



ISO 9001 : 2015, ISO 14001 : 2015 & ISO 45001 : 2018 Certified Company
CIN L36999TN1961PLC004606

Registered Office :
Esvin House,
P.B. No.5068, Perungudi,
Chennai - 600 096.
India

Ref: SECY/2024 - 25/030

08.06.2024

BSE Limited
Phiroze Jeejeebhoy Towers
Dalal Street, Fort
Mumbai 400 001

Scrip Code: 504176

Dear Sirs,

Sub: Proceedings of 63rd Annual General Meeting held on 08.06.2024.

Pursuant to Regulation 30 read with Part –A of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, we send herewith a copy of the proceedings of the 63rd Annual General Meeting of the Company held on 08th June, 2024 at 11.00 A.M. through Video Conference / Other Audio Visual Means along with the copy of the Chairman's speech delivered by the Chairman at the Annual General Meeting and the copy of the presentation by the Managing Director on the Company's performance in FY 2023 – 24 at the AGM.

Please take the above into your records.

Thanking you,

Yours faithfully,
For HIGH ENERGY BATTERIES (INDIA) LIMITED,

(V. Anantha Subramanian)
Company Secretary

Encl: as above

Phone : 91-44-24960335, 39279318, 43063545 Fax: 91-44-24961785, E-mail: hebcnn@highenergy.co.in

HIGH ENERGY BATTERIES (INDIA) LIMITED

Proceedings of the 63rd Annual General Meeting of the Company through Video Conference (VC) / Other Audio Visual Means (OAVM) on Saturday, the 08th June, 2024 at 11.00 A.M.

Present through Video Conference**Directors**

Name	Designation	Participated from
Mr. N Gopalaratnam	Chairman - Non Independent Director Chairman - Stakeholder Relationship Committee	Erode
Dr. G.A. Pathanjali	Managing Director	Erode
Mr. M Ignatius	Director (Operations)	Erode
Mrs. Lalitha Lakshmanan	Independent Director Chairman - Audit Committee, Nomination and Remuneration Committee	Thanjavur
Dr. Vijayamohanan K Pillai	Independent Director Chairman – CSR Committee	Tirupati
Mr. N P Sinha	Nominee Director, LIC	Patna
Mr. Saroj Kumar Patel	Independent Director	Nagpur
Dr R Subrahmaniya Sivam	Independent Director	Bangalore

Key Managerial Personnel

Name	Designation	Participated from
Mr. R Swaminathan	Chief Financial Officer	Erode
Mr. V Anantha Subramanian	Secretary	Erode

Auditors

Name	Name of the firm	Participated from
Mr. N R Suresh	Partner, M/s. Maharaj N R Suresh and Co LLP, Statutory Auditor	Chennai
Mr. R Prakash	Partner, M/s. R Subramanian and Co LLP, Internal Auditor	Chennai
Mr. V Suresh	M/s.V Suresh Associates, Secretarial Auditor	Chennai

Scrutinizer

<i>Name</i>	<i>Particulars</i>	<i>Participated from</i>
Mr A S Kalyanaraman	Practicing Chartered Accountant	Chennai

Special Invitee – Mr M Natarajan, participated from Tirunelveli.

In Attendance

Members Present: 93 representing 4468595 shares.

(A) Chairman of the Meeting

Mr. N Gopalaratnam, Chairman of the Board of Directors, who by virtue of Article 75 of the Articles of Association of the Company is also the Chairman of the General Meetings of the Company, took the Chair.

(B) Quorum

- (i) The Chairman noted that 93 members were present through Video Conference that could be reckoned for purpose of quorum under Section 103 of the Companies Act, 2013 in accordance with extant MCA circulars. The requisite quorum under Section 103 of the Companies Act, 2013 was present throughout the meeting.
- (ii) The Chairman observed that the requirement for the presence at least one independent director and the auditor or his authorized representative in terms of relevant MCA circular has been complied with.
- (iii) The Chairman accordingly called the meeting to order and welcomed the members. The meeting commenced at 11.00 A.M.

(C) Introduction

The Chairman welcomed the shareholders, who have joined through Video Conference to the 63rd Annual General Meeting of the Company.

The Chairman thereupon requested the directors to introduce themselves. All the directors present briefly introduced themselves to the shareholders.

At the request of the Chairman then requested the Statutory Auditor, Internal Auditor, Secretarial Auditor and the Scrutinizer present at the meeting to introduce themselves to the Shareholders.

(D) Notice & Board's Report

The Chairman informed that the 63rd Annual Report for the FY 2023 – 24 containing the AGM Notice, Board's Report and Financial Statements were circulated through email to all shareholders. With the consent of members, these were taken as read.

(E) General Information to the Shareholders

The Company Secretary read out the general instructions to the shareholders regarding participation in the 63rd Annual General Meeting.

- (i) Shareholders may note that this 63rd AGM is being held through Video Conference (e-AGM) in accordance with the Companies Act, 2013 and circulars issued by MCA and SEBI.
- (ii) Facility for joining the meeting through Video Conference is made available for the shareholders on first come, first served basis. In the case of our Company, all our shareholders desiring to join the AGM would be able to do so.
- (iii) The facility for joining the meeting was opened at 10.30 A.M. which is 30 minutes before the time scheduled to start the meeting. It will be kept open for joining till the meeting is closed by the Chairman.
- (iv) This being an e-AGM, physical attendance of shareholders is dispensed with. Attendance through Video Conference would be reckoned for the purpose of quorum. Further, the facility for appointment of proxies by the shareholders is not applicable for this e-AGM and hence the proxy register for inspection is not available.
- (v) The Register of directors and key managerial personnel and the Register of contracts or agreements are made available electronically for inspection by the shareholders during the AGM. Shareholders desirous of inspecting such documents may send their request to hebcnn@highenergy.co.in
- (vi) The company has received requests from a few shareholders to register them as speakers at the meeting. Accordingly the floor will be open for them to ask questions or express their views. The moderator will facilitate this session once the Chairman opens the floor for same. The Company reserves the right to limit

the number of shareholders asking questions depending on the availability of time at the AGM.

- (vii) Shareholders can also post their views or questions on the 'chat box' of the Video Conference screen at any time during the meeting. The Company would respond to them at the meeting and / or through e-mail.
- (viii) The Company had provided Remote E-voting facility for shareholders to cast their votes electronically on all the resolutions set forth in the Notice. This was closed on 07th June 2024 at 5.00 p.m. Shareholders who have not cast their vote yet and are participating in this meeting may cast their votes during the meeting through E-voting system provided by CDSL. Shareholders can click on the EVSN **240516005** in the CDSL E-voting system already logged into avail this facility.
- (ix) Shareholders are requested to refer to instructions provided in the AGM Notice for seamless participation through Video Conference. In case they face any difficulty, they may reach out on the helpline contact provided in Page 10 of Annual Report.

(F) Corporate Video

A short Corporate Video, showcasing the Genesis and Growth story of HEB was played, with the approval of Chairman.

(G) Chairman's speech

The Chairman delivered his speech. Chairman covered the state of economy and company performance and outlook in his address.

(H) Presentation

Dr G A Pathanjali, Managing Director made a short presentation on the Company's Operational and Financial Performance in FY 2023 - 2024.

(I) Audit Report

The Chairman advised the CFO to provide a summary of the Auditors' Reports.

CFO, informed the Shareholders that the company has obtained Statutory Auditors' Report on Standalone Financial Statements from M/s. Maharaj N R Suresh and Co LLP

and included in page 64 to 75 of the Annual Report. The Managing Director confirmed that there were no qualifications, observations or comments on financial statements or other remarks by the Auditors which have adverse effect on the functioning of the company. Thereupon the Auditors' Report to shareholders was taken as read.

(J) Secretarial Audit Report

Dr G A Pathanjali, Managing Director, informed the Shareholders that the company has obtained Secretarial Audit Report from M/s.V Suresh Associates, Practicing Company Secretaries pursuant to Section 204 (1) of the Companies Act, 2013 which is included in page 61 to 63 of the Annual Report. He confirmed to the members that there were no qualifications, observations or comments or other remarks mentioned in the Secretarial Audit Report.

(K) Introduction to resolutions

Chairman observed that there were 3 resolutions proposed to be passed at the 63rd AGM, out of which 2 are Ordinary resolutions and 1 is Special Resolution. He briefly narrated the background and purpose of each of these resolutions.

