every authority delegated with the financial powers shall have the responsibility and accountability to bring efficiency, economy and transparency in matters relating to public procurement and promotion of competition in public procurement. Audit, however, observed that charging infrastructure projects were sanctioned by the Ministry based on proposals received from implementing agencies. The Project Implementation and Sanctioning Committee (PISC) awarded (during 2015-19) charging infrastructure projects to three agencies (i.e. BHEL, REIL and Mahindra Reva), without inviting any Expression of Interest (EoI). Moreover, records as to how these proposals were initiated or received by the Ministry were not made available to Audit. As such, Audit could not examine the rationale behind the selection of these agencies.

The Ministry replied (February 2025) that selection of sites for charging infrastructure was to be done based on the future potential for use of electric vehicles in these sites. Charging infrastructure proposals received from BHEL, REIL and Mahindra Reva were put up to PISC for their approval and approved on merits by the PISC.

<sup>21</sup> Excludes cancelled charging stations of the 'Cities' project (i.e. 2877-148=2729) and the 'Highways and Expressways' project (i.e. 1576) under Phase-II.

The Ministry, however, did not furnish the reasons for not inviting EoI for the selection of agencies. Merits on which the agencies were selected were also not furnished/intimated to Audit.

#### 4.4.2 Non-installation of envisaged charging infrastructure

Two implementing agencies viz. REIL and BHEL did not install the specified number of charging stations as detailed in the table below:

**Table 13: Charging Stations not installed**

| Name of Implementing Agency | Date of sanction by PISC | No. of charging stations sanctioned | No. of charging stations commissioned |
|-----------------------------|--------------------------|-------------------------------------|---------------------------------------|
| REIL                        | 03.01.2019               | 270                                 | 248                                   |
| BHEL                        | 03.01.2019               | 40                                  | 20                                    |

While endorsing the reply of REIL, the Ministry stated (February 2025) that in addition to 248 charging stations commissioned, REIL had completed installation of 2 numbers of 122 kW EV chargers and commissioning and power up was in process. Installation of the remaining 20 EV chargers was in process. Delay was due to identifying locations from various cities involving many agencies, survey feasibility, obtaining statutory clearance, agreement with land-owning agencies, obtaining power for the commissioning of chargers.

The reply, however, does not justify the significant delay of five years in execution of the project by REIL.

While endorsing the reply of BHEL, the Ministry stated (February 2025) that the actual capacity of solar plant and EV chargers installed and commissioned by BHEL was as per the space availability, site feasibility and clearances received. Further, during execution stage, BHEL faced multiple challenges such as convincing the respective site owners, space availability at site, and approval of Petroleum and Explosives Safety Organisation (PESO) for fuel stations of HPCL and IOCL.

While acknowledging the reply of the Ministry, it is stated that the actual number of charging stations and capacity of solar plants actually installed by BHEL were significantly less than those approved by the PISC. Further, approval of MHI should have been taken before any significant scope reduction.

#### 4.4.3 Delay in installation of charging infrastructure

The projects for installation of 200 charging stations by REIL (sanctioned in June 2017), 270 EV charging stations (including 25 grid-connected solar charging stations) by REIL (sanctioned in January 2019), 40 grid connected solar EV charging stations on Delhi-Chandigarh highway by BHEL and one solar-based charging station by BHEL were to be completed within 5 months, 10 months, 12 months and 6 months respectively, from the date of receipt of funds from the Ministry.

Audit observed delay in the implementation of these projects as presented in the table below:

**Table 14: Delay in Implementation**

| Delay Range         | Number of charging stations out of 200 (REIL) | Number of charging stations out of 270 (REIL) | Number of charging stations out of 40 solar-based stations on Delhi Chandigarh Highway (BHEL) | 1 solar-based charging stations (BHEL) |
|---------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------|
| No delay            | 0                                             | 25                                            | 11                                                                                            | 0                                      |
| Less than 5 months  | 69                                            | 25                                            | 0                                                                                             | 0                                      |
| 5 to 10 months      | 114                                           | 22                                            | 1                                                                                             | 0                                      |
| 10 to 15 months     | 16                                            | 88                                            | 8                                                                                             | 0                                      |
| 15 to 20 months     | 1                                             | 39                                            | 0                                                                                             | 0                                      |
| 20 months and above | 0                                             | 49                                            | 0                                                                                             | 1                                      |
| Not Commissioned    | 0                                             | 22                                            | 20                                                                                            | 0                                      |

BHEL cited (September 2023) the outbreak of COVID-19, delay in finalisation of the site/strategic location, etc. as the reasons for the delay.

Further, while endorsing REIL's response, the Ministry stated (February 2025) that delay was due to identifying locations from various cities involving many agencies, survey feasibility, getting statutory clearance, signing agreement with land-owning agencies, getting power for the commissioning of chargers. The project was also new and one of its kind, so it took considerable time in execution.

It is evident from the replies that feasibility of projects including availability of sites were not ascertained beforehand. Also, the projects, despite being new, had been approved based on the proposals of REIL/BHEL only.

#### 4.4.4 Non-functional charging infrastructure

In one project viz. 270 EV charging stations (including 25 grid-connected solar charging stations), it was observed that charging infrastructure installed and commissioned was non-functional as detailed in the table below:

**Table 15: Non-functional charging infrastructure**

| Reason for non-functional charging infrastructure | Number of units | Rate per unit (In ₹) | Infructuous expenditure (₹ crore) |
|---------------------------------------------------|-----------------|----------------------|-----------------------------------|
| 122 kW chargers not powered                       | 25              | 30,00,000            | 7.50                              |

| Reason for non-functional charging infrastructure | Number of units | Rate per unit (In ₹) | Infructuous expenditure (₹ crore) |
|---------------------------------------------------|-----------------|----------------------|-----------------------------------|
| Transformers (PSS) not powered <sup>22</sup>      | 26              | 8,50,000             | 2.21                              |
| Solar plant not commissioned                      | 14              | 15,00,000            | 2.10                              |
| 1.1 KV cable not used                             | 2695 meters     | 2765                 | 0.75                              |
| 11 KV cable not used                              | 1720 meters     | 611                  | 0.10                              |
|                                                   |                 | <b>Total</b>         | <b>12.66</b>                      |

Thus, expenditure of ₹12.66 crore as shown above was rendered infructuous.

REIL replied (July 2023) that due to the huge investment required for taking the electricity connection for 122 KW EV charger and upstream infrastructure and very low return on such investment, landowners were not interested.

The Ministry, while endorsing REIL's response, replied (February 2025) that out of 25 solar power plants, 17 power plants had been commissioned. REIL was pursuing with the landowners for commissioning of the remaining solar plants at the earliest. REIL was rigorously following up for powering up the 122 kW EV chargers and Packaged Sub-Stations (PSS). The unused cable was with the installation agency for powering up of 122 kW EV chargers.

The reply may be seen in the context that REIL had already reported the above mentioned charging infrastructure as commissioned, even though the same was non-functional.

#### 4.4.5 Non-execution of Central Management System for Charging Stations

Under the sanctioned charging infrastructure projects, funds had been allocated by the Ministry for creation of Central Management System (CMS) software for managing the charging stations. It was observed that IIT Madras had already developed a CMS in June 2017 out of funds released by the Ministry under the Technology Development (R&D) component, but the same was not adopted/operationalised by the Ministry.

Audit observations relating to the creation of CMS are discussed below:

##### (i) Project for installation of 200 EV Charging Stations by REIL (June 2017)

REIL submitted (March 2019) utilisation of ₹0.96 crore for creation of CMS (comprising ₹0.81 crore for development of CMS and ₹0.15 crore for SIM related expenditure) against the provision of ₹0.60 crore.

Audit observed that REIL had awarded (January 2019) the project for 'Supply of CMS for EV Charging Stations' to L-2 bidder at less than L1 prices, citing, *inter-alia*, ready-made solution and e-mobility experience with L2 bidder. However, the L2 bidder could not complete the work. REIL paid the first instalment of ₹0.16 crore to the vendor despite unsatisfactory performance, and refused payment of the remaining amount of ₹0.65 crore as the vendor did not complete the project. Further, against the utilisation of ₹0.15 crore

<sup>22</sup> Warrantee of transformers also expired.

on SIM related expenditure reported by REIL to the Ministry, REIL could provide details of actual expenditure for only ₹0.03 crore to Audit.

CMS was not found functional in any of the charging stations commissioned by REIL which were physically inspected by Audit.

The Ministry, while endorsing REIL's response, stated (February 2025) that REIL deputed internal IT manpower to get the remaining work executed by the CMS vendor. REIL utilised the entire sanctioned grant ₹0.96 crore and also made the extra expenditure for the CMS.

The fact remains that REIL released the first installment to the vendor despite unsatisfactory performance. During joint inspection, in many cases, chargers were found removed from installation site, damaged, not found powered with adequate sanctioned load, etc. (refer para 4.5.3).

#### **(ii) Project for installation of 270 EV charging stations by REIL (January 2019)**

The proposal approved by the PISC included ₹1.62 crore for the CMS component. Work order for execution of CMS component was issued to a vendor in December 2021 and the project was to be commissioned within 90 days from the date of the issue of work order. However, the vendor did not complete the project.

The Ministry, while endorsing REIL's response, stated (February 2025) that REIL incurred the sanctioned expenditure of ₹1.62 crore against the compliance of REIL obligations for the CMS by REIL internal IT team. CMS configuration and related activities were undergoing.

However, during joint physical inspection of selected charging stations, none of the charging stations was found to have CMS.

#### **(iii) Project for installation of 40 EV charging stations by BHEL**

Against allocation of ₹1.10 crore for CMS component in January 2019, BHEL reported utilisation of ₹1.07 crore for the commissioning of CMS.

Audit observed that BHEL attempted to develop CMS internally, but in March 2020 expressed its inability to develop the CMS. However, BHEL reported utilisation of ₹98.24 lakh to the Ministry towards payment of salaries to its officials engaged in development of the CMS.

Subsequently, BHEL placed order (February 2021) on a vendor for procurement of CMS and mobile application for one year at an order value of (-)<sup>23</sup> ₹74,340. The selected vendor delivered the CMS and mobile app and commissioned the project on 9 August 2021. However, the CMS became non-functional after expiry of one year when the contract with vendor ended.

BHEL replied (September 2023) that since know-how of some advanced features was not available with BHEL, it outsourced the same from a third party. Further, BHEL's internal

---

<sup>23</sup> The selected vendor agreed to pay ₹74,340 to BHEL for the work

team was associated with ‘in-house’ development, installation and testing, system maintenance, monitoring, troubleshooting etc. CMS was in the evolving stage and there was no ready reference for a proven product/ reference project in the country. BHEL had completed its scope of work in line with the approved PISC proposal.

The Ministry, while endorsing BHEL’s response, stated (February 2025) that though the operation of CMS by BHEL was neither envisaged in the approved PISC proposal, nor was part of scope of work of BHEL, however CMS was kept live in working condition for one year by BHEL with operation and maintenance.

The fact remains that BHEL deployed its human resources for the development of the CMS without assessing its internal capacity and availability of technological know-how and incurred expenditure of ₹98.24 lakh.

#### **4.4.6 No revenue model for charging stations**

PISC’s approval for the REIL project of 200 EV charging stations included a condition for having a suitable revenue model to self-sustain the charging installations. REIL had entered into MoUs with charging station site owners (i.e. HPCL, IOCL and BPCL) in which it was envisaged that site owners would develop a revenue sharing model.

Audit observed that there was no revenue model operational in any of the charging stations. There were no records with REIL or the Ministry relating to fixation of user charges. As such, the facility operators/site owners had no clarity regarding the amount and procedure for levy and collection of user charges from charging station users.

The Ministry replied (February 2025) that the land owners’ scope of work included taking electricity connection for powering up the EV chargers; operation and maintenance; revenue generation; safety and security of the EV chargers etc. REIL had handed over the EV chargers to the landowners for day-to-day operation and maintenance. The landowners’ revenue was very less due to very low utilisation of the EV charging infrastructure.

It is evident from the reply that no initiative had been taken for development of a revenue model or fixation of user charges for charging stations.

