



DER Aggregator Code of Conduct

A Reference for Consumer Engagement

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Introduction

The purpose of this paper is to outline an aggregator code of conduct that addresses consumer engagement considerations for flexible distributed energy resource (DER) services to achieve large-scale resource flexibility. This code of conduct enables an aggregator-consumer partnership model that involves actively engaging consumers and/or communities in the design, commissioning, and operation of flexibility services. This is essential as grid operators and planners are increasingly relying on flexible consumer resources to balance electricity supply and demand and manage distribution capacity. However, unlike traditional load management, faster and more frequent responses from consumer resources are needed to manage variability on the grid. This is creating the need for more dispatchable fast-responding consumer resources.¹ The new operational requirements for flexible resources are redefining the functional requirements for consumer-provided flexibility services.

“Policy-makers, program and service designers will need to grapple with how consumers will engage with an energy system that is becoming increasingly complex, given the preference for simplicity that comes through the research.”²

The nature of flexible consumer load/DER management is a step change in consumer expectations and potential impacts from traditional demand management programs. Flexible consumer load/resource management requires a new relationship paradigm oriented toward a “co-production” partnership. This partnership should be structured to realize *“the determination and willingness of a customer to participate actively in terms of their time and effort with the service provider in the service inception and production stages.”*³

As such, a customer-centric power system must consider the basic human and economic needs of customers as part of any effort to utilize flexible load management as a resource. This new paradigm requires empathy in the design of any tariff, program, or market if flexible load management is desired at the scale envisioned. Additionally, expanded flexible load management programs will require a relationship with customers built upon customer-centered principles.⁴ These principles lay the foundation for an effective co-production relationship between aggregators and consumers in the use of consumers’ resources (including energy-consuming devices) to manage the grid.

Institutional action is needed to ensure effective engagement between flexibility services aggregators and consumers to form effective partnering agreements to achieve scale.

DER Aggregator Code of Conduct

Establishing a consumer-oriented DER Aggregator Code of Conduct should be considered part of an overall governance model as most consumers are at a significant knowledge disadvantage related to the power system generally and DER flexibility services specifically. This need has been recognized in the United Kingdom through the Flex Assure and HOMEFlex initiatives, as noted below, as well as the IEA’s “Social

¹ P. Alstone, et al., 2025 California Demand Response Potential Study—Charting California’s Demand Response Future: Final Report on Phase 2 Results. 2017. Lawrence Berkeley National Laboratory.

<https://escholarship.org/uc/item/2m68c4xh>

² ACIL Allen, “Barriers and Enablers for Rewarding Consumers for Access to Flexible DER and Energy Use.” 20 June 2022.

³ Ahmad, Norsiah. “The Way Forward. Customer Co-Production Behaviour.” *Procedia - Social and Behavioral Sciences*, vol. 224, 15 June 2016, pp. 238–245.

⁴ A. De Martini and P. De Martini, Consumer Resource Flexibility, Chapter 4, Department of Energy, 2023

License to Automate.”⁵

“Trust in how Flexibility Services Providers [Aggregators] communicate with and deliver solutions to customers is essential.”⁶

Such a code should facilitate consumer trust by setting standards of conduct and encouraging best practices for flexible load management. Additionally, this code would identify incremental requirements to existing U.S. regulatory rules for aggregators.⁷ While the U.K. efforts address the customer sales and contracting aspects, they do not address the operational dispatch aspects that can greatly impact consumer safety and ongoing participation. The following is an annotated outline for a code of conduct to support effective partnerships with consumers.

A. Applicability

This code of conduct (Code) applies to any entity that engages customers and their resources to participate in the provision of flexibility services for the power system. This includes consumer energy resource (CER) aggregators and DER program administrators (e.g., utilities, state energy programs, community choice aggregators).

B. Consumer Enrollment

Advertising and Promotion

Aggregators must ensure that any representations (including verbal statements, advertising, and sales materials) are accurate and current to the best of their knowledge and do not intentionally deceive customers into making decisions under false pretenses.

All performance claims, testimonials, and claims about energy savings, technical performance, financial payback, or income from energy flexibility services in advertisements and sales promotions must:

- a. Be clearly attributed to a source and not be the personal opinions or advice of those making representations (which shall not be expressed to influence customer decisions);
- b. Withstand third-party scrutiny regarding reasonable underlying assumptions and be made available to the Scheme Administrator upon request;
- c. Follow accounting best practices; and
- d. Include a statement of the level of risk to the customer’s potential revenue.

Sales Behavior

A relationship between aggregators and customers must be initiated in an honest and technically proficient manner. Accordingly, sales materials must be accurate, and sales representatives must behave with honesty and integrity. This Code requires sales staff to be properly trained to communicate technicalities to customers and provide reliable data to back up product claims. Additionally, staff must behave in a manner that does not deceive, pressure, or harass potential customers. Aggregators should be held responsible for all sales-related actions of their employees and third parties contracted to sell on their behalf. Service providers must adhere to all applicable consumer protection laws and regulations.

⁵ Adams, Sophie, et al., User-Centered Energy Systems, “Social License to Automate.” Oct. 2021.

⁶ Flex Assure, “Flex Assure Code of Conduct,” 2021.

https://www.flexassure.org/images/Flex_Assure_Code_of_Conduct_Final.pdf

⁷ California PUC Demand Response Provider requirements: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/registered-demand-response-providers-drps-aggregators-and-faq>

Competition

Aggregators must comply with federal and state antitrust laws and regulations regarding anti-competitive behavior.