(L) Voting options

The Chairman mentioned that the Company has offered two alternative voting options to Shareholders, viz., (i) Remote e-voting and (ii) E-voting system facility during e-AGM. Shareholders holding shares as on the cut-off date fixed for the purpose, namely, 01st June 2024 alone were entitled to cast the vote under any one of the aforesaid options.

(M) Remote E-voting

The Chairman mentioned that Remote e-voting facility has been offered pursuant to Section 108 of the Companies Act, 2013 read with Rule 20 of the Companies (Management and Administration) Rules, 2014 and Regulation 44 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015. The company has engaged the services of Central Depository Services (India) Limited (CDSL) for this purpose. The Remote e-voting commenced at 9.00 A.M. on Wednesday, the 05th June, 2024, and closed on Friday, the 07th June, 2024 at 5.00 P.M.

(N) E-Voting during e-AGM

The Chairman informed the Shareholders that the Company is also offering the E-voting facility at the e-AGM. Only those shareholders who are present in the e-AGM and who have not cast their E-voting through Remote E-Voting are eligible to vote at e-AGM.

(O) Scrutinizer

The Chairman mentioned that Mr A S Kalyanaraman, Practicing Chartered Accountant (Membership No. 201149) has been appointed as Scrutiniser for all the two modes of voting. He would furnish individual as well as combined report in respect of votes cast for all the three Resolutions proposed at this meeting.

(P) Queries and Reply

- (i) The Chairman observed that there are 15 Shareholders who have registered as speakers at the e-AGM. He invited them individually to raise their queries and give their views / suggestions.
- (ii) All the shareholders spoke at the meeting appreciating the performance of the Company and thanked for the dividend. They made suggestions and sought details on the plan for future growth of the company, market share, orders on hand, diversification and suggested the management for the Company's future growth. Chairman indicated that few shareholders have sent / raised queries through mail / Chat box.
- (iii) Chairman furnished the requisite clarification on all the queries raised by the shareholders.
- (iv) The Chairman thereupon thanked the Shareholders for their participation as Speaker and through Chat box.

(Q) Ordering E-voting

At this stage, the Chairman ordered E-voting at the AGM. He requested the shareholders to follow instructions for E-voting. He mentioned that the E-voting facility would remain open for 30 minutes after the closure of the meeting.

(R) Transcript of e-AGM Proceedings

The Chairman mentioned that the transcript of the proceedings of 63rd AGM will be received from CDSL and thereupon uploaded on the Company website.

(S) Conclusion of Meeting

Chairman thanked the shareholders for their participation, views and suggestions. He declared the meeting closed at 1.00 P.M.

(T) Scrutinizer Report

Post completion of the e-AGM and conclusion of E-voting, the scrutinizer furnished his report on 08th June 2024 itself. This report contains summary of the votes cast at Remote E-voting and E-voting at AGM as under:

Resolution Nos. as given in the Notice of 60 th Annual General Meeting	Votes For			Votes Against			Result declared
	No.of Members	No.of Votes cast (shares)	%				
				No.of Members	No.of Votes cast (shares)	%	
Ordinary Business							
1. Ordinary Resolution for Adoption of Financial Statements for the year ended 31 st March 2024	81	4578404	100	0	0	0	Resolution passed with requisite majority
2. Ordinary Resolution for Declaration of Dividend for FY 2023 - 2024	81	4578404	100	0	0	0	Resolution passed with requisite majority
3. Special Resolution for Re-appointment of retiring Director, Mr N Gopalaratnam (DIN: 00001945)	79	4578398	99.99	2	6	0.0001	Resolution passed with requisite majority

Note: (1) There were no invalid votes for any resolution

(2) Vote % is based on total number of valid votes cast / polled (for and against)

(U) Voting Results

The Chairman noted that all the five Resolutions proposed as Ordinary / Special Resolutions, as mentioned in the Notice for the 63rd Annual General Meeting have been duly passed with requisite majority and in due compliance of relevant provisions of the Companies Act, 2013, the Companies (Management and Administration) Rules, 2014 and Regulation 44 of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015.

(V) Chairman's Declaration

The Managing Director as authorised by the Chairman declared that the following Resolutions have been duly passed by the Shareholders in terms of the voting done through Remote e-voting and voting at the AGM based on the Scrutiniser's Report on the Results of voting dated 08.06.2024 and these Resolutions shall be deemed to be passed on the date of the General Meeting, viz.,08.06.2024.

1. Adoption of Financial Statements of the Company for the year ended 31st March 2024 – Ordinary Resolution

“RESOLVED that the Audited Financial Statements of the Company for the year ended 31st March, 2024, together with the reports of the Board of Directors' and Auditors' thereon be and are hereby considered and adopted”.

The percentage of votes cast in favour of the resolution was 100% of the total votes polled.

The percentage of votes polled in favour of the resolution was 51.08 % of the total Share Capital of the Company.

Declared that this Resolution has been passed with requisite majority as an Ordinary Resolution.

2. Declaration of Dividend for the FY 2023 – 2024 – Ordinary Resolution

“RESOLVED THAT

(i) a dividend of Rs.3/- (Rupees Three only) per Equity Share for the Financial year 2023 – 24 be and is hereby declared on 8963840 equity shares of Rs.2/- each fully paid –up;

(ii) the dividend be paid to the shareholders whose names appear in the Register of Members of the company in the case of Physical holding and to the beneficial owners of shares recorded with the Depositories in the case of demat holding as per details furnished by the National Securities Depository Limited / Central Depository Services (India) Ltd as on Thursday, the 23rd May, 2024.”

The percentage of votes cast in favour of the resolution was 100% of the total votes polled.

The percentage of votes polled in favour of the resolution was 51.08% of the total Share Capital of the Company.

Declared that this Resolution has been passed with requisite majority as an Ordinary Resolution.

3. Reappointment of retiring Director, Mr N Gopalaratnam (DIN: 00001945)

“RESOLVED THAT pursuant to Section 152 of the Companies Act, 2013 and relevant rules framed thereunder, including any modification(s) or re-enactment (s) thereof, for the time being in force, Mr. N. opalaratnam (DIN: 00001945), who retires by rotation and being eligible, offers himself for re-appointment be and is hereby reappointed as a Director of the Company, liable to retire by rotation.”

The percentage of votes cast in favour of the resolution was 100% of the total votes polled.

The percentage of votes polled in favour of the resolution was 51.08% of the total Share Capital of the Company.

Declared that this Resolution has been passed with requisite majority as a Special Resolution.

Date: 08.06.2024

N.GOPALARATNAM

Chairman

***High Energy Batteries
(India) Limited***

*Speech delivered by
Sri N Gopalaratnam,
Chairman*



63rd Annual General Meeting

June 08, 2024

Chairman's Speech

Dear Shareholders.

I extend a warm welcome to all of you to this 63rd Annual General Meeting of the Company. As I had said earlier, I welcome this opportunity to reach Shareholders, far and wide, through this Video Conference mode, though I will miss the warmth and personal interaction that I enjoy during physical meetings.

The video presentation that you witnessed just now, I am sure, would have given you an in-sight into the history of the company's successful pursuit of different battery types involving various electrochemical systems / technologies that are indigenously developed through in-house R&D, to support and meet our country's critical energy needs.

All of us should be happy and proud that our company and its R&D Labs., over the years are fully equipped and focused, to take on the technical and technological challenges, in pursuit of meeting the stringent and complex requirements of many of the strategic Defence related high-power, high-energy batteries involving widely varying chemistries such as Silver Oxide Zinc, Nickel Cadmium, Magnesium Silver Chloride, Cuprous Chloride and Metal–Air systems. This enables the Company to design and manufacture batteries for Mission Critical platforms like Torpedoes, Fighter Aircraft, Supersonic Missiles, Army Battle Tanks, Unmanned Aerial Vehicle (UAV), Drones, Autonomous

HIGH ENERGY BATTERIES (INDIA) LIMITED

63rd Annual General Meeting

Saturday – June 08, 2024

Underwater Vehicle (AUV) and Satellite Launch Vehicles (SLV).