### **4.5 Audit findings relating to Phase-II of the Scheme**

The audit findings pertaining to creation of charging infrastructure during Phase-II of the Scheme have been discussed in the succeeding sub-paragraphs:

#### **4.5.1 Negligible progress of projects**

A summary of the implementation of charging station projects in Phase-II is presented in the table below:

**Table 16: Summary of Implementation of Charging Infrastructure Projects**

| Project Name                                                    | No. of charging stations | Amount released (₹ crore) | Audit observation                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------|--------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cities                                                          | 2,877                    | 21.96                     | <ul style="list-style-type: none"> <li>148 out of 2,877 charging stations were commissioned</li> <li>Remaining charging stations were cancelled</li> <li>Extension was granted (September 2024) to REIL and Energy Efficiency Services Limited (EESL) up to 31 March 2025</li> </ul>                                                                        |
| Highways and Expressways                                        | 1,576                    | -                         | <ul style="list-style-type: none"> <li>All charging stations were cancelled</li> </ul>                                                                                                                                                                                                                                                                      |
| Oil Marketing Companies (Ministry of Petroleum and Natural Gas) | 8,412                    | 611.45                    | <ul style="list-style-type: none"> <li>None of the charging stations were commissioned as on stipulated completion date of 31 March 2024.</li> <li>PISC extended (February 2024) the stipulated date for commissioning till December 2024.</li> <li>4,523 charging stations were installed (1 January 2025) while none of them was commissioned.</li> </ul> |

Audit observations regarding the “Cities” and “Highways and Expressways” projects are discussed in the sub-paragraphs below.

#### 4.5.1.1 ‘Cities’ Project

Out of a total of 2,877 charging stations (20 implementing agencies) approved by PISC, only four implementing agencies commissioned a total of 148 charging stations (May 2023). This comprised of 67 charging stations commissioned by Energy Efficiency Services Limited (EESL), 30 charging stations by Kerala State Electricity Board (KSEB), 50 charging stations by State Municipal Corporations and one charging station by Power Grid Corporation of India Limited (PGCIL).

Audit examined records of two implementing agencies, viz. EESL and REIL. Implementation details of these two agencies are presented in the table below:

**Table 17: Implementation by EESL and REIL in Phase II**

| Name of Implementing Agency | No. of charging stations approved by PISC | No. of charging stations awarded by Ministry | Scheduled date for completion of Project | Charging stations commissioned |
|-----------------------------|-------------------------------------------|----------------------------------------------|------------------------------------------|--------------------------------|
| EESL                        | 669                                       | 384                                          | June 2021                                | 67                             |
| REIL                        | 1,061                                     | 730                                          | June 2021                                | Nil                            |

The Ministry cancelled (March - July 2023) remaining 317 charging stations awarded to EESL and all the charging stations awarded to REIL, and asked EESL and REIL to refund ₹6.27 crore and ₹8.15 crore respectively with interest at the rate of 10 *per cent* per annum.

EESL cited (November 2023) COVID-19-induced intermittent lockdowns, issues relating to installation and upgradation of upstream electrical infrastructure (transformer augmentation, cable laying, etc.) including costs associated with such infrastructure, availability of land, other land-related approval issues, electricity tariff for charging stations as reasons for the delay.

REIL replied (July 2023) that it had installed 49 charging stations and commissioned four charging stations, but further work could not be executed due to delay in signing revenue sharing agreement, electrical connection, high initial investment for electrical infrastructure, etc.

The Ministry replied (February 2025) that both organisations (EESL and REIL) now asserted their readiness to implement the project and demonstrated their commitment and capability. The Ministry allowed (Mar-Sep 2024) EESL and REIL to establish 30 and 222 charging stations respectively by 31 March 2025. As such, the refund amount of ₹14.42 crore was not payable by them.

The reply may be viewed in light of the fact that cancellation of projects before granting extension till 31 March 2025 had the effect of further delaying the establishment of charging infrastructure.

Thus, adequate charging infrastructure could not be created within the Scheme period to instill confidence among EV users, as envisaged in the Scheme.

#### **4.5.1.2 ‘Highways and Expressways’ Project**

The Ministry cancelled this project in July 2023 as there was negligible progress in installation/ commissioning of charging stations under this project. This not only resulted in failure to establish charging infrastructure for electric vehicles, but also meant that the objective of alleviating the uncertainty regarding availability of adequate charging stations and instilling confidence amongst the users of electric vehicles could not be achieved.

The Ministry cited (February 2025) lack of adequate electrical infrastructure, including necessary transformer upgrades and cable laying, low utilisation rates deterring investment, COVID-19, etc. as reasons for non-installation of electric vehicle chargers on highways and expressways. Further, since very poor progress on the project was made and no further improvement was expected, the funds allocated were cancelled in July 2023.

#### **4.5.2 Charger type and compatibility**

EOI for the ‘Cities’ and ‘Highways and Expressways’ projects envisaged installation of various type of chargers. One of the specified chargers was CHAdeMO charger.

Audit observed that at the time of approval of this charger by the Ministry, no vehicles having CHAdeMO chargers (50/100 kW) were plying in India. The CHAdeMO chargers (50/100 kW) required additional electrical load and related infrastructure with nil potential to generate any revenue for the implementing agencies. As such, the inclusion/

installation of CHAdEMO charger in charging stations contributed to making the project commercially non-viable.

Although this charger was removed (June 2022) in later projects approved under the Scheme, implementing agencies had already placed orders with suppliers and delivery of chargers had also taken place in a few cases (e.g. EESL had placed orders for 696 combo chargers<sup>24</sup> with CHAdEMO fast chargers, and supplied/installed/prepared commissioning of 148 such chargers; REIL placed orders for 481 combo chargers with CHAdEMO fast chargers and received deliveries for 155 chargers under the 'Cities' project).

The Ministry replied (February 2025) that the passenger car segment was dominated by Japanese manufacturers, and they were expected to introduce electric vehicles with the CHAdEMO charger in India. However, Japanese vehicle manufacturers in India did not introduce any such electric vehicle model. Further, it was also stated in Exit Conference (February 2025) that later in 8<sup>th</sup> meeting of the PISC held in May 2023, CHAdEMO was removed as a compulsory charger for release of subsidy under the Scheme.

Thus, even after release of funds amounting to ₹10.37 crore<sup>25</sup> towards CHAdEMO chargers under Phase-I and Phase-II and incurring of expenditure thereon, these chargers could not be utilised.

### 4.5.3 Status of charging stations – Joint physical inspection

Audit team and designated officials<sup>26</sup> of implementing agencies i.e. BHEL, EESL and REIL, jointly inspected (February - July 2023) 104 charging stations/chargers (BHEL: 20, REIL:72 and EESL:12) including 25 solar plants installed at such charging stations. Additionally, Audit also collected data relating to solar plants installed at 20 other locations. Audit observations are discussed below:

#### 4.5.3.1 Joint inspection of chargers/charging stations

Audit observations noticed during joint physical inspection of charging stations/chargers are presented in table below:

**Table 18: Observations on Charging Stations**

| Particulars    | Observations on charging stations          | BHEL      | REIL      | EESL      | Total      |            |
|----------------|--------------------------------------------|-----------|-----------|-----------|------------|------------|
|                |                                            | No.       | No.       | No.       | No.        | %          |
|                | <b>Charging stations jointly inspected</b> | <b>20</b> | <b>72</b> | <b>12</b> | <b>104</b> | <b>100</b> |
| Non-functional | Chargers not installed at site             | 0         | 2         | 0         | 2          | 1.92       |

<sup>24</sup> Including quantity variation of +/-20 per cent

<sup>25</sup> Worked out in proportion of load of CHAdEMO chargers (50KW/60 KW) in the overall load of combo chargers (122 KW/142 KW)

<sup>26</sup> Sr. Engineer (in case of REIL), Additional General Manager (in case of BHEL) and Engineer (in case of EESL)

|                   |                                                                        |          |           |          |           |              |
|-------------------|------------------------------------------------------------------------|----------|-----------|----------|-----------|--------------|
| Charging Stations | Chargers removed from Site (Not traceable)                             | 1 (0)    | 19 (8)    | 0 (0)    | 20        | 19.23        |
|                   | Charging stations not powered/could not be switched on                 | 6        | 32        | 0        | 38        | 36.54        |
|                   | <b>Total</b>                                                           | <b>7</b> | <b>53</b> | <b>0</b> | <b>60</b> | <b>57.69</b> |
| Other Issues      | No awareness about service charges leviable                            | 20       | 70        | NA       | 90        | 86.54        |
|                   | Staff/facility owner not aware of the EV charging procedure            | 1        | 62        | NA       | 63        | 60.58        |
|                   | CMS non-functional                                                     | 17       | 72        | 0        | 89        | 85.58        |
|                   | Premises had commercial electricity connection on existing load        | 19       | 70        | 8        | 97        | 93.27        |
|                   | Signboards/monoliths not installed                                     | 13       | 62        | 10       | 85        | 81.73        |
|                   | Vandalism to occupy parking space designated for EV charging           | 0        | 0         | 3        | 3         | 2.88         |
|                   | Damaged chargers                                                       | 0        | 3         | 0        | 3         | 2.88         |
|                   | Payment of parking charges was required in addition to service charges | 0        | 9         | 1        | 10        | 9.62         |
|                   | Car chargers installed at parking designated for two-wheelers          | 0        | 0         | 2        | 2         | 1.92         |

Some of the photographs of jointly inspected charging stations/chargers are shown below:



**Picture 1: Dwarka, Sector-10, Metro parking  
Chargers removed from installation site and kept in storage**



Picture 2: Sawhney Automobiles, Solan, Himachal Pradesh  
Chargers removed from installation site



Picture 3: Shiv Filling Station, Solan, Himachal Pradesh  
Chargers removed from installation site



Picture 4: Charging station vandalised in order to occupy parking space designated for EV charging



**Picture 5: EV Parking Space Occupied**

With regard to parking charges levied on the users, EESL replied (January 2025) that they have addressed the issue through land-owners for parking charges levied upon the EV users.

In respect of the charging stations not installed or not powered, the Ministry, while endorsing REIL's response, stated (February 2025) that REIL shifted 2 numbers of EV chargers to new locations due to administrative reasons. Land-owner agreed to compensate reasonable residual value of seven missing EV chargers. All EV chargers were powered with the existing connection and handed over to the landowner. The chargers were to be operated at service charges decided by the State nodal agency. Training was provided at the time of commissioning.

In respect of the other deficiencies noticed during joint inspection, the Ministry, while endorsing BHEL's response, stated (February 2025) that CMS was not functional due to its non-configuration with the EV chargers. Utilisation being very low, land-owners did not invest in the separate electricity connection due to fixed charges and low return on investment. Responsibility of safety and security of the EV chargers lied with the landowners. The chargers were to be operated at service charges decided by the State nodal agency.

Audit acknowledges the response of the Ministry. However, the fact remains that proposals for setting up charging stations were presented and approved without ascertaining feasibility. BHEL and REIL commissioned all charging stations without ensuring adequate load and load enhancement. Inadequate electricity load was bound to have discouraged facility operators from operating chargers.

#### **4.5.3.2 Joint inspection of solar plants**

Results of joint inspection of 20 charging stations of BHEL and five charging stations of REIL (covered in audit sample) having solar plants and analysis of similar data for 20 other solar plants of REIL are discussed below.

**(i) Solar plants of BHEL**

Out of a total of 20 solar plants of BHEL, solar plants with a total capacity of 49 kW in four locations were non-functional while in one location, solar plant with 20 kW capacity started generating electricity<sup>27</sup> during the period of joint inspection. The power generation efficiency of solar plants at the remaining 15 grid-connected solar charging stations ranged between 3.25 per cent to 89.22 per cent.

The Ministry replied (February 2025) that efficiency of solar plant depends on various factors such as sunny weather, formation of shadow of nearby objects (if any), proper and regular cleaning of solar modules. The site owning agencies (HPCL, IOCL and HTCL) were responsible for proper operation and maintenance of the charging stations including solar plant. This aspect was also intimated to staff of the site-owning agencies during on-site training.

**(ii) Solar plants of REIL**

REIL had reported commissioning of all 25 grid-connected solar charging stations. However, Audit found that solar plants at 14 charging stations (including two locations where chargers and solar plants/systems were dismantled and put aside) were not actually commissioned.

