

List of Non-Impact EM Work Orders

ED Work Order Number	ED Work Order Name	Brief Work Order Description	2010-2012 EM&V Project Budget	Work Order Status	Xref #
WO011	Overarching Residential Process Evaluation and Market Assessment	This overarching work order will provide oversight of and input to IOU residential program process evaluation and market assessment studies, as well as SOW development, management and implementation of overarching residential sector studies being managed by ED. For a specific list of IOU/ED studies, see Appendix A xref#s to the right.	\$500,000	Draft	8, 9, 10, 11, 12, 13, 14, 15, 16, 25, 60, 62; possibly portions of 22, 23, 30, 32, 33, 34, 36, 37, 38, 43, 55, 61
WO012	Overarching Nonresidential Process Evaluation and Market Assessment	This overarching work order will provide oversight of and input to IOU nonresidential program process evaluation and market assessment studies, as well as SOW development, management and implementation of overarching nonresidential sector studies being managed by ED. For a specific list of IOU/ED studies, see Appendix A xref#s to the right.	\$1,500,000	Approved	17, 18, 19, 20, 24; possibly portions of 22, 23, 30, 33, 34, 35, 36, 37, 38, 43, 56, 57, 58, 59
WO013	Lighting Programs Process Evaluation and Market Characterization	This overarching work order will likely be combined with WO11 and WO12. That is, the process of identifying EM&V research scope, making determinations regarding IOU v. ED study management, and providing oversight of IOU managed studies will be carried out as part of WO11 and WO12. This work order may remain as an ED placeholder for managing additional lighting-related EM&V research studies.	\$1,500,000	Draft	22
WO014	HVAC Programs Process Evaluation and Market Characterization	The WO will include coordination between any IOU HVAC studies (like the "idea stage" Phase II SCE study) and ED HVAC studies (Impacts, Interactive effects). The WO authorizes ED contractors to be on the planning team of the Phase II study.	\$900,000	Draft	23
WO016	"Omnibus" IDSM Program Process Evaluation	This study will include a program implementation and delivery assessment of the IDSM program. Objectives of this component include a review of related program pilots, with a focus on providing timely feedback.	\$250,000	Draft	28
WO015	ETP Process Evaluation and Market Assessment	This work order will provide for SOW development, management and implementation of EM&V studies related to the ETP program. ED v. IOU management of individual studies will be determined during research planning phase.	\$900,000	Draft	27
WO004	C&S, NC and ZNE Market Assessment and Process Evaluation	This cross-cutting work order will provide oversight of and input to process evaluation and market assessment studies being carried out for the C&S, NC and ZNE programs. ED v. IOU management of individual studies will be determined during research planning phase.	\$500,000	Approved	16, 21, 29, 31, 73
WO022	Residential Appliance Saturation Survey (RASS)	The California Residential Appliance Saturation Study (RASS) is primarily a mail survey that involves a sample of over 20,000 homes. This study asks basic questions about dwelling structure and appliance holdings and usage. In addition to appliance saturation estimates, a statistical analysis is performed to develop end use consumption estimates. The 2009 California RASS was completed in mid-2010. Thus, the RASS analysis effort, as a part of the 2010-2012 EM&V plan, will be limited to further data mining of the 2009 RASS data rather than implementation of a new RASS.	\$200,000	Draft	48
WO021	Residential On-Site/Metering Survey	This study is a detailed residential on-site baseline survey that includes a large sample of homes. This study utilizes trained surveyors to collect detailed information about the dwelling structure and energy-related equipment and usage characteristics. Options include a detailed plug load sub-study, sub-metering, and over-sampling to capture statistically significant results for new construction, and individual building types.	\$2,000,000	Draft	47
WO024	Commercial Saturation Survey	The key characteristics of this study are that it utilizes detailed on-site surveys for data collection, has sample sizes large enough to produce statistically significant results for major building types, and integrates building site characteristic data with energy consumption and load shape metering data. The study will provide baseline and longitudinal data for numerous planning, evaluation, and policy purposes. Several options of widely varying costs and scope are under consideration.	\$5,000,000	Draft	51
WO056	Industrial End Use Saturation Study (IEUS, pre 2010-2012)	The Industrial End Use Saturation Study (IEUS) was initiated several years ago by the IOUs. The project is currently on hold pending resolution of several issues.	N/A	Approved	50
WO055	Industrial Customer Surveys	There are several possible components of this study. The first involves phone surveys to collect information about presence of end uses, general efficiency levels, and customer awareness, and to validate NAICS coding. The second includes onsite data collection to confirm or adjust MECS end use shares, assess energy efficiency potential, and further validate NAICS codes. Finally, the third involves surveys and audits of the largest industrial customers to develop comprehensive data on industrial facilities, including end use shares, energy efficiency potential, and NAICS code validation.	\$450,000	Not yet started	49