Our Company is currently equipping itself through development programs initiated to meet the requirements of the upcoming areas like Fuel Cell for In-situ Power Generation using **Hydrogen as fuel (HFC)** and Long-duration Energy Storage (LDES), to provide over ten hours of Un-interrupted Power to consumers, through Flow Battery systems.

Your Company has posted again a reasonable operational and financial result given the global situation prevailing and declared for the Fourth year in succession, a dividend of 150% for FY 2023 – 24. I am sure the shareholders would be happy at the Company's performance in the year under review.

The Company's Annual Report and Audited Accounts for the year under review, circulated through the Electronic Media, have been with you for some time and with your kind permission, I would like to take them as read.

ECONOMY

"World Economic outlook" report of IMF predicts: "Global economic activity is stalling with signs of slowdown in both the manufacturing and Service sectors. Tight financial conditions weigh on consumer and business sentiments, while fiscal and monetary policy-makers

are assessing trade-offs and sequencing for careful policy calibration.”

The economic backdrop is marked by protracted weakness in global growth and widening divergence. The International Monetary Fund (IMF) forecasts a slight decline in global growth to 2.9% in 2024, down from 3% in 2023. The relative resilience in global figures will continue to rely on the growth performance of emerging economies, while the momentum in advanced economies is fading.

The International Monetary Fund (IMF) has been optimistic in forging India's growth forecast for 2024-25 at 6.8%, on the back of strong domestic demand and a rising working-age population.

DEFENCE

Government allocated Rs 6.21 Lakh Crores to Defence sector in FY 2024 – 25 Interim Budget, a jump of 4.7% over previous year. Further, Defence R&D is opened up fully for Indian industrial sectors including startups and as part of “Atma Nirbharta” programs, many new systems are being developed with Battery playing the main role of Power Supply, to meet the requirements.

Out of the said allocation of Rs. 6.21 Lakh Crores, Rs. 1.72 Lakh Crores (around 28%), was earmarked only for capital acquisition. Further, Rs. 1 Lakh crore corpus created for “**Deep tech**” essentially to provide long term loan to companies.

THRUST IN DEFENCE ALLOCATION

Government is planning to impose restrictions on import of arms and ammunitions in a phased manner and such imports shall be substituted through the procurement from Domestic Industry, facilitated by a strong Indian manufacturing infra cum eco system. This will benefit our Company, having ample resources to take on the design, engineering development cum manufacture of energy related systems.

COVID 19

Though the company did not face lockdowns in FY 2023 – 24 due to the pandemic aftermath, disruptions in supply chain and delays in receipt of imported materials continue till date.

PERFORMANCE REVIEW

The company achieved a turnover of Rs.77.23 Crores as compared to last year turnover of Rs. 92.54 Crores resulting in a decrease of around 16% compared to the previous year. The Company made PBT of Rs. 23.11 Crores, as against Rs. 27.50 Crores last year.

An accomplishment which is worth sharing is that the Company continues to be “Debt Free (Long Term)” Company since FY 2022– 23.

After my address, our MD Dr.Pathanjali will make a short presentation, reviewing last year's performance.

Our efforts towards the revival of operations of Lead Acid Battery Division are yet to bear fruits.

CSR

The Company, by framing its CSR policy, is committed to the upliftment of rural area surrounding the factory and as part of the statutory obligation towards CSR, the Company spent Rs. 52.92 lakhs with impetus on promoting education, Rural Development activities and Health Care.

R &D

Your company through a joint working with IIT, Madras and ONGC Energy Centre Trust (OECT), over the last two years, had developed a 1kW / 10kWh Vanadium based Flow Battery (VRFB) and demonstrated its performance satisfactorily. This development pertains to “Energy Storage System” for use in long endurance requirements, the battery being integrated with Renewable Energy (RE) sources like Solar and Wind.

As a continuation of this work and based on the satisfactory demonstration of a 5kW system, further work on the design, development cum supply of a VRFB based 10kW / 100 kWh storage system integrated with Solar PV for Charging of Two-Wheeler (2W)

HIGH ENERGY BATTERIES (INDIA) LIMITED

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or Three-Wheeler (3W) EV – “a **24*7 Charging Station**” as an application, is presently in progress.

The inside of wrapper for our 63rd Annual Report contains the image of Integrated Solar with Vanadium Battery (VRFB) for one such EV – 2W Charging, exhibited during “India Energy Week” (IEW) – 2024 at Goa during February 2024.

The scale - up of the systems to higher levels of Power and Energy, will be addressed in a phased manner over the next two years, as the technical challenges are high in terms of material availability, indigenization of components and cost effectiveness of overall system.

R & D efforts on the development of a 1 kW and 2.5 kW Fuel Cell system using Hydrogen and Air in our normal ambient conditions, is being pursued jointly with Centre for High Technology (CHT), Indian Oil Corporation Limited (IOCL) and Gas Authority of India Limited (GAIL).

On this, optimization of membrane, the catalysts, catalyst loading and evaluation of a small size 1kW proto type stack, are in progress. The Process flow and control parameters for proto development is established and this program will be completed including the testing cum evaluation of a scaled up 2.5 kW plus level unit, during the FY 2024 – 25.

DIVIDEND

As you are aware, Board of Directors have recommended payment of dividend at 150% for this year 2023-24, quite notably for the fourth year in succession.

CURRENT YEAR (2024-25)

The company, it is hoped, will be able to maintain improved financial performance this year also. The company is free of all inter- corporate loans and our banking operations are at a comfortable level. With good orders on hand and orders expected during the year, the company is expected to post better results barring unforeseen circumstances.

DIVERSIFICATION

As informed in the last Annual General Meeting, we pursue application-oriented development Programs in the field of Li-Ion and other types of power sources like Fuel Cells and Flow Battery.

Conscious of the opportunities and the prevailing Tech–friendly atmosphere, the company is on the lookout for proposals towards diversification, to enter into the latest energy based / power related systems and Hydrogen usage activities.

DIRECTORS

During the year, Mr. A L Somayaji, Cmde. R P Prem Kumar and Dr. M Natarajan Independent Directors of the Company completed their tenure of two terms of five years each as on 31st March 2024. We

are grateful to these retiring directors for the guidance and counsel received from them, which helped the Company to steer clear of difficult situations.

Cmde Saroj Kumar Patel and Dr. Subrahmaniya Sivam were appointed as Independent Directors for a tenure of five years while Dr. Vijayamohanan K Pillai continues to be an Independent Director, for a Second term of Five years from 01st April, 2024, with the approval of the members through Postal Ballot.

ACKNOWLEDGEMENT

I am grateful to my colleagues in the Board, who display keen interest in the affairs of the Company and whose timely advice, counsel and guidance, many a time, helped the Company to steer clear off difficult situations.

I also wish to place on record the excellent support extended to our Company by Defence Services, VSSC, ISRO, RCI, ASL, DRDO Laboratories and Ministry of Defence (MOD), NSTL, NPOL, NMRL, BDL, BrahMos (BAPL), Skyroot, BEL, HAL, ADE, ADA, L&T, Mahindra Defence, Agnikul and other Defence based organizations such as DGONA, DAPI, CVRDE, MGO, Air (HQ), HQMC, Indian Army, Indian Air Force, Indian Navy, Overseas Customers, LIC and our consortium of Bankers Viz., UCO Bank and Punjab National Bank.

HIGH ENERGY BATTERIES (INDIA) LIMITED

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I further wish to place on record my sincere appreciation to all the employees of the company for their continued involvement and contribution towards the improved performance of the company.

And to you, our Shareholders, I am deeply grateful for the confidence and trust that you have always reposed on us and I take this opportunity to solicit your continued support.

My thanks are equally due to various departments and statutory bodies of Central and State Governments.

I now move for adoption of the Board's Report, Auditors' Report and the Accounts.

I shall be glad to furnish any clarification, as may be required by the Members on the Accounts of the Company.

Thank you, "Ladies and Gentlemen" for your patient hearing.

