



Cpuc energy storage use case analysis

GRC Energy Storage Program Unit 5 1 1 3 SDG& E Jun-14 Lithium-Ion (NMC) Utility N General Rate Case 1 1 GRC Energy Storage Program Unit 6 1 1 1.5 SDG& E Jun-14 Lithium-Based Utility N General Rate Case 1 1. ... CPUC Energy Storage Procurement Study: Benefit/Cost Analysis and Project Scoring Attachment A e))) 1 % % % % % % 1.

CPUC Energy Storage Procurement Study: End Uses and Multiple Applications Attachment E E-1 ATTACHMENT E: END USES AND MULTIPLE APPLICATIONS1 Energy storage technologies are emerging as highly flexible resources that can provide a wide variety of services and value to the grid and customers. In this attachment, we provide a brief overview of these

Energy Storage Procurement Study: End of Life Options DRAFT G-3 the state are reused or recycled at end-of-life in a safe and cost-effective manner. _ As part of its review, the bill requires the AB 2832 Advisory Group to consider repurposing of EV batteries as stationary energy storage systems. Small electronics.

CPUC Energy Storage Procurement Study: Cost-Effectiveness of Peaker Replacement Attachment C C-5 Energy Storage Dispatch Analysis For each peaking unit, we use Lumen's energy storage dispatch tool to determine minimum level of storage capacity that can displace all of unit's historical generation. The dispatch tool solves for minimum

CPUC Energy Storage Procurement Study: Realized Benefits and Challenges Chapter 2 57 Energy value: Among all non-residential projects, we observe Clusters 1, 2, and 3 yield relatively high energy value (Figure 42) and associated GHG reduction value. Cluster 6 performs slightly worse due to its practice of night charging.

CPUC Energy Storage Procurement Study: Realized Benefits and Challenges Chapter 2 45 Data sources. Energy storage operational data was provided by Pacific Gas and Electric (PG& E), Southern California Edison (SCE), San Diego Gas & Electric (SDG& E), the CAISO, and the CPUC.

Stakeholders in the CPUC storage proceeding have identified several different potential use cases of energy storage. These use cases are listed in the table below. Due to time and resource ...

Community Energy Storage. ; 2. Use Case Description This Use Case describes an energy storage system associated with a battery rated at least 500kW/1,500kWh that connects to the distribution grid at a substation level and is owned and operated by a utility. This Use Case will describe how using energy storage for grid operations and control for

o Case Study on Safety Practices o Closing Remarks. 5. 6. California Leads Nationally on Energy Storage. 7. Growing Number of Storage Projects ... Findings from the 2023 CPUC Energy Storage Procurement Study. California Energy Commission Staff Workshop on Battery Energy Storage system (BESS) Safety



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energy storage, the remaining energy storage amounts receive diminishing incremental capacity values. For example, energy storage added between 13,034 MWs and 15,795 MWs receives an average of only 59.7% capacity value. At precisely 15,795 MW, marginal battery capacity provides capacity value of 54.2%.

approved an energy storage contract for Southern California Edison (SCE) to come online by August 1, 2022. procurement, The CPUC authorized SCE to enter into a \$1.226 billion, 537.5 megawatt (MW) engineering, construction, and maintenance energy storage contract with Ameresco, Inc. The energy storage projects will be sited at three existing SCE ...

The focus of this deck is on the 25 MMT Core case. Analysis related to the Least-Cost Cases was primarily released with materials that supported the October 5, 2023, ALJ Ruling. 4 Analysis Name Description Model(s) Used Use Case(s) Proposed PSP Portfolio RESOLVE portfolios simulated in SERVM to examine reliability and GHG emissions

Energy Storage Procurement Study: Procurement Policy Case Studies DRAFT D-1 ATTACHMENT D: PROCUREMENT POLICY CASE STUDIES California has the largest and most diversified energy storage fleet in the nation, and the fleet is growing rapidly. Customer installations grew from 61 MW at the start of 2017 to at least 582 MW by the end of

and for information only. CPUC staff requested E3 and Astrapé to calculate these values for guidance and, in the case of pumped storage hydro, out-of-state wind, and offshore wind, to focus on 2026 since they are most applicable to that tranche. For storage technologies other than batteries and pumped storage

CPUC Energy Storage Procurement Study: Stakeholder Engagement Attachment H H-1 ... increase GHG emissions and energy costs: ancillary services as a primary use case; use cases with storage mostly on standby; use cases not integrated with a wholesale market signal." 5. RENEWABLE UR-TAILMENT IMPACT: "Avoid ed renewable curtailments so far are ...

The study report, *Scaling Up and Crossing Bounds: Energy Storage in California*, continues the CPUC's examination of energy storage growth, performance in electricity markets, use cases, and policy pathways to unlock full value from this flexible and modular resource. The report concludes with a set of policy recommendations to the CPUC, which ...

CPUC Energy Storage Procurement Study: Safety Best Practices Attachment F F-1 ATTACHMENT F: SAFETY BEST PRACTICES¹ Due to the market readiness and scalability, installations of stationary lithium-ion battery energy storage systems are ramping up quickly to play a major role in California's clean energy portfolio. California's

CIEE has developed, and now manages, a program for supporting the California Public Utilities Commission's (CPUC) goals. The focus of the program is broad, with tasks spanning energy efficiency,



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energy storage, electric vehicles, financial and behavioral studies, and lifecycle analysis. ... Behavior-Based Energy Efficiency: A Case Study of ...

Why Systems Analysis for Energy Storage? 3 ... Energy Storage Valuation, CPUC Use Cases 5 Priority Technology Use Case Prioritization Primary Benefit Technology ...
oAdd storage unit to base case
oAssess change in regulation costs
oDetermine hourly regulation capacity awards

Energy Storage Procurement Evaluation. CPUC Decision D.13-10-040 requires CPUC staff to conduct a comprehensive program evaluation of the CPUC energy storage procurement policies and AB 2514 energy storage projects. The final study, conducted by Lumen Energy Strategy, was released on May 31, 2023. The final study and its appendices are posted ...

going forward and implications of this case study for policy makers outside California. 2 Overview of DR: The United States Department of Energy defines DR as "an electricity tariff or program established to motivate changes in electric use by end-use customers, designed to induce lower electricity use typically at times of high

CPUC Energy Storage Procurement Study v ancillary services Ancillary services provide grid operational flexibility and stabilization for the purposes of reliable electricity delivery. CAISO ancillary services markets include non-spinning and spinning contingency reserves, and regulation up and down.

Stakeholders in the CPUC storage proceeding have identified several different potential use cases of energy storage. These use cases are listed in the table below. Due to time and resource constraints for this analysis project, EPRI was able to address only ...

In its next energy storage procurement study the CPUC will have even more historical data to work with--likely with more complex market interactions as storage penetration increases.

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