List of Non-Impact EM Work Orders

ED Work Order Number	ED Work Order Name	Brief Work Order Description	2010-2012 EM&V Project Budget	Work Order Status	Xref #
WO023	Residential Market Share Tracking	The Residential Market Share Tracking (RMST) study has historically tracked the sales of high efficiency measures (CFLs, HVAC, Appliances (Dishwashers, Clothes Washers, Refrigerators, Room Air Conditioners) by year. The data comes from a variety of sources including retailer point of sales (POS) data purchased from vendors (Lighting), individual retail sales data gathered from a sample of store fronts (Appliances), and distributor sales data (HVAC). This project includes a feasibility study to determine the best way to continue the RMST. Possibilities include, but are not limited to, coordinating with the CLASS and RNC studies and/or working with buying groups and building departments to get additional data.	\$750,000	Draft	52
WO024.1	Commercial Market Share Tracking	The Commercial Market Share Tracking (CMST) study will track sales of high efficiency measures installed in non-residential buildings. To keep costs at a minimum, this study will be closely coordinated with the CEUS study. Phone surveys will be used to find non-residential new purchasers of targeted equipment. Self reported sales and efficiencies will be verified with on-site surveys. The budget estimate assumes that 4-6 measure groups will be tracked.	\$1,000,000	Draft	53
WO057	Industrial and Agricultural Market Share Tracking	The Industrial/Agricultural Market Share Tracking (CMST) study will track sales of selected high efficiency and standard practice technologies in the industrial and agricultural sectors.	\$500,000	Draft	54
WO020	Macro Consumption White Papers	This study activity will focus on the development of a set of parallel white papers by 3-5 teams of leading economists and researchers that explore and assess a range of alternative, "top-down" evaluation methodologies from a variety of perspectives relevant to the CPUC's needs.	\$150,000	RFP	45
WO020.1	Macro Consumption Pilot Studies	Based on the assessments and recommendations provided in the macro-consumption white papers, one to three proposed pilot studies will be chosen for "proof of concept" implementation and demonstration using existing data sources in California.	\$500,000	Not yet started	46
WO018	Portfolio Strategy and Management Assessment	This activity area will address the managerial and strategic aspects of portfolio implementation. Research will focus on management structures, implementation systems, work flow management procedures, expenditure and accomplishment tracking, use of information technology and other performance enhancement tools, staffing and incentives, time allocation and tracking, as well as other needs as identified through the EM&V needs assessment process.	\$3,000,000	Not yet started	41
WO053	Portfolio Impacts	The portfolio impact area will focus on providing strategic and tactical direction for the data collection and analysis activities in those studies and on integrating and synthesizing the results across measures, programs, and markets. This activity area will also focus on continuous examination of whether there are any remaining high-priority gaps across the individual impact evaluation and market analysis areas. Any priority gaps identified will be addressed through development of additional data collection and analysis activities which will be assigned to the most appropriate impact study or activity area or addressed through the development and implementation of new studies.	\$2,000,000	Not yet started	42
WO054	Market Effects and Transformation Research	This study area will be responsible for identifying and managing research efforts associated with market effects and market transformation. This research may be exploratory and qualitative in nature and is not intended to be predicated solely on quantification of impacts associated with program and non-program market interventions. Market effects research will likely be conducted as a combination of leveraged data collection and analysis as part of market analysis and program evaluation studies, as well as through stand-alone studies.	\$2,500,000	Not yet started	43
WO019	Portfolio and Program Financial Audit & Analysis	This activity area will focus on investigating the expenditures allocated for the management and implementation of programs; and costs associated with overall portfolio administration, including general, administrative, and overhead. The portfolio costs study area will conduct a compliance review of the utilities' financial operations, evaluate the overall use of energy efficiency expenditures, and provide recommendations for improving the financial systems and related policies	\$3,000,000	Not yet started	44
WO008	Information and Services to Support Update to CPUC EE Strategic Plan	This activity area will provide support to the CPUC's Strategic Planning process, as well as support to the overall energy efficiency policy making process. This category of analysis will inform ongoing strategic planning goals and objectives by providing funding for evaluation efforts that may not currently or fully anticipated but will be critical to maintaining continuous forward progress toward meeting these stated goals and objectives. It will include development of the next Strategic Plan and related ED consultant support.	\$2,000,000	Not yet started	80