June 08, 2024

(N GOPALARATNAM)

Chairman

(This does not purport to be a record of the proceedings of the 63rd Annual General Meeting)



HIGH ENERGY BATTERIES (INDIA) LIMITED

**Performance and
Operational Highlights
2023 – 2024**



Performance Highlights 2023-24

- 1. Turn over Rs.77.53crs .**
- 2. PBT 30% same as last year.**
- 3. Dividend of 150% for the year 2023-24.**
- 4. Outlook for 2024-25 is positive.**
- 5. Debt free company.**
- 6. Lower Bank interest rates.**



Operational Highlights

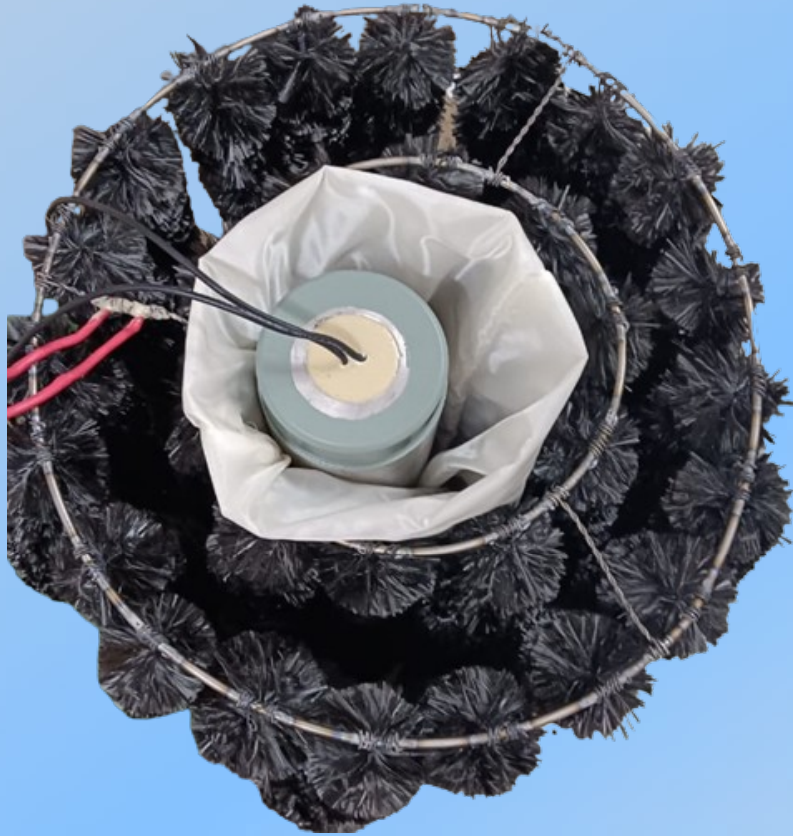
1. **Dev. of 330kW Silver Zinc Battery for HWT**
2. **Working on a new Battery for Sonobuoy.**
3. **Order received for the development of two new Battery types.**
4. **Navy initiated dev. of High power (Mg Based) Battery.**
5. **VRFB unit 5kW demonstrated for EV Charging.**
6. **Scale-up work on Flow Battery - 10kW/100kWh rating, with IITM & OECT.**
7. **Dev. work on Fuel Cell, 2.5kW, with CHT, IOCL & GAIL.**

330kW Torpedo Propulsion Battery



- **Application - Underwater motive power**
 - **Requirement - High power needed for short period.**
-
- ❖ **Development completed to meet the specified requirements**
 - ❖ **Further optimization of the system (size and weight) in progress**

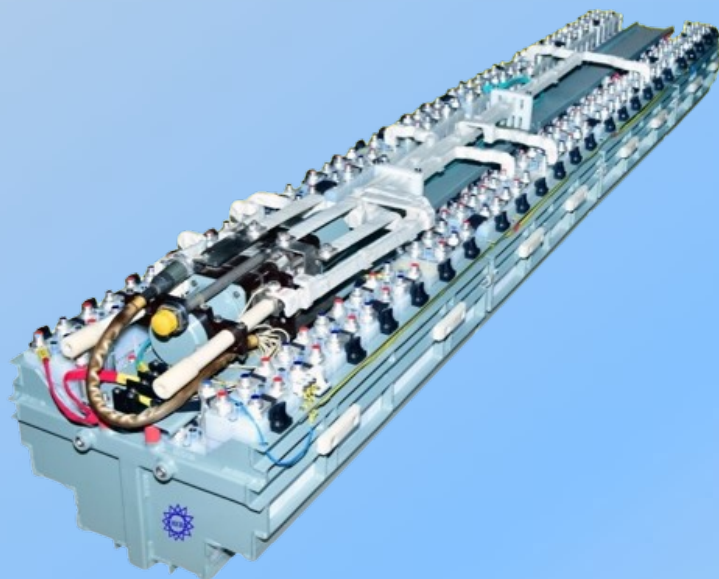
Battery for Sonobuoy (Long Endurance Type)



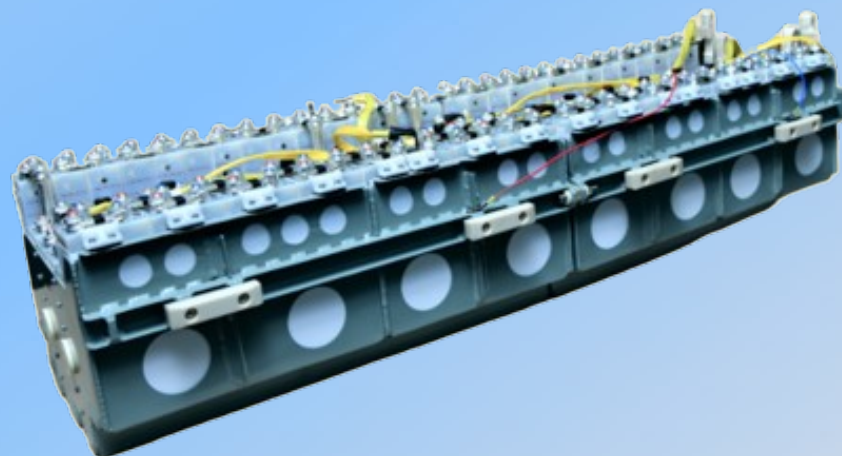
- **Application - Underwater Mapping & Surveying**
- **Requirement – Using Acoustic signals transmitted**

- ❖ **Proto stage development completed.**
- ❖ **Full stage assembly in progress.**
- ❖ **Will undergo evaluation under simulated sea condition**

Development of New Batteries for Russian Torpedoes



INTE-234(S)



INMG-174(S)

- ❖ **Silver Zinc Secondary type batteries for 2 different platforms – Import substitution**
- ❖ **Application : HWT Propulsion and for Decoy**

OSBC and CNS Commendation



- ❖ **Simulated testing of a Mg based battery, to generate technical parameters.**

CNS Commendation

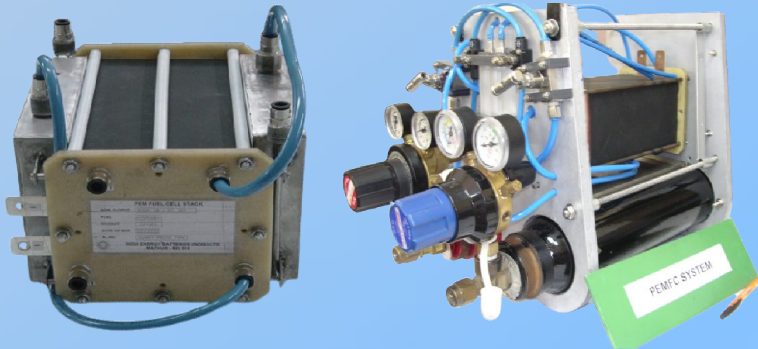


**In appreciation of the dedication & commitment
Commendation from Chief of The Naval Staff
(CNS) was received by Mr. M. Ignatius, Director
(Ops.) – 31st Jan. 24**

PEMFC (Fuel Cells)



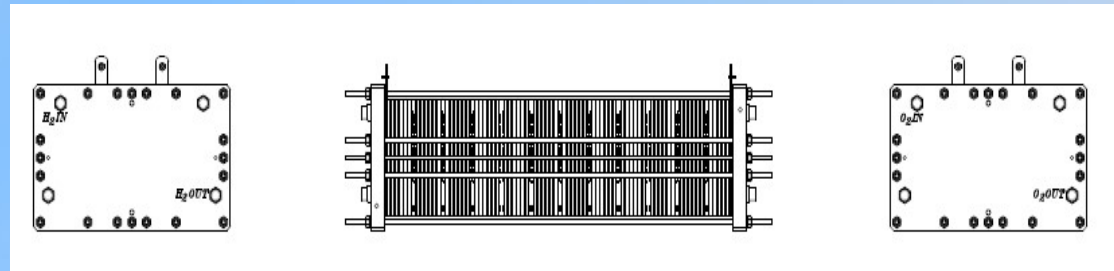
500 W PEMFC SYSTEM



1 kW PEMFC SYSTEM



2.5 kW PEMFC SYSTEM



- ❖ Design, dev. and assembly of 1kW stack completed
- ❖ Dev. of 2.5 kW unit using Hydrogen as fuel, in progress
- ❖ Scaling up to 5kW and 10kW will be pursued later