Further, Audit observed that the power generating efficiency<sup>28</sup> of solar plants at the remaining 11 grid-connected solar charging stations was as follows:

- Two solar plants were operating at negligible efficiency of 0.83 per cent and 4.02 per cent.
- Five solar plants were operating at efficiency between 50 per cent and 75 per cent.
- Four solar plants were operating at efficiency between 75 per cent and 93 per cent

The Ministry, while endorsing REIL's response, replied (February 2025) that at the time of installation, all EV chargers were powered with the existing connection and handed over to the land owners. Due to low utilisation and to avoid minimum charges and penalty for providing power/load enhancement/separate electricity connection to the EV charger, the landowner was reluctant to take the separate electricity connection/load enhancement. REIL stated that 17 out of 25 power plants had been commissioned (January 2025). Landowners at remaining locations applied for net metering connection and the release of net metering connection was under process by DISCOM. REIL was pursuing with the landowners for commissioning of the solar plants at the earliest.

**4.5.3.3 Utilisation of charging stations**

The status of utilisation of charging stations for which joint physical inspection was conducted is shown in the table below:

---

<sup>27</sup> The solar plant (IOCL Petrol Pump, Sukhmani) of 20 kW capacity generated 15 kWh till 3:30 PM on a full sunny day.

<sup>28</sup> Calculated as a percentage of number of units actually generated by the solar plant to the number of units that should have been generated.

**Table 19: Utilisation of charging stations**

| Status                                        | (No. of charging stations) |              |              |
|-----------------------------------------------|----------------------------|--------------|--------------|
|                                               | REIL<br>(72)               | BHEL<br>(20) | EESL<br>(12) |
| No vehicle charged                            | 43                         | 6            | 0            |
| Chargers were removed from site               | 19                         | 0            | 0            |
| Information on vehicles charged not available | 10                         | 0            | 0            |
| Charging recorded                             | 0                          | 14           | 12           |
| Amount collected (in ₹)                       | 0                          | 8,854        | 18,38,500    |

The Ministry, while endorsing responses of BHEL and REIL, replied (February 2025) that chargers were handed over to the respective authorities/owners of properties for further operation and maintenance, according to PISC approval. Utilisation of EV chargers depends upon availability and adoption of EVs in the area, proper operation, and maintenance of chargers. Further, the less utilisation of EV charger may be due to low EV density.

The reply may be seen in the context that numerous issues adversely impacting the use of charging stations were observed during the joint physical inspection, such as chargers not being powered, inadequate sanctioned load, non-functional CMS, chargers removed from installation site, etc.

Audit, however, appreciates the utilisation of charging stations commissioned by EESL which also resulted in earning of revenue.

#### 4.6 Summing up

Audit observed that the Ministry did not have a roadmap during both Phases of the Scheme for addressing lack of adequate public charging infrastructure which was a key barrier to the large scale adoption of Electric Vehicles (EVs).

During Phase I, 497 out of a total of 539 charging stations were commissioned. However, in Phase II, 148 out of a total of 2,877 (5 per cent) charging stations approved under 'Cities' project were commissioned while remaining charging stations of the 'Cities' project and all 1,576 charging stations approved under 'Highways and Expressways' were cancelled due to no/negligible progress. Subsequently, the Ministry allowed REIL and EESL to commission 222 and 30 charging stations of the 'Cities' project. Negligible progress in Phase II was attributed to non-viability of projects and reluctance on the part of implementing agencies due to high cost of upstream infrastructure. Also, the Ministry awarded 8,412 charging stations to three Oil Marketing Companies (OMCs). However, the OMCs did not commission any charging station as of March 2024.

Joint physical inspection of charging stations brought out deficiencies such as commissioning of charging stations without ensuring adequate load/electricity connection under EV tariff; instances of non-installation of chargers; charging stations found disconnected from power source or connected without adequate sanctioned load; chargers

removed from installation site, damaged chargers; non-awareness of staff at EV charging stations, etc.

Audit appreciates the revenue earnings made by EESL from the utilisation of charging infrastructure created and utilised under the Scheme and recommends the replication of this revenue model.

**Recommendations:**

- 1) The Ministry may consider instituting an integrated and outcome-oriented framework for planning, installation, and operation of EV charging infrastructure so as to address the systemic issues relating to non-installation, delays in commissioning, non-functioning of charging infrastructure, and lack of commercial viability. This may be done through a clearly designated nodal agency with end-to-end accountability,***
- 2) A comprehensive approach may be adopted encompassing (i) identification and development of strategically located charging sites, including intra-city urban areas and inter-city highways/expressways, through geospatial planning with prior convergence and formal agreements with land-owning agencies; (ii) establishment of a single-window, time-bound mechanism for according all statutory clearances and ensuring parallel processing of approvals; and (iii) advance creation and augmentation of requisite electrical infrastructure, including transformers and cabling, by DISCOMs to enable plug-and-play deployment.***
- 3) The Ministry may prescribe standardised concession agreements, a transparent and viable tariff framework, and clear guidelines for levy and collection of user charges, so as to provide commercial certainty to operators and landowners. Mandatory integration of all charging stations with a functional Central Management System may also be ensured for real-time monitoring, interoperability, and improved utilisation.***
- 4) A robust mechanism for operation and maintenance, including capacity building of site personnel, installation of adequate signage, and periodic performance audits of assets such as solar plants and charging equipment, may be instituted to ensure sustained functionality. The Ministry may also delineate accountability across implementing agencies, including Oil Marketing Companies and retail operators, through clearly defined roles, milestones, and enforceable performance standards to ensure timely commissioning and effective utilisation of EV charging infrastructure.***

## Chapter-V

### Technology Development (R&D)

The Technology Development (R&D) component under Phase-I of the FAME India Scheme was aimed at implementing R&D projects with collaboration between the Government, Industry and Academia. This collaborative effort was aimed at addressing the need for rapid development of electric mobility, making the market for electric vehicles self-sustaining, and upgrading automotive testing infrastructure for meeting the requirements of new regulations and standards.

For implementation of the Technology Development (R&D) component, the Ministry of Heavy Industries and the Department of Science and Technology created (1 February 2016) an Inter-Ministerial Technology Advisory Group (IM-TAG). IM-TAG was entrusted with the evaluation and recommendation of proposed R&D projects on electric mobility for further consideration and final approval by the Project Implementation and Sanctioning Committee (PISC). IM-TAG was also responsible for monitoring the approved R&D projects.

#### 5.1 Project approval process

The process of sanction and approval of projects under the Technology Development (R&D) component involved the following steps:

- (i) **Submission of proposal:** Proposal was submitted to the designated cell in the Ministry for Technology Development (R&D) projects.
- (ii) **Evaluation and recommendation:** Proposal was evaluated by IM-TAG, which considered and recommended proposed projects.
- (iii) **Approval:** Recommendations of IM-TAG were considered by the Project Implementation and Sanctioning Committee (PISC) for final approval.
- (iv) **Funding:** After final approval, funding was provided to the projects by the Ministry.
- (v) **Monitoring:** IM-TAG monitored the progress of the approved projects and recommended mid-course corrections, premature closure of projects that ceased to be viable, additional funding where required, etc.

In Phase-I of the Scheme, PISC approved a total of 16 projects (**Annexure-VII**). These projects had an aggregate cost of ₹266.12 crore, with the Ministry's share of ₹179.86 crore (68 *per cent*) and the remaining share coming from the industry partner(s)/academic institution (implementing agency). As of 31 March 2023, the Ministry had disbursed<sup>29</sup> ₹149.70 crore towards these projects.

The Technology Development (R&D) component was discontinued in Phase-II of the Scheme. However, the Department-Related Parliamentary Standing Committee on

<sup>29</sup> *The remaining funds could not be released due to premature closure of projects, non-procurement of testing equipment in one project and cancellation of two projects*

Industry observed<sup>30</sup> (6 December 2021) that Phase-II of the FAME scheme was limited to subsidising EV purchases and charging infrastructure, and recommended that its scope could have been broadened to include funding/grants for development of EV components and R&D, development of components for charging infrastructure and capital subsidy/incentive for manufacturing of EV components.

## 5.2 Audit findings

The audit observations on the implementation of the Technology Development component of the FAME India Scheme are discussed below.

### 5.2.1 Status of Technology Development projects

Out of the 16 projects approved in Phase-I of the Scheme, nine projects had been completed as of March 2023. Of the remaining seven projects, four projects were closed, one project was cancelled, and two projects were still in progress (**Annexure-VII**).

Audit observations in this regard are discussed in the sub-paragraphs below.

#### 5.2.1.1 Delay in completion of projects

Technology Development/R&D projects had been sanctioned by PISC with defined objectives and time duration (ranging from six months to five years) during which the projects had to be completed.

Scrutiny of records revealed that as of March 2023, out of nine projects completed by implementing agencies, eight projects were completed with delays ranging from one month to 24 months (**Annexure-VIII**) without any approval from PISC for extension of the timelines, as detailed below:

**Table 20: Delay in completion of projects**

| Range of delay   | Number of Projects |
|------------------|--------------------|
| Less than 1 year | 3                  |
| 1 to 2 years     | 2                  |
| 2 years or more  | 3                  |

For the remaining one project, the respective implementing agency obtained approval from the PISC for extension of the project duration.

The Ministry replied (February 2025) that the agencies were informing about the status of the projects and fund utilisation statement. Thus, PISC had approved these projects and the Ministry had been monitoring the same as provided under the scheme.

The reply needs to be viewed in light of the fact that the project completion was supposed to be within the timelines prescribed by PISC at the time of sanction. Non-obtaining of extension by implementing agencies indicated that adherence to timelines for project completion was not being adequately monitored by the Ministry.

<sup>30</sup> Report No. 309 on Electric & Hybrid Mobility – Prospects and Challenges in Automobile Industry pertaining to the Ministry of Heavy Industries (6 December 2021)

### 5.2.1.2 Non-completion of projects

Audit observed that the following two projects were still ongoing as of March 2023, although the scheduled completion dates had elapsed:

**Table 21: Non-completed projects**

(₹ in crore)

| Sl. No. | Name of the project                                       | Name of the implementing agency          | Cost of project | Share of Ministry | Fund released by Ministry | Scheduled completion of the project |
|---------|-----------------------------------------------------------|------------------------------------------|-----------------|-------------------|---------------------------|-------------------------------------|
| 1.      | Technology Pilot for DC Charging Technologies for EV Bus. | KKWIEER <sup>31</sup> Nasik, Maharashtra | 1.50            | 0.90              | 0.90                      | January 2020                        |
| 2.      | Project for Centre for Battery Engineering                | IIT, Madras                              | 23.30           | 17.20             | 10.64                     | March 2023                          |

Extension in timeline had been given by the Ministry in the case of only one project, namely 'Project for Centre for Battery Engineering', whereas the other project was still ongoing without having any extension from the Ministry. Non-completion of these projects indicate that their intended objectives remained unfulfilled.

The Ministry replied (February 2025) it was following up with the Project Implementing Organisations for closure of the projects and achieving fruitful outcomes.

### 5.2.1.3 Premature closure of four projects

Audit observed that the following four projects were prematurely closed:

**Table 22: Prematurely closed projects**

(₹ in crore)

| Sl. No. | Name of the project                                                             | Implementing agency       | Grant released by the Ministry | Grant utilised by the Implementing agency | Outstanding funds with the Implementing agency |
|---------|---------------------------------------------------------------------------------|---------------------------|--------------------------------|-------------------------------------------|------------------------------------------------|
| 1       | Centre for Advanced Research in Electrified Transportation (CARET)              | Aligarh Muslim University | 4.78                           | 4.23                                      | 0.55                                           |
| 2       | Development of Vehicle-to-Grid enabled Charging Station Networks & Technologies | IIT Delhi                 | 5.42                           | 2.91                                      | 2.51                                           |

<sup>31</sup> KK Wagh Institute of Engineering Education and Research

| Sl. No. | Name of the project                                                                                                                                                         | Implementing agency | Grant released by the Ministry | Grant utilised by the Implementing agency | Outstanding funds with the Implementing agency         |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------|-------------------------------------------|--------------------------------------------------------|
| 3       | Synchronous Reluctance Motor Drive for Indian Electric Vehicle Applications.                                                                                                | IIT Madras          | 0.56                           | 0.40                                      | IIT Madras refunded the remaining grant of ₹0.16 crore |
| 4       | Test facility infrastructure for Electric Vehicle (EV) and Electric Vehicle Supply Equipment (EVSE) performance test/certification at three <sup>32</sup> centers of NATRIP | NATRIP , Manesar    | 73.00                          | 46.63                                     | NATRIP refunded the unutilised grant of ₹26.37 crore   |
|         |                                                                                                                                                                             | <b>Total</b>        | <b>83.76</b>                   | <b>54.17</b>                              |                                                        |

Audit found that two projects (Sl. No. 1 & 2 above) were prematurely closed as the Ministry did not approve extension requests from the implementing agencies; and in one project (Sl. No. 3), the industry partner withdrew support during project execution leading the Implementing agency to close the project. As regards the project at Sl.No.4, NATRIP vide order dated December 2023 informed its centres that the project could not be completed owing to various restrictions amid Covid 19 pandemic protocol. NATRIP further decided to financially close the project and has refunded ₹26.37 crore to the Ministry in January 2024.

