

Procurement of Dodge Floor Space Data for 2011 IEPR

Contact: Gary Occhiuzzo (4-4779) & Chris Kavalec (4-5184)

Time Needed: 10 minutes

Action Requested of Committee: Staff requests Committee approval of a Form 500 proposal to purchase commercial and residential floor space data from McGraw-Hill Construction (Dodge) in the amount of \$37,901.

Business Meeting Date: Not required.

Background: In accordance with California Public Utility Commission (CPUC)-Energy Commission agreements formalized under the Integrated Energy Policy Report (IEPR), Demand Analysis Office (DAO) staff are responsible for preparing sector-specific utility energy demand forecasts. A major input in staff's residential and commercial forecasting methodologies is floor space data at a disaggregate level of building type and geography.

Commercial Sector: Because the total population of historical commercial building square footage (*floor stocks*) is unknown, it must be estimated. The process involves three key ingredients: (i) a *floor stock benchmark* (i.e., an historical year for which a major survey approximates the total population of building stock); (ii) a historical series of *construction starts data* (i.e., a comprehensive time series of new and add-on construction permits); and (iii) a *building "decay" estimate* (i.e., a statistically derived time series of floor stock removals). A forecasting model is then estimated from this derived historical floor stock series and driven by appropriate economic/demographic variables to project future commercial floor stocks.

Regarding historical construction starts data, Dodge is the only reliable source and has supplied this information to the Energy Commission and utility staff dating back to the late 1970s.

Residential Sector: Key inputs in staff's residential forecasting methodology include appliance saturations from the Residential Appliance Saturation Survey (RASS) and permit data from the Construction Industry Research Board (CIRB). Dodge floor space data would provide an independent information source for (i) verifying the model's housing floor space inventory, (ii) maintaining accuracy of the model's space conditioning energy consumption estimates (UECs or units of energy consumption), and (iii) assisting in responding to external data requests regarding housing size by type.

Justification for Action Requested: Purchase of Dodge's historical construction *starts* data will support staff's in-house re-estimation of historical commercial floor stocks [benchmarked to staff's Commercial End-Use Survey (CEUS) data] and verify the residential model's housing floor space input data and space conditioning UECs.

Purchase of Dodge's historical and projected commercial and residential *floor stocks* data provides an independent basis for this important information from a nationally recognized source. The CPUC's long-term procurement process in part depends upon staff's energy forecasts, which invites additional scrutiny. The use of a widely accepted independent source of information for comparing and verifying staff's results is advantageous.

Additionally, a number of investor-owned utilities (IOUs) rely upon Dodge floor space in the preparation of their commercial sector forecasts. Availability of this data would facilitate staff's understanding of utility-generated commercial floor space projections.

Finally, regarding non-residential construction activity, the U.S. Department of Commerce (DOC), a client of Dodge's Construction Starts Database, tracks and publishes "put in place" information that is a component of the Gross Domestic Product. As such, the DOC regularly conducts random surveys of construction-permitting sources. Its analysis indicates that Dodge's database covers over 90-percent of total non-residential construction activity. (Note that the floor stocks benchmarking process based on CEUS accounts for the difference.)

Pros:

- Acquisition of the Dodge *starts* data would permit staff to estimate and project commercial floor stocks by building type and climate zone and verify the residential model's housing floor space input data and space conditioning UECs.
- The *starts* data would be available to staff within 60 days following Energy Commission approval of the IT Purchase Order, thereby supporting forecast production consistent with the *2011 IEPR* schedule.
- Acquisition of Dodge's commercial and residential *stocks* data would permit staff to compare and verify its floor space results against a widely recognized standard that is accepted and used by the utilities themselves.

Cons:

- Unavailability of the most current Dodge *starts* data would result in less accurate commercial floor space projections which, in turn, would yield a less accurate commercial energy demand forecast for *2011 IEPR*.

What Happens Next: Committee sign-off of staff's proposed Form 500 would advance this item to the Executive Director for execution contingent upon approval by the Office of the Chief Information Officer (OCIO). OCIO approval would then permit IT to release a Purchase Order to Dodge.