VRFB for EV Charging



- Power & Energy decoupled system
- More than 4-8 h Energy backup / EV charging
- For Stationary Long Duration Energy Storage (LDES)

VRFB for EV Charging



Demonstrated at India Energy Week (IEW) Feb 2024

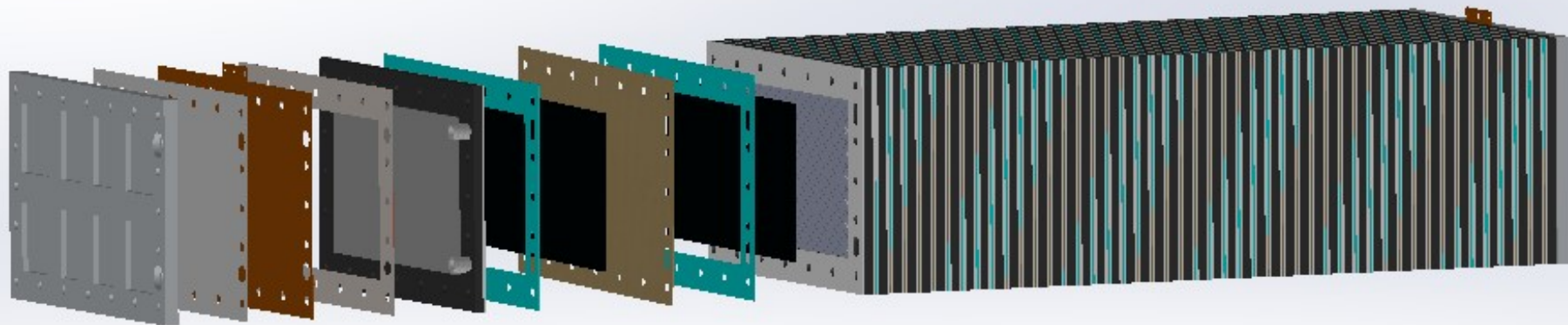


VRFB Scale-up -10 kW / 100 kWh

End Plate

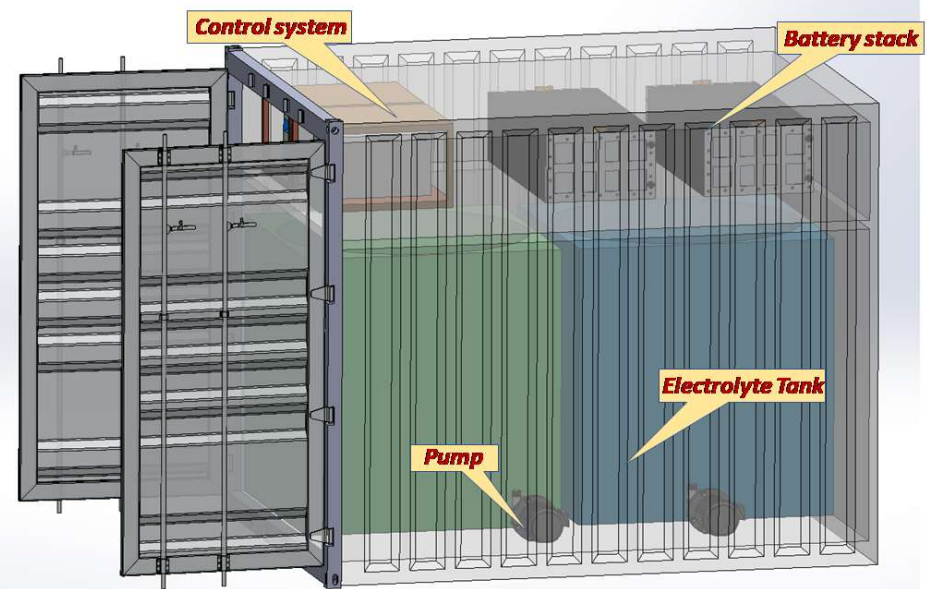
Bipolar electrode

Proposed design



A scale up program for IITM & OECT is in progress since March 2024.