In this regard, it may be highlighted that IM-TAG was responsible for recommending mid-course corrections, short-closure of projects that ceased to be viable, adding or removing members from project consortia, etc. However, Audit observed that these projects had not been put up before IM-TAG for review, suggestions, mid-course corrections, etc. indicating inadequate monitoring.

The Ministry replied (February 2025) that in research activities, the stated objectives are not always met due to unforeseen reasons. Considerable research had been done in these projects. However, they had to be closed when found unviable, or an industry member withdrew from the project. Further, the Covid 19 pandemic exacerbated the challenges. IIT Delhi has refunded ₹2.67 crore on 15 March 2024 while in case of AMU the process of recovery has been initiated.

<sup>32</sup> Three centres of NATRiP are: International Centre for Automotive Technology (ICAT), Manesar Global Automotive Research Centre (GARC), Chennai and National Automotive Test Track (NATRAX), Indore.

The reply was, however, silent on the monitoring of progress of these projects. With timely monitoring, the feasibility of the projects and the intent of the industry partner could have been identified at an early stage. This would have allowed for timely remedial action rather than continuing with the project.

### 5.2.2 Non-signing of MOUs with the Implementing Agencies

The Ministry issued (November 2017) a Standard Operating Procedure (SOP) for the R&D projects sanctioned under Phase-I of FAME India scheme. As per the SOP, a Memorandum of Understanding (MoU) was required to be drawn up between the Ministry and the academic institution/implementing agency elaborating the project objectives, scope, deliverables, roles and responsibilities of implementing agencies, monitoring mechanism, etc. to facilitate expeditious progress of the projects.

However, Audit observed that in the following four projects, towards which the Ministry had contributed a total grant of ₹13.08 crore, no formal MoU was entered into with the implementing agencies:

**Table 23: Non signing of MoU with MHI**

(₹ in crore)

| Sl. No. | Name of the project                                                          | Implementing agency                                                    | Cost of project | Share of Ministry | Funds released by Ministry |
|---------|------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------|-------------------|----------------------------|
| 1.      | Development and prototyping of ICT enabled smart charging network components | IIT Delhi                                                              | 10.02           | 5.98              | 5.42                       |
| 2.      | Synchronous Reluctance Motor Drive for Indian Electric Vehicle Applications. | IIT Madras                                                             | 2.61            | 1.69              | 0.56                       |
| 3.      | HUB and SPOKE consortium for e-2-wheelers and e-3-wheelers Electric Drives.  | Non-Ferrous Materials Technology Development Centre (NFTDC), Hyderabad | 3.03            | 2.32              | 2.32                       |
| 4.      | Centre for Advanced Research in Electrified Transportation (CARET)           | Aligarh Muslim University (AMU)                                        | 7.23            | 5.98              | 4.78                       |
|         |                                                                              |                                                                        |                 | <b>Total</b>      | <b>13.08</b>               |

In two of these projects (Sl. Nos. 1 and 2 above), the implementing agencies (IIT Delhi and IIT Madras) had sent draft MoUs to the Ministry for approval. However, no response was received from the Ministry. As for the third project (Sl. No. 3), the implementing agency (NFTDC, Hyderabad) did not initiate any draft MoU for consideration of the Ministry. Reasons for non-signing of MoU in case of the fourth project were not available on records.

Non-signing of MoUs resulted in lack of clarity regarding the roles and responsibilities of stakeholders, and inadequate oversight and monitoring. Further, three out of the four projects (Sl. No. 1, 2 and 4) were closed prematurely.

The Ministry replied (February 2025) that the Ministry regularly monitored the progress of the projects so that the projects met the intended outcomes. Further, PISC was notified as the apex body, which would review the projects and would remove any difficulties in execution of the same and therefore the projects were reviewed by PISC from time to time.

The reply was, however, silent on the reasons for non-signing of MoUs which was required as per the SOP issued by the Ministry.

### 5.2.3 Monitoring of projects

An Inter-Ministerial Technology Advisory Group (IM-TAG) on electric mobility was constituted on 1 February 2016 under the joint supervision of the Ministry of Heavy Industries and the Department of Science and Technology. IM-TAG was required to recommend mid-course corrections, short-closure of projects that ceased to be viable, additional funding where required, addition/removal of members from consortia projects, etc. Further, projects were to be considered completed or closed based on decision of IM-TAG. As per the records/information provided by the Ministry, two meetings of IM-TAG were held (March 2016 and March 2017) under Phase-I.

Subsequently, on 18 February 2022, the Ministry constituted a Project Review and Monitoring Committee (PRMC) under the chairmanship of Director, ARAI for monitoring as well as smooth, timely and successful execution of R&D Projects.

The Ministry had approved 16 Technology Development projects during the period from May 2015 to January 2019, allocating total assistance of ₹179.86 crore. Given the fact that most of the projects were either completed belatedly or closed prematurely, timely constitution of PRMC could have played a role in removing obstacles and streamlining the processes for project completion. Further, PRMC was required to meet at least once every three months. It was observed that PRMC had met three times<sup>33</sup> during the period from March 2022 to March 2023.

The Ministry replied (February 2025) that as on 14 February 2025, five meetings of PRMC had been held. PRMC reviewed the outcomes achieved, prototypes developed, testing and validation activities carried out, grants utilised, reasons for delay, knowledge sharing carried out in terms of number of papers published, persons trained, etc. At its meeting held on 12 February 2025, the PRMC had recommended closure of all the remaining projects.

Audit acknowledges the significance of PRMC's role in monitoring of projects. However, timely constitution of PRMC was crucial for early identification of issues and risks which would have enabled removal of obstacles and completion of projects in time.

---

<sup>33</sup> One meeting was held in March 2022 and two meetings in May 2022

### 5.3 Summing up

Technology Development component was a key element of the FAME India Scheme aimed at making EVs market self-sustaining. Audit observed that MHI undertook 16 projects during Phase-I. Out of 16 projects, four projects were closed prematurely and two projects were still not completed. The Ministry also did not sign Memoranda of Understanding with the Implementing Agencies of four projects which resulted in lack of clarity regarding their roles and responsibilities, and inadequate oversight and monitoring.

***Recommendation:***

***1) The Ministry may identify the constraints leading to non-completion/pre-mature closure of R&D projects and take necessary remedial actions to ensure that such projects reach their logical conclusion by the respective implementing agencies in respect of deliverables of projects and utilisation of funds released to them under the Scheme.***

## Chapter-VI

### IEC, Financial Management and Convergence

#### 6.1 Information, Education and Communication

The FAME India Scheme also had a component *viz.* Information, Education and Communication (IEC) in both the phases of the Scheme. Under this component, an extensive IEC programme was supposed to be undertaken to create awareness and promotion of the Scheme through education and training, publicity, organisation of business meets/ seminars/ conferences/ symposia, etc. jointly by the Ministry of Heavy Industries, voluntary organisations, etc. According to the National Electric Mobility Mission Plan (NEMMP) 2020, one of the significant barriers to larger and faster adoption of electric mobility was consumer non-acceptability due to low consumer awareness.

During Phase I of the Scheme, amount of ₹10 crore was allocated for the IEC component out of the total budgetary allocation of ₹795 crore<sup>34</sup>. In Phase II, amount of ₹38 crore<sup>35</sup> was allocated out of the total budgetary allocation of ₹10,000 crore. Scrutiny of records revealed that out of the allocated fund of ₹10 crore in Phase I, the Ministry utilised only ₹86 lakh i.e. 8.6 *per cent*. During Phase II, the Ministry utilised only ₹6.66 crore (17.52 *per cent* as of March 2023) out of the total allocated fund of ₹38 crore.

Moreover, as per Scheme guidelines, the Ministry was required to implement a suitable IEC program for creating consumer awareness and promotion of the Scheme. However, the Ministry did not devise any policy/action plan in this regard and conducted these activities on ad-hoc basis.

The Ministry replied (February 2025) that at the time of launch of Phase-I, the EV industry faced significant challenges, including low consumer awareness. Therefore, the Ministry undertook IEC activities based on industry feedback and expert inputs. As a result, ₹86 lakh was utilised reflecting the nascent state of the industry. With Phase-II, the EV ecosystem matured, necessitating a greater emphasis on consumer awareness and stakeholder engagement. The IEC budget under Phase-II was increased to ₹38 crore. By 31 December 2024, ₹22 crore (58 *per cent* of the allocated funds) had already been utilised, demonstrating structured approach to public awareness and industry participation.

#### 6.2 Financial Management

Audit findings relating to financial management under the Scheme are discussed in succeeding sub-paragraphs:

##### 6.2.1 Budgeting under the Scheme

Planning and budgeting are crucial for effective public expenditure management. The budget serves as the primary tool for ensuring the efficient delivery of public services. By

<sup>34</sup> Budget allocation of Phase-I was enhanced by ₹100 crore in November 2018.

<sup>35</sup> During Phase-II of the Scheme, IEC component also included administrative expenditure

enabling sound financial management, it helps translate policy decisions into successful administrative actions.

Audit observed following discrepancies in budgeting during both phases of the Scheme as discussed below:

**(i) Phase-I:**

The Ministry of Heavy Industries notified Phase-I of the Scheme on 13 March 2015 for implementation in FY 2015-16 and 2016-17 with an outlay of ₹795 crore. Subsequently, the implementation period was extended till 2018-19.

Audit observed that from 2015-16 to 2017-18, the Ministry incurred expenditure of only ₹384 crore i.e. 48 *per cent* of the initial outlay. Despite less utilisation, the Ministry increased the Scheme's outlay by ₹100 crore to ₹895 crore in November 2018 without providing a component-wise allocation for the additional funds. Due to non-utilisation of funds, the Ministry carried forward ₹366 crore as committed expenditure of Phase-I to Phase-II of the Scheme. However, an amount of ₹36.27 crore still remained unutilised as of March 2023 i.e., even after four years of the scheduled completion of Phase-I.

The Ministry replied (February 2025) that at the time of launch of Phase-I, the EV industry was still in its infancy. Due to evolving nature of the industry, the competent authority approved this extension beyond its initial two-year timeframe leading to Phase-I spanning from 2015-16 to 2018-19.

The reply did not address the issue of budgeting during Phase-I of the Scheme.

**(ii) Phase-II**

The Ministry notified Phase-II of the Scheme vide notification dated 8 March 2019. Phase-II initially envisaged for a period of three years, i.e. from 2019-20 to 2021-22, was later extended to March 2024. The outlay of the scheme was ₹10,000 crore (including committed expenditure of ₹366 crore from Phase-I of the Scheme), which was enhanced to ₹11,500 crore in October 2023.

The main component of the Scheme was demand incentive for which ₹8,596 crore (86 *per cent* of total outlay) was allocated. Out of the allocated amount, ₹2,000 crore was designated for e-2-wheelers, ₹2,500 crore for e-3-wheelers, ₹551 crore for e-4-wheelers, and ₹3,545 crore for e-buses. The table below provides the percentage of disbursement of demand incentive for each category as of March 2023.

**Table 24: Category-wise Allocation and Utilisation of funds**

(₹ in crore)

| Category | Allocated funds | Utilised funds as of March 2023 | Percentage of total allocated fund disbursed |
|----------|-----------------|---------------------------------|----------------------------------------------|
| e-2W     | 2,000           | 2,549                           | 127%                                         |
| e-3W     | 2,500           | 408                             | 16%                                          |
| e-4W     | 551             | 156                             | 28%                                          |
| e-Buses  | 3,545           | 1,181                           | 33%                                          |

As can be seen from the table above, during the period 2019-20 to 2022-23, the Ministry could disburse only 16 *per cent* and 28 *per cent* of allocated demand incentive for e-3-wheelers and e-4-wheelers respectively, whereas for e-2-wheelers, the Ministry disbursed more than allocated fund (127 *per cent*).