Proposals (Customer Financial Benefit, Any Costs and Assigned Risks)

Development of flexibility services proposals must be fair and accurate and should not deceive customers into signing up for services they do not want. Therefore, all relevant benefits must be clearly described, any fees clearly and thoroughly explained, and the flexibility services requirements clearly presented to customers.

Aggregators must provide the customer with a thorough written proposal before the arrangement is agreed to and the contract signed. At a minimum, the proposal must include:

- a. Full detail of the confirmed and potential benefits under the terms of the agreement;
- b. Flexibility services co-production requirements for the customer;
- c. A clear and transparent statement of the operational parameters under which the customer will be dispatched;
- d. Any financial estimates; and
- e. A detailed quotation.

Aggregators will provide the customer with a written estimate that is based on the information the customer has given them and will make clear whether the numbers used in the estimate are definite figures or assumptions.

Contracting

A customer must be presented with a standard flexibility services contract form that clearly states the terms and conditions and that also makes the customer aware of their share of benefits, risks, liabilities, and obligations. This includes providing a plain-language, jargon-free standard template “Key Facts” document along with a second document with the finer details. This ensures that aggregators and customers enter into mutually acceptable agreements.

Before the customer enters into a flexibility services contract, a flexibility services provider must, in writing:

- a. Inform the customer that they are entering into a legally binding contract; and
- b. Inform the customer that they may owe legal obligations to other parties (apart from the flexibility services provider, such as an independent system operator [ISO]) as a result of entering into the contract and provide details on what those legal obligations are and to whom they are owed.

C. Flexibility Services Operations

Communications and Channels (Before, During, and After)

Participating customers must be provided with adequate notice before the operational period starts. This is necessary to ensure participating customers have an opportunity to take appropriate action, if they choose to do so.

Automation Transparency (Process and Technology)

Aggregators must provide documentation clearly explaining what technology will be used to provide the flexibility services. This includes any constraints on the use of a consumer’s resource as a result of co-production of the service. Additionally, the operation of the flexibility services must also be described clearly, including the role and responsibilities of the participating customer. This includes providing customers with visibility regarding how their resources will be controlled individually and as part of a larger aggregation, if applicable. Additionally, customers must be provided with the ability to override or opt out

of automation events.

Operational Parameters for Consumer Health and Safety

Flexibility services operations must respect customer health and safety issues before and during operational dispatch and during extreme weather events. Operational constraints consistent with governmental health agencies' guidelines⁸ must be incorporated into the flexibility services operating parameters and reflected in the services contract.

Performance Metrics and Feedback

Flexibility services providers must provide participating customers with clear and consistent feedback in a timely manner on the customer's performance in providing the flexibility services (after operation) and the tangible shared benefits among the customer, CER aggregator, broader power system, and society. Continued co-production of flexibility services by customers is dependent on reassuring, justifying, and providing transparency and accountability.

D. Administrative

Complaints

Aggregators must provide customers with a procedure and system for registering complaints and resolving disputes. The procedure will address the process steps and the timing to resolve a customer complaint, including the steps a customer can take if they are unable to resolve the complaint within a defined period of time, including filing a complaint with a Regulatory Authority.

Privacy

Aggregators must comply with their obligations under applicable consumer data protection laws in the collection and processing of personally identifiable information (PII) and other sensitive consumer data. In addition, flexibility services providers must adhere to the U.S. Department of Energy (DOE) DataGuard Energy Data Privacy Program Voluntary Code of Conduct.⁹ The CER aggregator must inform each participating customer within each flexibility services contract of information concerning the conditions of use of customer information and explicit permissions required of the customer.

Cybersecurity

Aggregators must take appropriate and proportionate technical and organizational measures to manage cyber risks, consistent with the applicable National Institute for Standards and Technology (NIST), North American Electric Reliability Corporation (NERC), and other cybersecurity frameworks and standards.¹⁰ This is to ensure the security of their cyber systems and those communications and information interfaces with consumers' devices and to provide proper responses in the event of a system failure.

E. Services Provider Governance

Oversight

Regulatory oversight of customer flexibility services agreements and service provider's compliance with this Code is required. All flexibility services providers must be registered with a Regulatory Authority and comply with the rules established.¹¹ Consumers must be made aware of the regulatory oversight, the applicable rules and standards, and processes for initiating a complaint.

⁸ For example, Health impact of low indoor temperatures. Regional Office for Europe: World Health Organization; 1987

⁹ https://www.smartgrid.gov/data_guard.html

¹⁰ NIST Cybersecurity Framework, 800-53, 800-171 <https://www.nist.gov/cyberframework>

¹¹ California PUC Demand Response Provider requirements: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-costs/demand-response-dr/registered-demand-response-providers-drps-aggregators-and-faq>

If a Regulatory Authority has reason to believe a Code violation has occurred, either based on its assessment or a complaint received, it should investigate. The Regulatory Authority should have the power to investigate after notice and opportunity for a public hearing. If it finds a violation occurred, it should be able to enter any orders as may be in the public interest to appropriately enforce the Code within the Regulatory Authority's statutory authority.

Reporting

A flexibility services provider should be in full compliance with a code on the date ordered by the applicable Regulatory Authority. This would be evidenced by a flexibility services provider filing with the applicable Regulatory Authority for review and approval and a compliance plan demonstrating adequate procedures in place that adhere to the Code to ensure fair and equitable dealings.

Record Keeping

Aggregators must keep a record, for a minimum number of years from any sales activity, of the written information provided to a customer during a sales visit, including but not limited to printed or electronic sales communications with customers that they or their representatives make. This record may be kept in printed form, digitally or in any other format, and must include all site-specific performance calculations on which they have based predictions of savings or periods of recovery. Aggregators must supply all relevant records to the Regulatory Authority, when requested.