10 kW/50 kWh Containerized VRFB System





Financial Highlights

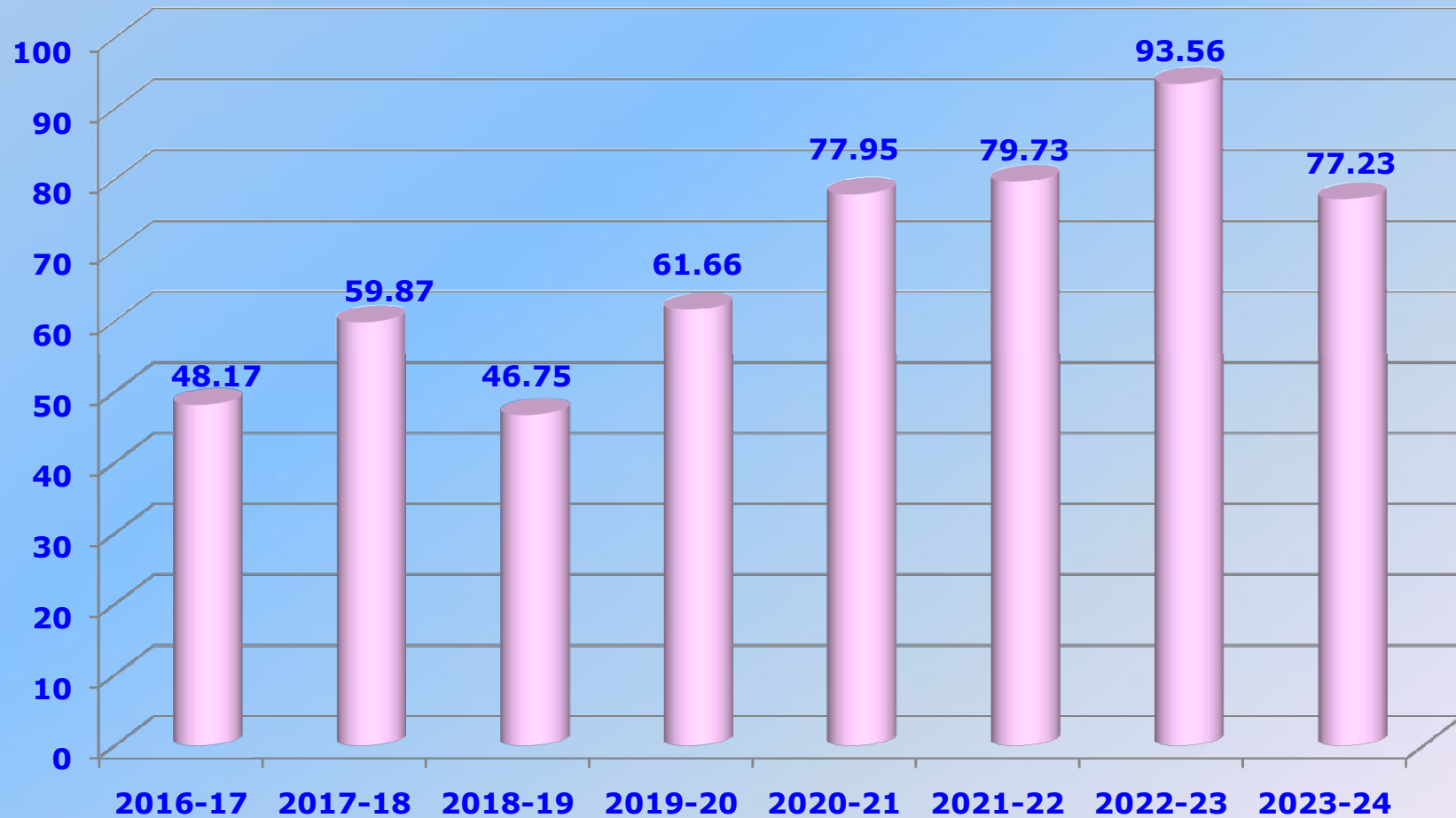
2023 – 2024

Financial Highlights



TURN OVER

Rs. In Crores



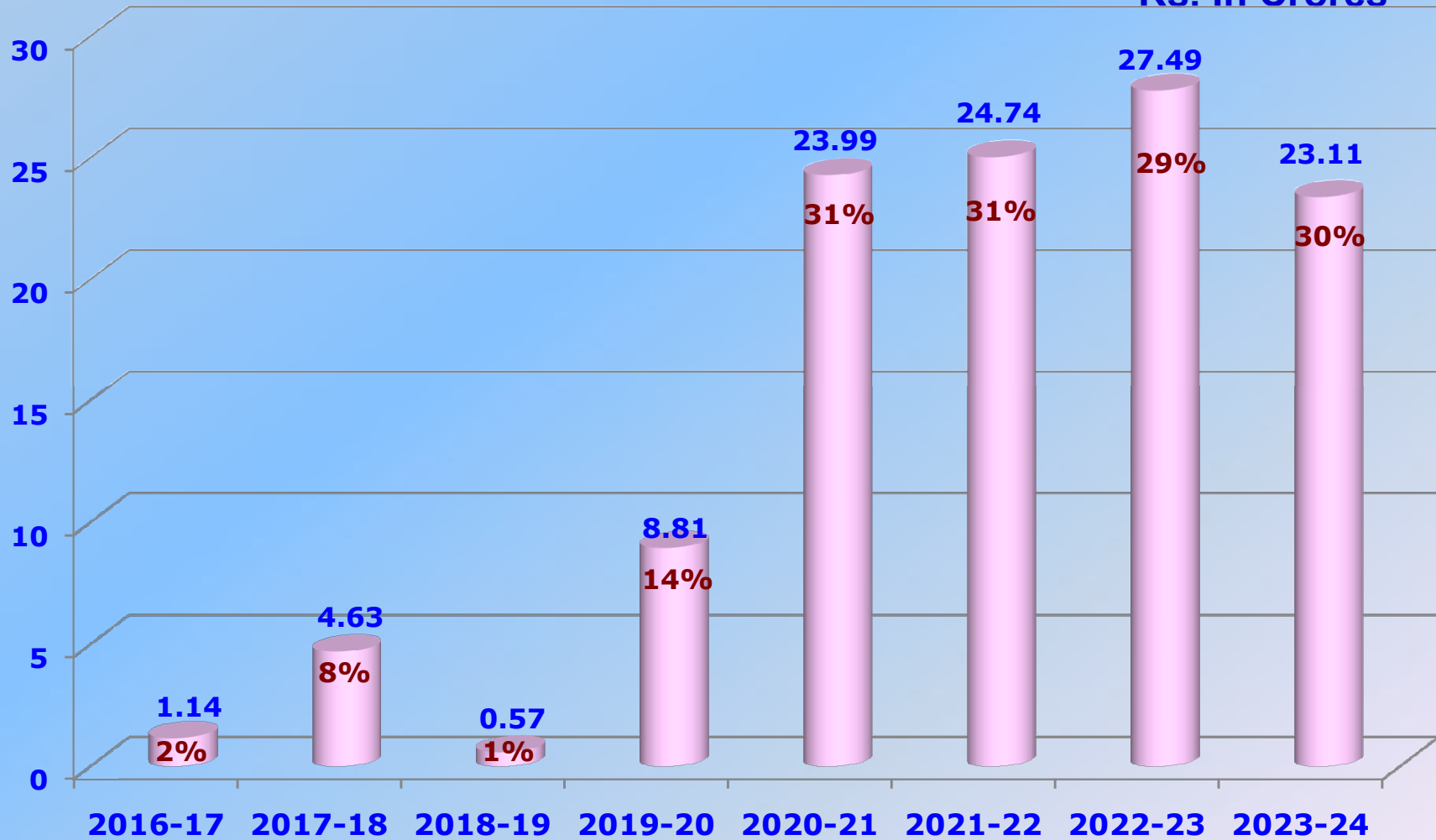
Sales for the last year decreased by Rs 16 crores due to delayed receipt of major expected orders

Financial Highlights



PROFIT BEFORE TAX

Rs. In Crores



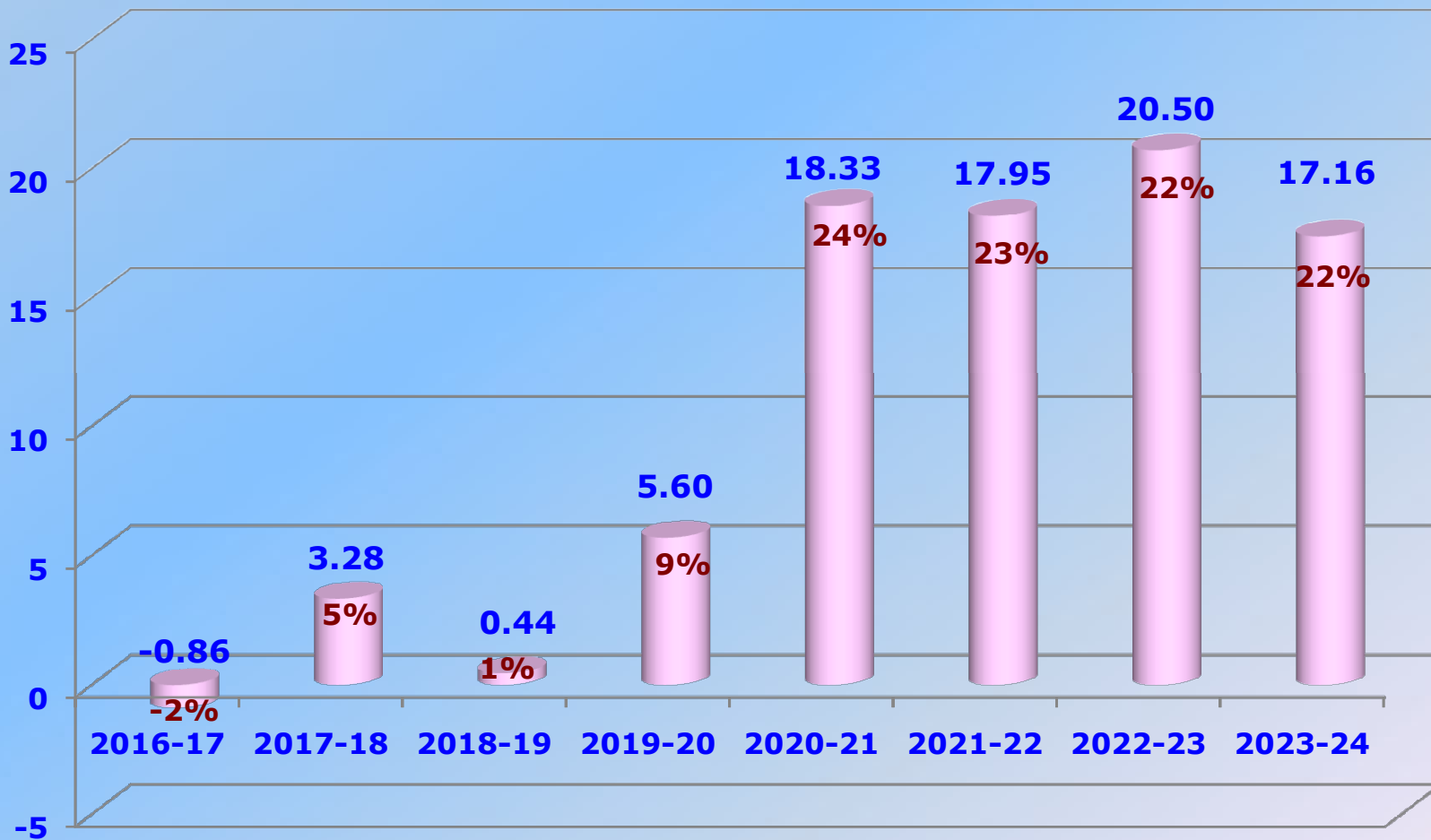
Despite increase in input costs on account of global volatile situation, PBT increased for 2023-24 .