In May 2023, PISC (8<sup>th</sup> Meeting) decided to reallocate the funds between different heads/segment of electric vehicles. Revised allocation of funds is given in the table below:

**Table 25: Category wise revised Allocation**

(₹ in crore)

| Category            | Allocated fund | Revised allocation | Percentage change in allocation |
|---------------------|----------------|--------------------|---------------------------------|
| <b>e-2-wheelers</b> | 2,000          | 3,500              | 75%                             |
| <b>e-3-wheelers</b> | 2,500          | 700                | (-)72%                          |
| <b>e-4-wheelers</b> | 551            | 250                | (-)54%                          |
| <b>e-Buses</b>      | 3,545          | 4307               | 21%                             |

As shown in the table above, while the allocation for e-2-wheelers was increased by 75 *per cent*, allocation for e-3-wheelers and e-4-wheelers decreased by 72 *per cent* and 54 *per cent* respectively.

This situation highlights deficiencies in budgeting and planning, indicating that the initial financial projections for the Scheme were not realistic. The persistent underutilisation of allocated funds undermines the effectiveness of budget planning and execution within the Ministry. Additionally, these changes in the budget at the fag end (May 2023) of the Scheme period raise concerns about the overall effectiveness of the demand incentive programme.

The Ministry replied (February 2025) that by December 2024, 93 *per cent* of total demand incentive outlay had been processed, ensuring that scheme objectives were met efficiently. The budgetary changes were made because the Scheme evolved based on real-world adoption, ensuring that funds were directed towards segments with maximum impact; the sharp rise in e-2-wheelers adoption required increased allocation, while e-3-wheelers and e-4-wheelers adoption lagged due to infrastructure gaps and market hesitancy; and Phase-II's flexibility allowed course correction based on historic EV sales data and stakeholder feedback.

Although the underutilisation of allocated funds and subsequent reallocation of funds were indicative of lack of effective budgeting, Audit appreciates the course correction made by the Ministry through this reallocation of funds.

## **6.2.2 Non-maintenance of separate bank accounts by Implementing Agencies**

According to the sanction orders issued by the Ministry, implementing agencies were required to maintain a separate bank account for the grants released.

Scrutiny of records revealed that in contravention of the above provision of sanction orders, following seven agencies did not maintain any separate bank account for the grant received from the Ministry under the Scheme.

**Table 26: Non maintenance of separate Bank accounts**

(₹ in crore)

| Sl. No. | Name of agency                                                 | Name of component of the Scheme | Name of the project                                                                | Grant released |
|---------|----------------------------------------------------------------|---------------------------------|------------------------------------------------------------------------------------|----------------|
| 1.      | West Bengal Transport Corporation, Kolkata                     | Demand incentive (e-buses)      | Deployment of 80 e-buses in Phase I                                                | 43.00          |
| 2.      | Nagpur Municipal Corporation, Nagpur                           | Demand incentive (e-buses)      | Deployment of 40 e-buses in Phase II                                               | 10.80          |
| 3.      | Indian Institute of Technology (IIT), Delhi                    | Technology Development          | Development of Vehicle-to-Grid enabled Charging Station Networks & Technologies    | 5.42           |
| 4.      | Aligarh Muslim University, Aligarh                             | Technology Development          | Centre for Advanced Research in Electrified Transportation (CARET)                 | 4.78           |
| 5.      | Non-Ferrous Materials Technology Development Center, Hyderabad | Technology Development          | Project for advanced Gen-IV lead acid battery and Gen. Nickel-zinc battery for EVs | 4.00           |
| 6.      | REIL, Jaipur                                                   | Charging Infrastructure         | 200 EV Charging Stations (EVCS) and 270 EV Charging Stations                       | 31.35          |
| 7.      | BHEL                                                           | Charging Infrastructure         | Solar Based Charging Infrastructure                                                | 0.50           |
|         |                                                                |                                 | <b>Total</b>                                                                       | <b>99.85</b>   |

Non maintenance of a separate bank account makes it difficult to ascertain the amount of interest earned on the funds. Further, it also complicates the process of verifying how the grants provided by the Ministry have been utilised, making it difficult to trace the expenditure accurately.

While accepting (February 2025) the observation, the Ministry noted it for future compliance.

### 6.3 Convergence/synergy among different agencies

As per National Electric Mobility Mission Plan, 2020, the roll out of the xEV charging infrastructure, interventions and the various schemes was to be done through the National Automotive Board in partnership with the concerned infrastructure Ministries/

Departments. Accordingly, the Ministry of Housing and Urban Affairs (MoHUA), Ministry of Road Transport and Highways (MoRTH) and Ministry of Power (MoP) were to be actively involved along with the other stakeholder Central Government Ministries, State Governments/Union Territories, Local Governments, the automotive industry, Power and Oil marketing companies and the testing agencies.

Audit observations in this regard are discussed in succeeding sub-paragraphs.

### 6.3.1 Role of National Automotive Board

The National Automotive Board (NAB) was established in August 2013 as an autonomous society. Key functions of NAB, *inter alia*, included the following:

- a) Issuance of homologation certificates based on testing reports submitted by the testing centres to ensure oversight and standardisation of testing procedures and remove conflict of interest in performance of two separate roles, namely testing and certification.
- b) Administer, monitor, coordinate, regulate and synergise the functioning of testing centres to ensure healthy competition amongst the centres, maintain the required quality of service being offered, and benchmark facilities so that there are optimum returns on the investment made by the Government.
- c) As Nodal Professional Agency, NAB was to
  - be repository of technical data, domain knowledge and expertise for auto policy related issues as also key automotive sector related ongoing and future initiatives of the Ministry of Heavy Industries and other Ministries like MoRTH and MoHUA;
  - provide the institutional framework and technical support to assist MoRTH in framing automotive sector regulations and activities.
  - facilitate collaborative R&D activities;
  - develop skill sets and competencies in automotive R&D and testing; and
  - prepare policies and carry out accreditation of test labs.

Audit observed that NAB had not been able to effectively discharge the above mandated functions. For instance, issue of homologation certificates was one of the essential functions and mandate of NAB. However, NAB did not perform this function. Also, NAB did not coordinate with MoRTH and other Ministries for a comprehensive approach to promotion of electric vehicles in the country.

The Ministry replied (February 2025) that given NAB's relatively recent establishment, some of its broader mandates required time for structured implementation, including capacity building and expertise development. Presently, there was a shortage of manpower in NAB. The process of strengthening NAB was ongoing, and as the organisation developed further, it was expected to take on an expanded role in supporting

the automotive sector. Efforts were being made to ensure that NAB effectively fulfilled its intended mandate while complementing the existing automotive ecosystem.

The reply may be seen in the context that more than 10 years had elapsed since the establishment of NAB. As such, NAB was required to be adequately equipped for carrying out its mandate.

### 6.3.2 Synergy in setting up charging infrastructure

The Note for Expenditure Finance Committee in respect of Phase-I of the Scheme, *inter-alia*, recognised requirement of regulatory amendments for commercial business of EV charging, metering, and billing methods, etc. As charging infrastructure was within the domain of Ministry of Power (MoP), charging stations in Phase-II were to be established as per the Ministry of Power notification (December 2018) on ‘Charging Infrastructure for Electric Vehicles-Guidelines and Standards’ as amended from time to time.

MoP rolled out (December 2018) and revised (2019 and 2022) these guidelines for state level functionaries from time to time. As per the guidelines, the Bureau of Energy Efficiency (BEE) was the central nodal agency for roll out of EV public charging infrastructure.

Development of charging infrastructure in terms of MoP guidelines required convergence amongst the Ministry of Heavy Industries (MHI), MoP, implementing agencies, State Governments, Power distribution companies (DISCOMs), State Electricity Regulatory Commissions, etc. The Project Implementation and Sanctioning Committee (PISC), in its 7<sup>th</sup> meeting, insisted on adherence to MoP guidelines by implementing agencies while implementing charging infrastructure projects.

#### 6.3.2.1 Electricity Tariff

The revised consolidated guidelines and standards on ‘Charging Infrastructure for Electric Vehicles’ issued by MoP (January 2022) stipulate that the tariff for the supply of electricity to public EV charging stations was to be a single-part tariff (i.e. without any fixed charges) and shall not exceed the Average Cost of Supply (ACOS). The table below presents particulars of electricity tariffs prevailing in various States/UTs (April 2024):

**Table 27: Electricity Tariff for Public EV Charging Stations in 36 States/UTs**

| Particulars                                   | No. of States/ UTs |
|-----------------------------------------------|--------------------|
| Single-part tariff up to ACOS                 | 15                 |
| Single-part tariff higher than ACOS           | 3                  |
| Two-part tariff                               | 15                 |
| Tariff for EV Charging Stations not specified | 3                  |
| <b>Total</b>                                  | <b>36</b>          |

(Source: BEE)

As shown in the table above, out of 36 States/UTs, only 15 have notified a single-part tariff aligned with ACOS.

Notifying tariff at higher than ACOS, two-part tariff or not notifying any tariff for EV charging stations had a cascading effect of increasing the service charges leviable for use

of EV charging facility by EV users. Energy Efficiency Services Limited (an implementing agency for charging infrastructure) also stated that not notifying tariff for EV charging stations or notifying a two-part tariff comprising monthly fixed charges and energy charges results in higher EV charging tariffs for end user.

The Ministry replied (February 2025) that although fixation of power tariff, being a State subject, was regulated by the State Electricity Regulatory Commission (SERC), MoP had been revising the guidelines. The latest revision (September 2024) envisaged continuation of the single part tariff upto ACOS until March 2028.

The fact remains that 21 out of 36 States/UTs have not notified single-part tariff upto ACOS which indicates lack of convergence at the level of State Government/UTs, for setting up of EV charging stations. Consequently, the charging infrastructure operator would be required to pay fixed charges apart from energy charges.

### **6.3.2.2 Electricity Connection**

MoP's revised consolidated guidelines and standards on 'Charging Infrastructure for Electric Vehicles' (January 2022) stipulate the following:

- The connection for a public charging station should be provided or modification to an already provided connection should be done within seven days in metro cities, 15 days in other municipal areas and 30 days in rural areas.
- Separate metering arrangement shall be made for public charging stations so that consumption may be recorded and billed as per applicable tariff for EV charging stations.

Further, NITI Aayog's Handbook for EV Charging Stations stipulates that if the sanctioned load of the existing connection is not sufficient, the owner of the host facility must apply to DISCOM for an increase in the sanctioned load.

Audit observed that there were many instances where electricity connections with required load were not released to charging stations even after considerable period of time. It was also seen that out of 104 charging stations jointly inspected, there was no evidence of load enhancement in 91 charging stations while 99 stations did not have electricity connection on EV tariff.

The Ministry replied (February 2025) that in the guidelines revised in September 2024, MoP included penalty for delayed connections in the Electricity Rules, 2020; reduced timelines for granting electricity connection (ranging from 3 days for metros to 90 days in cases where distribution mains or commissioning of new substations was required); need for separate metering even for consumers with lower tariff/kWh of electricity for solar and non-solar hours.

While Audit appreciates above revisions in the MoP guidelines, enforcement of revisions needs to be monitored and followed up for making charging stations a viable business model and speeding up their establishment.

### 6.3.2.3 Database of Public Charging Stations

Para 6.1 of revised MoP guidelines (January 2022) required the Bureau of Energy Efficiency (BEE) to create and maintain a national online database of public charging stations in consultation with the State Nodal Agencies (DISCOMS).

Audit observed that the BEE's database (EV Yatra mobile app) of public charging stations did not include the following:

- charging stations installed and commissioned under Phase-I of the Scheme.
- real time status of charging stations.
- names and contact numbers of the contact person to enquire about availability of charging stations (in most cases); and
- an interface for slot reservations.

The non-inclusion of all charging stations established under the FAME India Scheme highlights lack of synergy and coordination between the BEE (MoP) and the Ministry of Heavy Industries. Further, lack of real-time information about chargers as well as charging facility for slot reservation in the mobile app undermined the benefits of having a mobile app/database of charging stations.

BEE replied (April 2024) that data for Phase-I was not received from any agency. The complete features of the EV Yatra application were not functional due to filtering and security protocols on NIC server. Charge point operators were not mandated to report their data to BEE (Central Nodal Agency) or the State Nodal Agency. The provision for slot reservations was currently deactivated due to lack of mandate in the MoP guidelines.

