

TECHNICAL REPORT



**Electrical energy storage (EES) systems –
Part 2-201: Unit parameters and testing methods – Review of testing for battery
energy storage systems (BESS) for the purpose of implementing repurpose and
reuse batteries**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL ENERGY STORAGE (EES) SYSTEMS –

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The language used for the development of this Technical Report is English.

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A list of all parts in the IEC 62933 series, published under the general title *Electrical energy storage (EES) systems*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

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INTRODUCTION

Battery energy storage systems (BESS) will become an important component of the energy infrastructure in the future as energy demand increases and the transition to sustainable power sources continues. Designing BESS using repurpose and reuse batteries requires a multidisciplinary approach that balances technical, economic, environmental, and regulatory considerations. This document reviews test methods and evaluations related to repurpose and reuse battery integration into BESS. As society seeks solutions to manage the dual challenges of energy storage and waste reduction, BESS evaluation methods become important. This report examines the obstacles to battery reuse based on the legal context and examples and aims to provide valuable insights that facilitate decision-making more efficiently.

ELECTRICAL ENERGY STORAGE (EES) SYSTEMS –

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1 Scope

This part of IEC 62933, which is a technical report, focuses on the necessity of using repurpose and reuse batteries in BESS. This document also illustrates, through case studies from various countries, how repurpose and reuse batteries are regulated as per legislation. Furthermore, business examples of BESS using repurpose and reuse batteries are investigated and issues derived in terms of both the design, manufacturing, testing, operation, and maintenance of BESS, considering the anticipated future deployment of BESS¹.

2 Normative references

There are no normative references in this document.

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