Financial Highlights



Rs. In Crores

PROFIT AFTER TAX



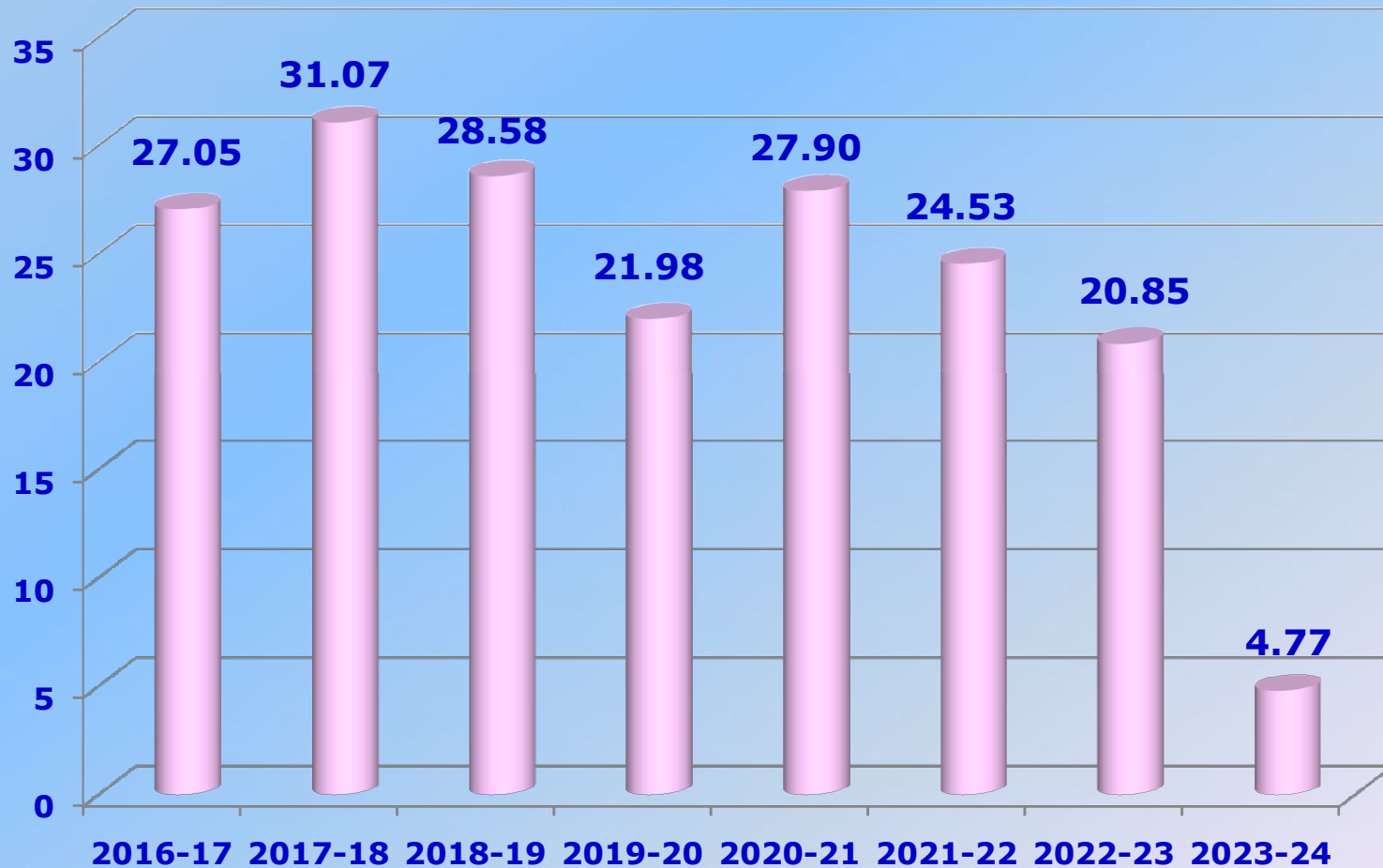
PAT % maintained for 2023-24.

Financial Highlights



Rs. In Crores

BANK BORROWING



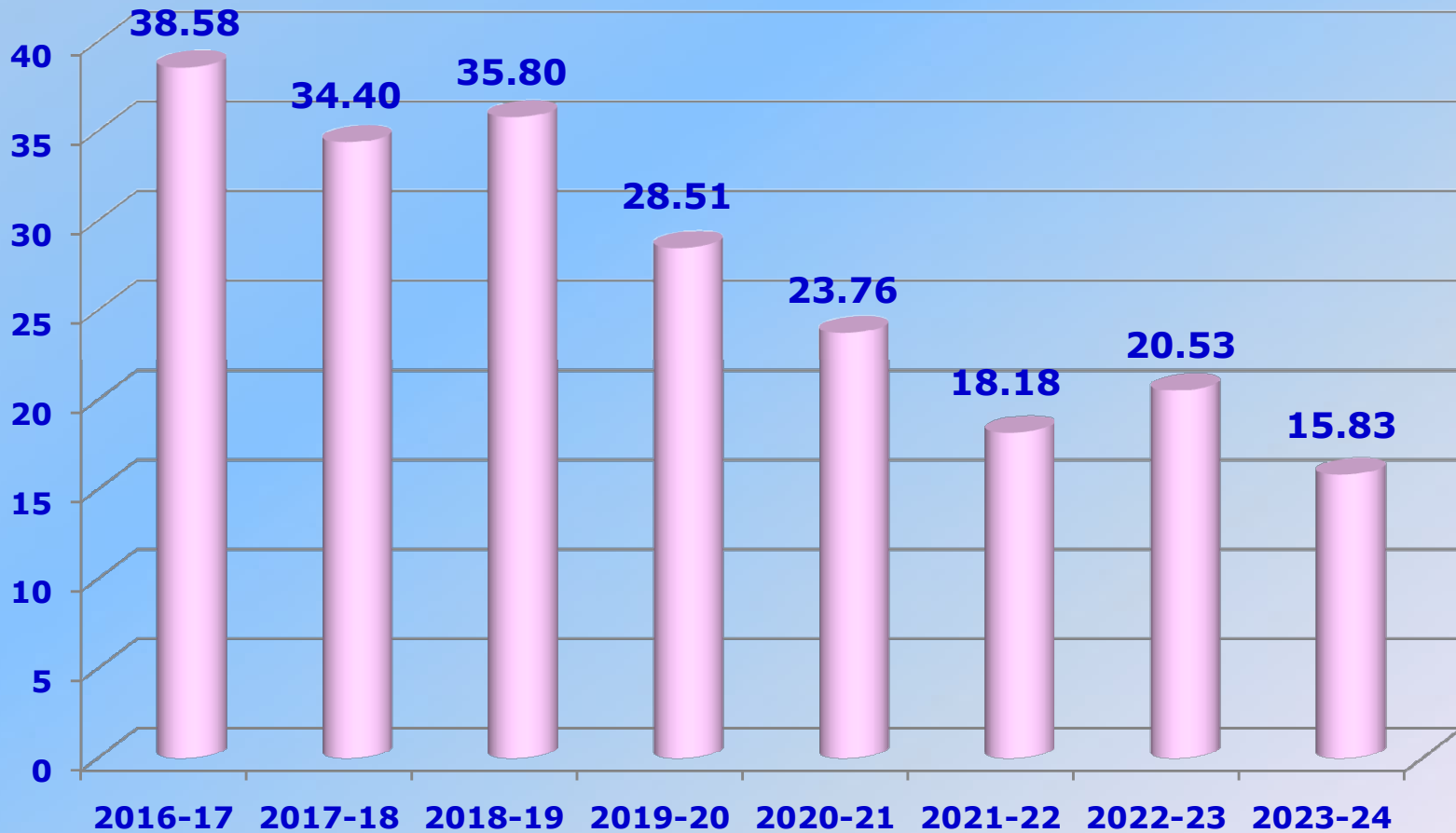
Efforts made to reduce utilisation of Bank borrowings.