The Ministry replied (February 2025) that in the revised guidelines (September 2024), MoP emphasised the aspect of maintaining details of charging stations across the country. The revised guidelines, *inter-alia*, included provision of open Application Programming Interface (APIs) for third-party developers restricted to non-confidential information, for integrating value added services into the National database and advised charge point operators to adopt open communication standards/protocols for data sharing. Further, the charging stations installed by public entities including those installed by OMCs had been onboarded on the portal.

While Audit appreciates above revisions in the MoP guidelines and acknowledges the Ministry's response, display of real time information relating to all public charging stations as also facility for slot reservation would also add value to the BEE's mobile app/database of charging stations.

#### 6.3.2.4 Role of State Nodal Agency and DISCOMs in implementation of projects

Para 11.2 of MoP guidelines (January 2022) required every State Government to nominate a Nodal Agency (DISCOM/Central or State PSU etc.) to expedite the setting up of charging infrastructure and the State Nodal Agency (DISCOM), in turn, was to select the implementing agency for installation, operation and maintenance of charging stations for designated period.

Audit observed that out of 28 States and 8 UTs, only 22 States and 5 UTs (**Annexure-IX**) had nominated (January 2022) their nodal agencies.

Audit also observed that during implementation of the FAME India Scheme, the Ministry of Heavy Industries selected implementing agencies for establishment of charging infrastructure across the country under both the Phases of the Scheme. However, the implementing agencies were selected without consulting respective DISCOMs. Since major aspects, such as provision of upstream infrastructure, electrical connection under appropriate category, load enhancement, service charges, etc. come under the domain of respective DISCOMs, the non-involvement of DISCOMs resulted in impediments in targeted implementation of the projects.

Although, it is a fact that the Ministry provided subsidy for installation of charging stations, successful implementation of projects needed coordinated efforts of the Ministry, implementing agencies, DISCOMs and other agencies (such as Central Electricity Authority, BEE, etc). It was observed that delay in commissioning of charging stations in Phase-II was mainly attributable to issues relating to electrical infrastructure development through DISCOMs, EV tariff connections approval, etc.

The Ministry replied (February 2025) that MoP revised (September 2024) the guidelines to include the following requirements:

- all relevant agencies, including electricity distribution companies (DISCOMs), the Central Electricity Authority (CEA), and State Government agencies were to cooperate and provide necessary support to the Central Nodal Agency (CNA) i.e. the BEE.
- State Nodal Agency was responsible for coordinating with DISCOMs to facilitate electricity connections for public, community, workplace, and e-bus depot charging stations.
- a State-level Steering Committee chaired by Secretary in-charge of Energy and comprising Secretaries of Transport, Municipal Administration and Urban Development, and such other members as required was to be constituted to plan and monitor the implementation of EV charging infrastructure at the State level.

- A Central Steering Committee chaired by the Additional Secretary of the Ministry of Power including members from relevant Ministries, representative from States, BEE and CEA was to review the implementation of these guidelines.

The Ministry further stated that above framework was expected to alleviate the issues faced by the stakeholders and in ensuring faster setting up of EV public charging stations.

While Audit appreciates the revisions (September 2024) in the MoP guidelines and acknowledges the response of the Ministry, the new framework needs to be effectively implemented to alleviate the issues faced in setting up of charging infrastructure.

### 6.3.3 Synergy with the Ministry of Road Transport and Highways

The FAME India Portal did not have an interface with the VAHAN/SARATHI portal of MoRTH to strengthen in-built controls and facilitate automatic verification of the EV details submitted by the OEMs. This lack of coordination between the Ministry of Heavy Industries (MHI) and MoRTH resulted in deficiencies in verification of EVs by MHI, and demand incentives being paid to OEMs for ineligible vehicles.

The Ministry replied (February 2025) that initially, in Phase-I and Phase-II, claims were verified by calling for VAHAN data from MoRTH in MS-Excel files. The need for mapping arose as the quantitative EV sales grew in Phase-II. Application Programming Interface (API) integration of Phase-II portal with VAHAN took place from November 2023.

The reply may be seen in the context that the integration of the Portal took place only at the fag end of the Scheme.

## 6.4 Summing up

Information, Education, and Communication (IEC) was a critical component of the Scheme, given that low consumer awareness about electric vehicles (EVs) among existing and potential customers was a significant barrier. Out of the aggregate amount of ₹48 crore allocated for IEC activities during Phase-I and Phase-II of the Scheme, the Ministry could utilise an amount of ₹7.52 crore for such activities.

National Automotive Board did not effectively perform functions designated to it at the time of its establishment, viz. functioning as a nodal professional agency for automotive sector, issuance of homologation certificates, ensuring coordination amongst testing agencies, Ministry of Road Transport and Highways (MoRTH) and other Ministries, etc.

Successful implementation and performance of charging infrastructure, metering, billing etc. required convergence amongst various agencies including the Ministry of Heavy Industries, Ministry of Power (MoP), State Governments, DISCOMs, site owners, Oil

Marketing Companies, etc. However, there is a scope for better synergy amongst various Ministries/ Government agencies.

**Recommendations:**

- 1) The Ministry may devise a comprehensive policy for creating consumer awareness including preparation of an annual plan.**
- 2) The Ministry may adequately equip National Automotive Board for carrying out its mandate of issuing homologation certificates and being a nodal professional agency for automotive sector-related efforts of the Government.**
- 3) The Ministry may consider setting up a coordination mechanism with representation from all stakeholders for ensuring synchronisation in the establishment of charging infrastructure.**

New Delhi  
Dated: 25 May 2026



(Anand Mohan Bajaj)  
Deputy Comptroller and Auditor General  
(Commercial and Report Central)  
and Chairman, Audit Board

Countersigned



New Delhi  
Dated: 27 May 2026

(K. Sanjay Murthy)  
Comptroller and Auditor General of India

# Annexures



**Annexure-I**  
**(Referred to in para 1.11)**

**Engagement with various stakeholders**

| Date              | Details of engagement with stakeholders                                                                                                                                                                                                                                                                                                                                       | Purpose                                                                                                                                              |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 28 July 2022      | A workshop with various stakeholders of the FAME India scheme was held in Ministry of Heavy Industries (MHI). Participants included representatives from MHI, Automobile Research Association of India (ARAI), Automotive Component Manufacturers Associations (ACMA) and Original Equipment Manufacturers (OEMs) i.e. Tata Motors, Mahindra and Mahindra, Hero Electric etc. | To understand the issues involved in implementation of FAME India scheme.                                                                            |
| 09 September 2022 | Meeting with NITI Aayog                                                                                                                                                                                                                                                                                                                                                       | To have an insight into the role of NITI Aayog in relation to the FAME India scheme and discussion on various issues relating to e-mobility in India |
| 17 October 2022   | Workshop with Automotive Research Association of India, Pune                                                                                                                                                                                                                                                                                                                  | To have an insight into EV testing mechanism and role of testing agencies in relation to the FAME India scheme.                                      |
| 18 November 2022  | Meeting with Society of Manufacturers of Electric Vehicles (SMEV)                                                                                                                                                                                                                                                                                                             | To have an insight into role of SMEV in electric mobility in India and FAME India scheme.                                                            |
| 01 December 2022  | Meeting with Society of Indian Automobile Manufacturers (SIAM)                                                                                                                                                                                                                                                                                                                | To have an insight into role of SIAM in relation to the FAME India scheme.                                                                           |
| 07 February 2023  | Meeting with Auto Components Manufacturers Association (AMCA)                                                                                                                                                                                                                                                                                                                 | To have an insight about their role in relation to the FAME India scheme.                                                                            |

## Annexure-II (Referred to in para 2.1)

### Features of Demand Incentive component

#### Features of demand incentive component under Phase-I

Under Phase-I of the scheme, the demand incentive component had the following features:

- Demand incentive was available for private and commercial electric 2-wheelers; electric 3-wheeler auto rickshaws; commercial electric 4-wheeler passenger vehicles; electric Light Commercial Vehicles; Buses and for retrofitment of commercial electric 4-wheeler vehicles. The rates of demand incentive for various categories of vehicles were specified under the Scheme.
- Electric vehicles covered under Phase-I were Mild Hybrid<sup>36</sup> (excluded w.e.f. 1 April 2017), Strong Hybrid<sup>37</sup>, Plug-in Hybrid (PHEV)<sup>38</sup>, and Pure Electric/Battery Electric Vehicle (BEV)<sup>39</sup> technologies, which are collectively termed as xEVs.
- Demand incentive was allowable for electric vehicles fitted with either conventional (lead-acid) batteries or advanced batteries (Lithium-ion battery and other new technology batteries).
- Phase-I was initially restricted to smart cities, major metro agglomerations, State capitals, and other urban agglomerations/cities with one million plus population (as per 2011 census) and cities of the northeastern States. A revised notification was issued in June 2015 to extend the Scheme to all cities/areas without any geographical limitations in some of the States/UTs and to selected districts/cities in other States. Further, since 30 September 2015, the Scheme was made applicable to the whole of India in respect of electric and hybrid 2-wheelers and 3-wheelers.

#### Features of demand incentive component under Phase-II

Under Phase-II of the Scheme, the demand incentive component had the following features:

---

<sup>36</sup> *Hybrid Electric Vehicle is a vehicle that for the purpose of mechanical propulsion draws energy from consumable fuel as well as Energy / power storage device (e.g. battery, capacitor, etc.). Mild Hybrid Electric Vehicle (Mild HEV) has a 'Stop-Start' arrangement, Electric Regenerative Braking System (a system, which during braking, provides for the conversion of vehicle kinetic energy into electrical energy) and a 'Motor Assist' (motor alone is not capable to propel the vehicle from a stationary condition).*

<sup>37</sup> *Strong Hybrid Electric Vehicle (Strong HEV) is a vehicle which has a 'Stop-Start' arrangement, 'Electric Regenerative Braking System' and a 'Motor Drive' (motor alone is capable to propel the vehicle from a stationary condition).*

<sup>38</sup> *Plug-in HEV (PHEV)/ Range Extended Electric Vehicle (REEV) is a Strong HEV which has a provision for 'Off Vehicle Charging' (OVC) of 'Rechargeable Energy Storage System (ReESS)'.*

<sup>39</sup> *Pure Electric/Battery Electric Vehicle (BEV) is a vehicle which is powered exclusively by an electric motor whose traction energy is supplied exclusively by traction battery installed in the vehicle and has an 'Electric Regenerative Braking System'.*

- Uniform demand incentive at the rate of ₹10,000 per kWh for all categories of e-vehicles, subject to review and revision by Project Implementation and Sanctioning Committee.
- Amount of demand incentive was capped for all categories of e-vehicles at 20 *per cent* of ex-showroom price<sup>40</sup>. The cap on demand incentive for e-2-wheelers was revised to 40 *per cent* of vehicle cost or ₹15,000 per kWh whichever is less in June 2021 and was again decreased to 15 *per cent* of the ex-factory price<sup>41</sup> or ₹10,000 per kWh whichever is less from 1 June 2023.
- Vehicles covered included e-4-wheelers (including plug in Hybrid and strong Hybrid), e-3-wheelers (including registered e-rickshaws/e-carts) and e-2-wheelers. Restricted to e-vehicles fitted with advanced battery (Lithium-ion battery and other new technology batteries).

