**Draft Energy Usage Info Scope & Work Statements**

**Scope of Work.** (Official constraints on the work, enforceable in the sense that the standards committee is only empowered to report out work that conforms to this scope.)

Committee[s] will leverage existing work wherever feasible, and will produce specifications for interoperation consistent with architectural principles including symmetry, composability, service orientation, usability and aggregation. Committee[s’] deliverables will be designed to fulfill the policy and technical requirements of the US SGIP Priority Action Plan #10 (Standard Energy Usage Information) program, including conformance to the program’s stated general architectural principles, fulfilling the requirements collected and posted for PAP10, and enabling the re-use of other components being standardized in other SGIP teams as specified by the PAP programs.

Committee[s] will develop a core data model for energy usage information on both periodic (e.g., monthly) and near-real-time (e.g., [x] minutes) scales, usable for the relatively simple usage and load functions supported by early residential smart meters, but also extensible to the degree needed to express the following:

- Multiple distinctly identified devices or uses
- More detailed metadata and controls on the quality, accuracy and timeliness of data
- More detailed metadata and controls on the retention, access, sharing, privacy and security of data
- Additional signals that may be required by new systems integrated in the future with this data stream
- Submetering
- Information for industrial, commercial, and residential facilities
- Data regarding power storage and distributed power generation
- Load curtailment & load shaping functions including peak management and load shedding capability estimation
- Energy market operations [and co-generation]
- And each of the other functions identified by the EIS Alliance use cases and requirements to be contributed as an input to this project

Additional use cases and requirements for energy usage information will be contributed, and included in the scope of the Committee[s’] work, at the option of the committee.

Definitions of data structures being developed in other PAP teams in the US SGIP program are out of scope for the Committee[s]; it is anticipated instead that the deliverables from this Committee will re-use the open standards outputs from those other programs that are re-contributed into the SGIP PAPs and architecture.

Committee[s] will conduct [their] process and intake of contributions so as to be able to submit all completed Committee deliverables for further contribution and approval to such other SDOs as may be appropriate for promulgation of the standards within the utility industry, including cross-contributions among the SDO[s] hosting this work, and including contribution of the completed work to...
IEC TC57 for elaboration and improvement of the CIM model.

A list of deliverables, with projected completion dates. (Normative deliverables defined so as to minimize scope creep & failures or required cross-compatibility.)

1. A standard core schema and semantics for communicating energy usage information, that fully supports the simple energy usage information transfer use cases within the Committee's scope and the deliverables specified below, along with an extensibility guide that fully enables, but does not necessarily specify the data structures for, upwards compatibility to the more complex use cases noted above. First final approved committee specification (the "Core") to be approved four months after the first meeting.

2. A specification for extension of the core schema and semantics, compliant with the Core deliverable, that fully supports simple residential energy usage information transfer on either a periodic or near-real-time basis. To the extent possible, without sacrificing the goals stated in the Committee[s'] scope, this schema and semantics should be compatible or readily transformable with those existing smart meter data exchange formats that are made available for inclusion by the committee. (e.g., SEP, if it's made available, and any actually relevant & finally-approved pieces from IEC's CIM.) First final approved committee specification (the "Simple Residential Case") to be approved four months after the first final approval of the Core deliverable.

3. A specification for extension of the core schema and semantics, compliant with the Core deliverable and extensible from the Simple Residential Case, that fully supports robust exchange of residential energy usage information within the home and smart home devices, on a near-real-time basis. First final approved committee specification (the "Advanced Residential Case") to be approved nine months after the first final approval of the Simple Residential Case deliverable.

4. A specification for extension of the core schema and semantics, compliant with the Core deliverable, to support data necessary to basic load curtailment and load shaping transactions, and such other functions as the Committee[s] may determine ("Commercial/Industrial Case"). First final approved committee specification to be approved twelve months after the first meeting.

- For each Case:
  - Profile for delivery of a lightweight view of the Simple Residential Case, using the W3C Simple Object Access Protocol (SOAP).
  - Profile for delivery of a lightweight view of the Simple Residential Case, using Representational State Transfer (REST) methods.
  - [Is an explicit Zigbee mapping feasible? Is it a deliverable?]

- Iteration as necessary, thereafter, to take on board later-finalized requirements and normative references to other SGIP final outputs.
• Such other specifications and profiles, consistent with the Core scheme and semantics, for support of the more complex use cases above. These may be factored into whatever number or combinations of use cases the Committee[s] may determine.
• Maintenance and revision of the above deliverables, generally as well as in response to finalization of other SGIP standards normatively referenced by these deliverables.
• At the Committee[s’] option, further revision, specialization or profiling of the above deliverables for optimal use in other utility regulatory jurisdictions than the United States.

The committee will encourage members and others to develop exemplar demonstration implementations of the components described above, to test the completeness and functionality of the specification.

**Anticipated audience or users.**

Revenue meters and inside-the-meter retrofits will use this specification to share information with systems inside the premises of residences and commercial & industrial buildings. Utilities supplying electricity will make use of the fine-grained data, where appropriate, for their own optimization and demand analysis. Device manufacturers, including appliance, residential automation, and consumer electronics makers, and the providers of third-party energy visualization systems, all will consume the data, within defined expressions of the owner/resident's permission to access, present and/or perform analysis on it. As the more complex deliverables are developed, facility energy management systems, and premises systems such as commercial HVAC, will generate and consume this information and use it in transactional and predictive systems. Distributed energy generation and storage systems will use this information to facilitate local load management.