Financial Highlights



Rs. In Crores

OTHER LIABILITIES



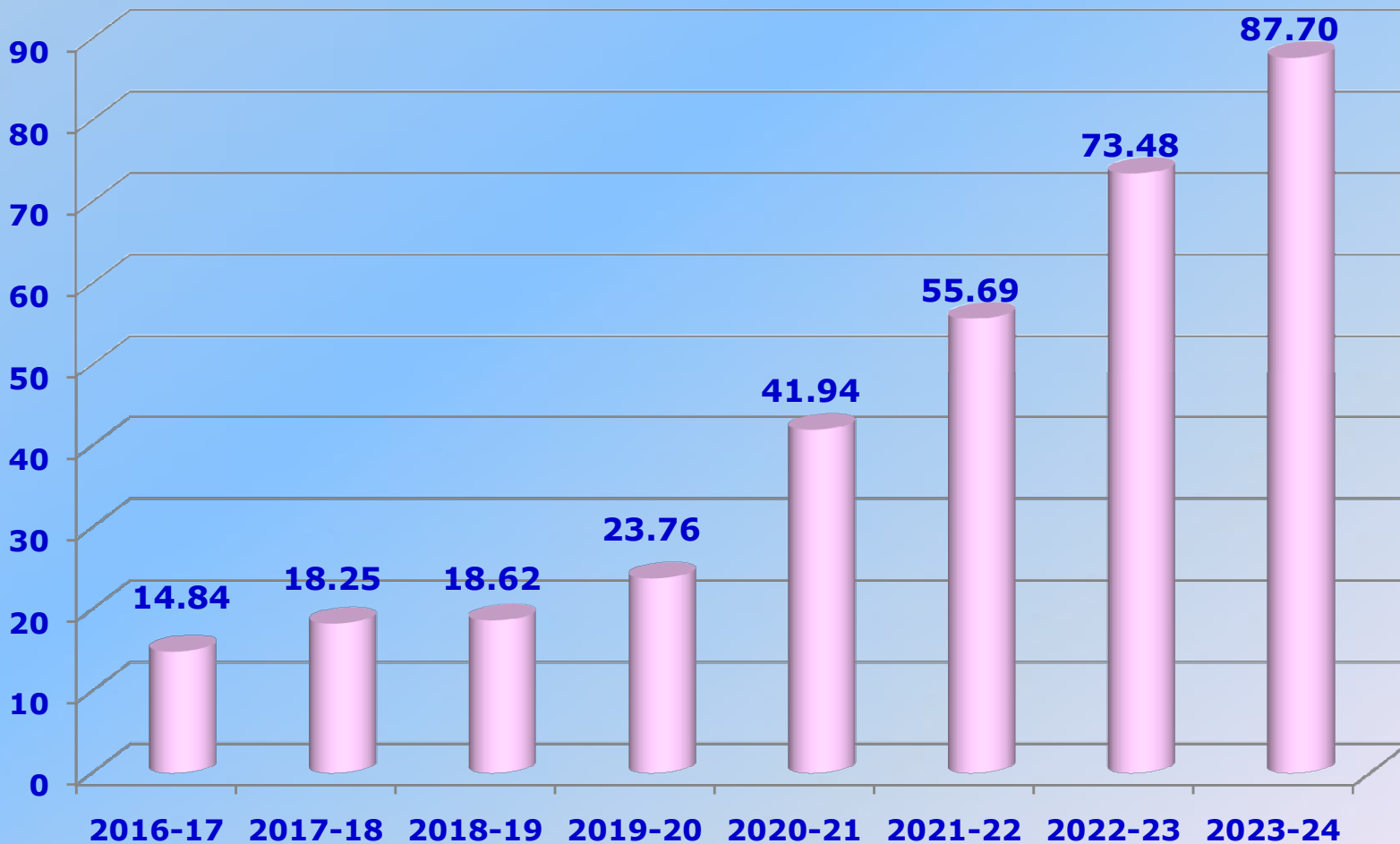
Achieved increase in operation with reduction in both Bank borrowings & Other liabilities .

Financial Highlights



Rs. In Crores

NET WORTH

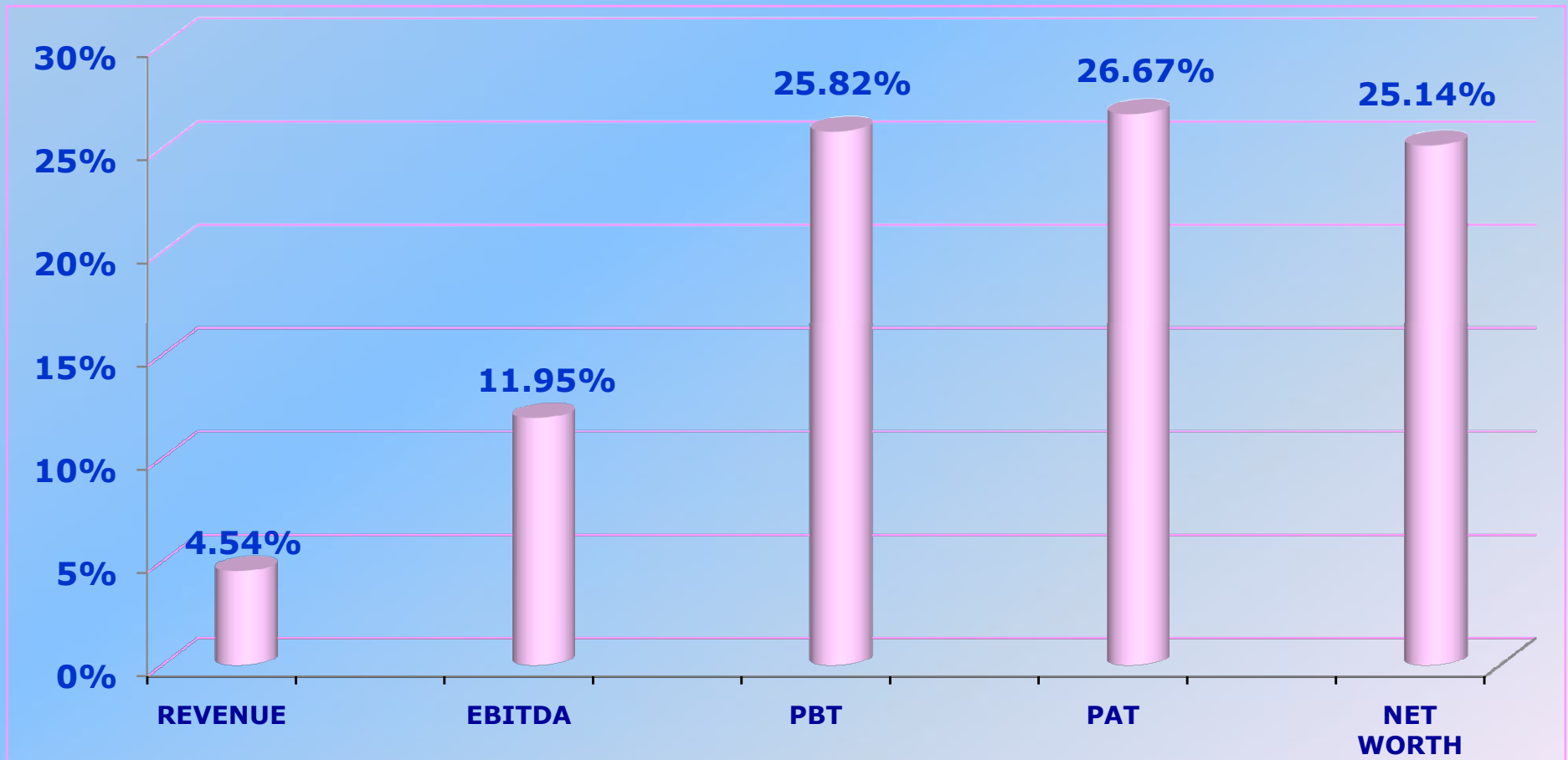


Net Worth increased by 6 times in the last 8 years.

Financial Highlights



CAGR – 7 Years





No. of shareholders





Agenda -2024-25

1. Production orders Expected Based on successful development during 2023-24.
 - a) 270 kW Twin cell Secondary Battery Production order from NSTL.
 - b) 100 kW Sea water activated Battery Production order from NSTL .
2. 270 kW Primary Battery development cum supply order from NSTL.
3. Development of High Power Sea Water Battery for HWT.
4. Integrated Power Source cum Energy Storage for Remote Area - To pursue as New Program.



THANK YOU