---

<sup>40</sup>Price of the vehicle including taxes

<sup>41</sup>Price of the vehicle at factory gate before applicable taxes

**Annexure-III**  
**{Referred to in para 2.7 (ii)}**

**Time Taken for settlement of demand incentive claims of OEMs**

| Description of vehicle | Range of days for settlement of claims | Total incentive paid (₹ crore) |
|------------------------|----------------------------------------|--------------------------------|
| <b>e-2 wheelers</b>    | 0 to 25                                | 56.98                          |
|                        | 26 to 50                               | 548.69                         |
|                        | 51 to 75                               | 579.52                         |
|                        | 76 to 100                              | 277.29                         |
|                        | 101 to 125                             | 40.14                          |
|                        | 126 to 149                             | 3.37                           |
|                        | <b>Total</b>                           | <b>1505.99</b>                 |
| <b>e-3 wheelers</b>    | 0 to 25                                | 56.97                          |
|                        | 26 to 50                               | 128.96                         |
|                        | 51 to 75                               | 45.52                          |
|                        | 76 to 100                              | 25.65                          |
|                        | 101 to 125                             | 11.00                          |
|                        | 126 to 150                             | 3.99                           |
|                        | 151 to 175                             | .01                            |
|                        | 176 to 200                             | 3.66                           |
|                        | 201 to 225                             | .004                           |
|                        | 226 to 250                             | 0                              |
|                        | 251 to 275                             | .01                            |
|                        | 276 to 300                             | 0                              |
|                        | 301 to 325                             | 0                              |
|                        | 326 to 350                             | 0                              |
|                        | 351 to 375                             | 0                              |
|                        | 376 to 400                             | 1.64                           |
|                        | <b>Total</b>                           | <b>277.414</b>                 |
| <b>e-4 wheelers</b>    | 0 to 25                                | 9.91                           |
|                        | 26 to 50                               | 37.57                          |
|                        | 51 to 75                               | 29.41                          |
|                        | 76 to 100                              | 13.63                          |
|                        | 101 to 125                             | 4.43                           |
| <b>Total</b>           |                                        | <b>94.95</b>                   |

**Annexure-IV**  
**(Referred to in para 2.10.2)**

**Status of deployment of e-buses during Phase-I**

(₹ in crore)

| S. No.       | Name of State Transport Undertaking/ Municipal Corporation and City/State     | No. of buses sanctioned | No. of buses deployed | Grant sanctioned | Grant utilised as on 31 March 2023 |
|--------------|-------------------------------------------------------------------------------|-------------------------|-----------------------|------------------|------------------------------------|
| 1.           | West Bengal Transport Corporation (WBTC), Kolkata, West Bengal                | 80                      | 80                    | 43.00            | 43.00                              |
| 2            | Himachal Road Transport Corporation (HRTC), Shimla, Himachal Pradesh          | 75                      | 75                    | 67.07            | 65.07                              |
| 3            | Telangana State Road Transport Corporation (TSTRC), Hyderabad, Telangana      | 40                      | 40                    | 44.00            | 44.00                              |
| 4            | Brihanmumbai Electric Supply & Transport (BEST), Mumbai, Maharashtra          | 40                      | 40                    | 29.52            | 29.52                              |
| 5            | Atal Indore City Transport Service Ltd. (AICTSL), Indore, Madhya Pradesh      | 40                      | 40                    | 19.77            | 19.77                              |
| 6            | Urban Transport Directorate, Lucknow, Uttar Pradesh                           | 40                      | 40                    | 19.77            | 19.77                              |
| 7            | Jammu and Kashmir State Road Transport Corporation (JKSRTC), Jammu            | 40                      | 40                    | 19.77            | 19.77                              |
| 8            | Navi Mumbai Municipal Transport (NMMT), Navi Mumbai, Maharashtra              | 30                      | 30                    | 14.83            | 14.83                              |
| 9            | Mumbai Metropolitan Region Development Authority (MMRDA), Mumbai, Maharashtra | 25                      | 25                    | 15.25            | 15.25                              |
| 10           | Assam State Transport Corporation (ASTC), Guwahati, Assam                     | 15                      | 15                    | 7.42             | 7.42                               |
| <b>Total</b> |                                                                               | <b>425</b>              | <b>425</b>            | <b>280.42</b>    | <b>278.42</b>                      |

**Annexure-V**  
**(Referred to in para 2.10.2)**

**Status of deployment of e-buses through EoI during Phase-II (as of March 2023)**

(₹ in crore)

| Sl. No. | Name of State Transport Undertaking and City/State                | Buses Allocated | Buses delivered | Funds sanctioned | Total payment made |
|---------|-------------------------------------------------------------------|-----------------|-----------------|------------------|--------------------|
| 1       | Andhra Pradesh State Road Corporation (APSRC), Andhra Pradesh     | 100             | 91              | 45               | 10.80              |
| 2       | Bihar State Road Transport Corporation, Bihar                     | 25              | 25              | 12.25            | 12.25              |
| 3       | Silvassa Smart City Ltd. (SSCL), Dadra & Nagar Haveli             | 25              | 25              | 11.25            | 9.27               |
| 4       | Delhi Transport Corporation (DTC), Delhi                          | 300             | 300             | 165              | 99                 |
| 5       | Delhi Metro Rail Corporation Ltd (DMRC), Delhi                    | 100             | 100             | 45               | 27                 |
| 6       | Surat Municipal Corporation (SMC), Gujarat                        | 300             | 193             | 130.85           | 52.81              |
| 7       | Rajkot Rajpath Ltd (RRL), Gujarat                                 | 150             | 50              | 64.68            | 16.89              |
| 8       | Ahmedabad Janmarg Limited, Gujarat                                | 150             | 150             | 67.5             | 67.5               |
| 9       | Gujarat State Road Transport Limited (GSRTCL), Gujarat            | 100             | 50              | 45               | 13.5               |
| 10      | Bengaluru Metropolitan Transport Corporation (BMTCL), Karnataka   | 300             | 242             | 157.28           | 62.91              |
| 11      | Karnataka State Road Transport Corporation (Intercity), Karnataka | 50              | 50              | 27.5             | 5.5                |
| 12      | BEST UNDERTAKING, Maharashtra                                     | 340             | 340             | 167              | 167                |
| 13      | Pune Mahanagar Parivahan Mahamandal Ltd (PMPML), Maharashtra      | 150             | 150             | 82.5             | 49.5               |
| 14      | Navi Mumbai Municipal Transport Corporation, Maharashtra          | 150             | 150             | 78               | 78                 |
| 15      | Nagpur Municipal Corporation (NMC), Maharashtra                   | 40              | 40              | 18               | 10.8               |

| Sl. No. | Name of State Transport Undertaking and City/State                            | Buses Allocated | Buses delivered | Funds sanctioned | Total payment made |
|---------|-------------------------------------------------------------------------------|-----------------|-----------------|------------------|--------------------|
| 16      | Maharashtra State Road Transport Corporation (Intercity) (MSRTC), Maharashtra | 150             | 0               | 82.5             | 16.5               |
| 17      | Capital Region Urban Transport, Bhubaneswar (CRUTB), Odisha                   | 50              | 35              | 22.5             | 4.5                |
| 18      | Jaipur City Transport Service Limited (JCTSL), Rajasthan                      | 100             | 0               | 45               | 9                  |
| 19      | Rajasthan State Road Transport Corporation (Intercity) (RSRTC), Rajasthan     | 48              | 0               | 26.5             | 5.28               |
| 20      | Dehradun Smart City Limited (Uttarakhand) (DSCL), Uttarakhand                 | 30              | 30              | 13.5             | 6.3                |
| 21      | Directorate of Urban Transport, Uttar Pradesh (DUT), Uttar Pradesh            | 600             | 600             | 270              | 214.02             |
| 22      | West Bengal Transport Corporation (WBTC), West Bengal                         | 50              | 25              | 27.5             | 5.5                |
| 23      | Kadamba Transport Corporation Limited (Goa) (KTCL), Goa                       | 150             | 50              | 72.5             | 36.5               |
| 24      | Chandigarh Transport Undertaking (CTU), Chandigarh                            | 80              | 80              | 32.25            | 26.56              |
| 25      | Jammu Smart City Limited (JSCL), Jammu & Kashmir                              | 100             | 0               | 47               | 9.4                |
| 26      | Srinagar Smart City Limited (SSCL), Jammu & Kashmir                           | 100             | 0               | 47               | 9.4                |
|         | <b>Total</b>                                                                  | <b>3738</b>     | <b>2776</b>     | <b>1803.06</b>   | <b>1025.69</b>     |

**Annexure-VI**  
**(Referred to in introductory para of Chapter-III)**

**Gist of the Incentive Eligibility Assessment Procedure as laid down in the  
FAME India Scheme guidelines**

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1.0</b>     | <b>Applicability</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                | This procedure shall be applicable for assessment of vehicle models (including their variants and versions) for eligibility and applicability of incentives announced by Government of India under National Mission for Electric Mobility (NMEM). This assessment procedure shall be applicable only to vehicle models (including their variants and versions) which fall under the purview of Central Motor Vehicle Rules, 1989 (CMVR).                                                                                                        |
| <b>2.0</b>     | <b>Procedure:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>2.1</b>     | In the case of vehicle models (including their variants and versions) qualifying under criteria specified in Clause 1.0, the vehicle manufacturer shall apply to test agencies notified under Rule 126 of CMVR for assessment as per this procedure. This application can be made along with application for type approval of the concerned vehicle model (including its variants and versions) or as a stand-alone application for assessment as per this procedure. The concerned test agency shall conduct the assessment as detailed below: |
| <b>2.1.1</b>   | <b>Compliance to CMVR:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>2.1.1.1</b> | The vehicle model (including its variants and versions) shall comply with the applicable regulations as on date as per Central Motor Vehicle Rules, 1989. For this purpose, the vehicle model (including its variants and versions) shall be type approved as per specified standards.                                                                                                                                                                                                                                                          |
| <b>2.1.2</b>   | <b>Assessment of Technology Functions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>2.1.2.1</b> | The following technologies provided in a xEV shall deem to qualify subject to compliance to the specified requirements: <ul style="list-style-type: none"> <li>(a) Idle Start-Stop</li> <li>(b) Regenerative Braking</li> <li>(c) Motor Assist</li> <li>(d) Motor Drive (only for Strong HEV/Plug-in HEV/REEV)</li> </ul>                                                                                                                                                                                                                       |
| <b>2.1.3</b>   | <b>Fuel Consumption:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                | The fuel consumption measurement shall be done for all types of Hybrid Electric Vehicles as per the specified procedure. The test report for fuel consumption test shall specify the approved fuel consumption value in comparison with the targets specified for relevant vehicle categories.                                                                                                                                                                                                                                                  |
| <b>2.1.4</b>   | <b>Electrical Energy Consumption:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                | The electrical energy consumption measurement shall be done for all BEVs as per the specified standard. The test report for Electrical Energy Consumption test shall specify the approved value in comparison with the targets specified for relevant vehicle categories.                                                                                                                                                                                                                                                                       |

|              |                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>2.1.5</b> | <b>Electric Range:</b>                                                                                                                                                                                                                                                                                                                                                               |
|              | For Plug-in HEVs/RE-HEVs and BEVs the electric range measurement shall be done as per the specified standards. The test report shall specify the approved value in comparison with the target specified for relevant vehicle categories.                                                                                                                                             |
| <b>3.0</b>   | <b>Application for Eligibility Assessment</b>                                                                                                                                                                                                                                                                                                                                        |
| <b>3.1</b>   | <b>For Vehicle Models Already Type Approved:</b>                                                                                                                                                                                                                                                                                                                                     |
| <b>3.1.1</b> | In case of the vehicle model (including its variants and versions), for which eligibility assessment is required, is already type approved as per provisions of CMVR, the vehicle manufacturer shall submit to test agency an application enclosing copies of homologation certificate and homologation test reports required for assessment as per Clause 2.0.                      |
| <b>3.1.2</b> | The test agency shall determine the adequacy of documents submitted by vehicle manufacturer. In case, additional testing is required for assessment of certain parameters, the test agency shall conduct the required tests.                                                                                                                                                         |
| <b>3.1.3</b> | Once the information on all relevant parameters is obtained (as per clause 3.1.1 and/or 3.1.2), the test agency shall issue a “Eligibility Assessment Report” to vehicle manufacturer. This report shall contain information on vehicle performance with respect to all applicable parameters specified in Clause 2.0 in comparison with the defined targets.                        |
| <b>3.2</b>   | <b>For New Type Approval along with Eligibility Assessment:</b>                                                                                                                                                                                                                                                                                                                      |
| <b>3.2.1</b> | In case of vehicle model (including its variants and versions) for which new Type Approval is required, the vehicle manufacturer shall along with application for Type Approval request test agency to conduct assessment for eligibility as per Clause 2.0. The vehicle manufacturer shall submit to test agency the technical specifications and other relevant document (if any). |
| <b>3.2.2</b> | After successful completion of Type Approval and assessment as per Clause 2.0, the test agency shall issue a Type Approval Certificate and a ‘Incentive Eligibility Assessment Report’ to vehicle manufacturer. This report shall contain information on vehicle performance with all applicable parameters specified in Clause 2.0 in comparison with the defined targets.          |

**Annexure-VII**  
**(Referred to in paras 5.1 and 5.2.1)**

**List of the Technology Development Projects**

| Sl. No. | Project title                                                                                     | Implementing Agency                                   | PISC meeting in which the project was approved | Cost of project | Share of Ministry | Funds released | Date of release of funds | Duration of project | Status of project |
|---------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------|-----------------|-------------------|----------------|--------------------------|---------------------|-------------------|
| 1.      | Preparation for specifications and finalizing Draft Standards of xEV Charging Stations            | Automotive Research Association of India (ARAI), Pune | 1 <sup>st</sup> meeting held on 13 May 2015    | 0.15            | 0.15              | 0.15           | 30.6.2015                | 6 months            | Completed         |
| 2.      | Project for Charging Infrastructure Management System                                             | IIT, Madras                                           | 1 <sup>st</sup> meeting held on 13 May 2015    | 1.00            | 1.00              | 1.00           | 18.8.2015                | 12 months           | Completed         |
| 3.      | Establishment of testing infrastructure for Certification testing of Electric and Hybrid Vehicles | ARAI, Pune                                            | 1 <sup>st</sup> meeting held on 13 May 2015    | 50.00           | 30.00             | 30.00          | 30.6.2015                | 33 months           | Completed         |

| Sl. No. | Project title                                                                                                                    | Implementing Agency                                            | PISC meeting in which the project was approved | Cost of project | Share of Ministry | Funds released | Date of release of funds | Duration of project | Status of project |
|---------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------|-----------------|-------------------|----------------|--------------------------|---------------------|-------------------|
| 4.      | Technology development project for advanced Gen-IV lead acid battery and Gen. Nickel-zinc battery for EVs                        | Non-Ferrous Materials Technology Development Centre, Hyderabad | 2 <sup>nd</sup> meeting held on 20 August 2015 | 4.00            | 4.00              | 4.00           | 09.02.2016               | 2 years             | Completed         |
| 5.      | Development of xEV one platform                                                                                                  | ARAI, Pune                                                     | 4th meeting held on 22 January 2016            | 44.00           | 22.00             | 1.50           | 17.06.2016               | 23 months           | Cancelled         |
| 6.      | Centre for Advanced Research in Electrified Transportation (CARET)                                                               | Aligarh Muslim University (AMU)                                | 5th meeting held on 20 July 2016               | 7.23            | 5.98              | 4.78           | 26.06.2016               | 3 years             | Closed            |
| 7.      | Project for Centre for Battery Engineering                                                                                       | Indian Institute of Technology, Madras                         | 6th meeting held on 23 March 2017              | 23.30           | 17.20             | 10.64          | 29.5.2017                | 5 years             | Ongoing           |
| 8.      | Project for Hierarchical Nanostructure Carbon Materials derived from Candle Soot and Graphene for High Rate and High-Performance | Indian Institute of Technology, Hyderabad and ARCI, Hyderabad  | 6th meeting held on 23 March 2017              | 2.60            | 1.30              | 1.09           | 19.9.2017                | 55 months           | Completed         |

| Sl. No. | Project title                                                                                                                        | Implementing Agency                   | PISC meeting in which the project was approved | Cost of project | Share of Ministry | Funds released | Date of release of funds | Duration of project | Status of project |
|---------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------|-----------------|-------------------|----------------|--------------------------|---------------------|-------------------|
|         | Electrodes for Automotive Batteries and Super-capacitors                                                                             |                                       |                                                |                 |                   |                |                          |                     |                   |
| 9.      | Proposal for development of Light Weight REEV (Range Extended Electric Vehicle) with Renewable Energy based Fuel cell Range Extender | IISc, Bengaluru                       | 6th meeting held on 23 March 2017              | 1.20            | 0.30              | 0.30           | 08.06.2017               | 42 months           | Completed         |
| 10      | Project for Development of AC-DC Combined Public Charging Station Suitable for Indian Application                                    | ARAI, Pune                            | 7 <sup>th</sup> meeting held on 15 June 2017   | 3.50            | 1.75              | 1.75           | 17.01.2018               | 12 months           | Completed         |
| 11      | Development and prototyping of ICT enabled smart Charging Networks components                                                        | Indian Institute of Technology, Delhi | 8th meeting held on 1 November 2017            | 10.02           | 5.98              | 5.42           | 22.03.2018               | 2 years             | Closed            |

| Sl. No. | Project title                                                                   | Implementing Agency                                             | PISC meeting in which the project was approved | Cost of project | Share of Ministry | Funds released | Date of release of funds | Duration of project | Status of project |
|---------|---------------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------|-----------------|-------------------|----------------|--------------------------|---------------------|-------------------|
| 12      | Technology Pilot for DC Charging for EV Bus                                     | K K Wagh Institute of Engineering Education and Research, Nasik | 8th meeting held on 1 November 2017            | 1.50            | 0.90              | 0.90           | 22.03.2018               | 2 years             | Ongoing           |
| 13      | Switched Reluctance Traction motor and controller for 2 wheelers and 3 wheelers | National Institute of Technology, Surathkal, Karnataka          | 8th meeting held on 1 November 2017            | 16.98           | 12.29             | 12.29          | 16.03.2018               | 2 years             | Completed         |
| 14      | HUB and SPOKE consortium for e-2 wheelers and e-3 wheelers Electric Drives.     | Non-Ferrous Materials Technology Development Centre, Hyderabad  | 8th meeting held on 1 November 2017            | 3.03            | 2.32              | 2.32           | 26.03.2018               | 2 years             | Completed         |
| 15      | Synchronous Reluctance Motor Drive for Indian Electric Vehicle Applications.    | Indian Institute of Technology, Madras                          | 8th meeting held on 1 November 2017            | 2.61            | 1.69              | 0.56           | 22.03.2018               | 3 years             | Closed            |

| Sl. No. | Project title                                                                                                                                        | Implementing Agency                                                          | PISC meeting in which the project was approved  | Cost of project | Share of Ministry | Funds released | Date of release of funds | Duration of project | Status of project |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------|-----------------|-------------------|----------------|--------------------------|---------------------|-------------------|
| 16      | Test infrastructure for Electric Vehicle (EV) and EV Supply Equipment (EVSE) performance test/certification at three <sup>42</sup> centers of NATRIP | National Automotive Testing and R&D Infrastructure Project (NATRiP), Manesar | 11 <sup>th</sup> meeting held on 3 January 2019 | 95.00           | 73.00             | 73.00          | 13.03.2019               | 10 months           | Closed            |
|         |                                                                                                                                                      |                                                                              | <b>Total</b>                                    | <b>266.12</b>   | <b>179.86</b>     | <b>149.70</b>  |                          |                     |                   |

<sup>42</sup> International Centre for Automotive Technology (ICAT), Manesar; Global Automotive Research Centre (GARC), Chennai; and National Automotive Test Tracks (NATRAX), Indore.

**Annexure-VIII**  
**(Referred to in para 5.2.1.1)**  
**List of Technology Development Projects completed with delays**

| Sl. No. | Name of the project                                                                                                                                             | Implementing Agency | Duration of the project (in months) | Date of release | Scheduled completion date# | Actual date of completion | Delay (months) |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------|-----------------|----------------------------|---------------------------|----------------|
| 1.      | Preparation for Specifications and Finalizing Draft Standards of xEV Charging Stations                                                                          | ARAI, Pune          | 06                                  | 30.06.2015      | December 2015              | September 2017            | 21             |
| 2.      | Project for Charging Infrastructure Management System                                                                                                           | IIT, Madras         | 12                                  | 18.08.2015      | August 2016                | June 2017                 | 10             |
| 3.      | Establishment of testing infrastructure for Certification testing of Electric and Hybrid Vehicles                                                               | ARAI, Pune          | 33                                  | 30.06.2015      | March 2018                 | March 2020                | 24             |
| 4.      | Technology development project for advanced Gen- IV lead acid battery and Gen. Nickel-zinc battery for EVs                                                      | NFTDC, Hyderabad    | 24                                  | 09.02.2016      | February 2018              | March 2018                | 1              |
| 5.      | Proposal for development of Light Weight REEV (Range Extended Electric Vehicle) with Renewable Energy based Fuel cell Range Extender (Uchhatar Avishkar Yojana) | IISc Bangalore*     | 42                                  | 08.06.2017      | February 2021              | September 2022            | 19             |

| Sl. No. | Name of the project                                                                               | Implementing Agency | Duration of the project (in months) | Date of release | Scheduled completion date# | Actual date of completion | Delay (months) |
|---------|---------------------------------------------------------------------------------------------------|---------------------|-------------------------------------|-----------------|----------------------------|---------------------------|----------------|
| 6.      | Project for Development of AC-DC Combined Public Charging Station suitable for Indian Application | ARAI, Pune          | 12                                  | 17.01.2018      | January 2019               | January 2021              | 24             |
| 7.      | Switched Reluctance Traction motor and controller for 2 wheelers and 3 wheelers.                  | NIT, Surathkhal     | 24                                  | 16.03.2018      | March 2020                 | December 2020             | 9              |
| 8.      | HUB and SPOKE consortium for e-2 wheelers and e-3 wheelers Electric Drives.                       | NFTDC Hyderabad     | 24                                  | 26.03.2018      | March 2020                 | March 2022                | 24             |

# Counted from the date of 1<sup>st</sup> installment of grant to implementing agency

\* Project was sanctioned to IISC Bangalore, but fund was released to IIT Madras as it was the Nodal agency for Uchhatar Aviskar Yojana

**Annexure-IX**  
**(Referred to in para 6.3.2.4)**

**List of State Nodal Agencies under the e-Mobility Programme**

| S. No. | State                     | State Nodal Agency                                                             |
|--------|---------------------------|--------------------------------------------------------------------------------|
| 1      | Andaman & Nicobar Islands | Directorate of Transport                                                       |
| 2      | Andhra Pradesh            | New and Renewable Energy Development Corporation of Andhra Pradesh (NREDCAP)   |
| 3      | Arunachal Pradesh         | Central Electrical Zone, Power Department                                      |
| 4      | Bihar                     | Transport Department                                                           |
| 5      | Chandigarh                | Chandigarh Renewable Energy and Science & Technology Promotion Society (CREST) |
| 6      | Chhattisgarh              | Transport Department                                                           |
| 7      | Delhi                     | Delhi Transco Limited (DTL)                                                    |
| 8      | Gujarat                   | Energy & Petrochemicals Department (EPD)                                       |
| 9      | Haryana                   | Haryana Renewable Energy Development Agency (HAREDA)                           |
| 10     | Himachal Pradesh          | Himachal Pradesh State Electricity Board Limited (HPSEBL)                      |
| 11     | Karnataka                 | Bengaluru Electricity Supply Company Limited (BESCOM)                          |
| 12     | Kerala                    | Kerala State Electricity Board Ltd. (KSEBL)                                    |
| 13     | Lakshadweep               | Lakshadweep Energy Development Agency (LEDA)                                   |
| 14     | Madhya Pradesh            | M.P Power Management Co. Ltd.                                                  |
| 15     | Maharashtra               | Maharashtra State Electricity Distribution Company Ltd. (MSEDCL)               |
| 16     | Meghalaya                 | Meghalaya Power Distribution Corporation Ltd. (MePDCL)                         |
| 17     | Mizoram                   | Power & Electricity Department                                                 |
| 18     | Odisha                    | Engineer-in-Chief, Electricity                                                 |
| 19     | Puducherry                | Electricity Department, Puducherry                                             |
| 20     | Punjab                    | Punjab State Power Corporation Ltd. (PSPCL)                                    |
| 21     | Rajasthan                 | Jaipur Vidyut Vitran Nigam Limited (JVVNL)                                     |
| 22     | Sikkim                    | Power Department                                                               |
| 23     | Tamil Nadu                | Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO)             |
| 24     | Telangana                 | Telangana State Renewable Energy Development Corporation Ltd., (TSREDCO)       |
| 25     | Uttar Pradesh             | Invest UP                                                                      |
| 26     | Uttarakhand               | Uttarakhand Power Corporation Limited (UPCL)                                   |
| 27     | West Bengal               | West Bengal State Electricity Distribution Company Limited (WBSEDCL)           |



© COMPTROLLER AND  
AUDITOR GENERAL OF INDIA  
[www.cag.gov.in](http://www.cag.gov.in)

<https://cag.gov.in/en/page-10-of-26>