List of Non-Impact EM Work Orders

ED Work Order Number	ED Work Order Name	Brief Work Order Description	2010-2012 EM&V Project Budget	Work Order Status	Xref #
WO007	Strategic Plan Support - Lighting	This work order will specifically address EM&V and supporting activities related to the Lighting component of the Strategic Plan.	\$98,000	Approved	80
WO067	Review and Refine Cost-Effectiveness Methods and Inputs	This study area will include: review and assessment of cost-effectiveness metrics and methods, review and assessment of non-energy benefits inputs into cost-effectiveness metrics, review and assessment of environmental adder inputs into cost-effectiveness metrics, review and assessment of avoided cost inputs into cost-effectiveness metrics, and review and assessment of EUL inputs into cost-effectiveness metrics.	\$500,000	Not yet started	81
WO068	Other Strategic Plan Support	This area will be used to conduct targeted studies needed to support the Strategic Plan and inform EE policy making. The latter studies will be those that are not otherwise being conducted in other EM&V activity areas. Areas of direct overlap, particularly those associated with direct evaluation of program impacts and effectiveness, as well as estimation of measure/system impacts and costs, will be conducted in the EM&V activity areas and studies responsible for those topics.	\$2,100,000	Not yet started	82
WO006	Potential & Goals Study	This study will identify the total cost effective energy-efficiency potential available in California from 2013 through 2022 on an annual and cumulative basis, providing the key input into the Goals and Targets Study. This study will provide recommendations to the CPUC on the anticipated levels of energy savings California may expect to achieve through the various delivery mechanisms in California, in addition to naturally occurring savings.	TBD	RFP	72, 73, 74, 75, 76, 77, 78, 79
DEER	DEER	Ex-ante estimates will be developed based on best available data and methodologies. Activities include (1) adding new measures, (2) gross and net impact parameter updates, (3) statistical analysis and mining of existing sources to support developing ex ante updates, (4) measure cost analysis and updates, (5) useful life and technical degradation updates, (6) software and documentation upgrades, and (7) coordination with 2010-2012 impact evaluation and cost data collection and analysis activities.	\$4,000,000	Approved	66
EX_ANTE	Support Ex Ante Development, Review, & Approval (includes non-DEER)	This study area provides technical consulting to support Energy Division's review and approval of IOU ex ante values. IOU filings, work papers, cost effectiveness calculations, and tracking systems will be reviewed to confirm correct use and application of DEER values for DEER measures. For non-DEER measures and parameters, methods, data, sources, and assumptions will be reviewed to assure use of best-available-information. As requested by Energy Division, new or modified methods, data, and sources may developed for non-DEER measures.		Approved	67
WO017	Measure Cost Study	This study will focus on verification and estimation of measure and program costs. Measure costs will be estimated using a variety of primary and secondary research techniques from data collected from program records and the broader market place. Because of the large number and variety of technologies and measures included in utility program filings, no single data collection and analysis strategy is suitable for developing accurate cost data. Instead, different data collection strategies must be appropriately matched to the unique estimation challenges that each technology, measure, and program presents.	\$2,000,000	Approved, RFP/RFQ to be developed	39
WO017.1	Measure Cost Study Data Collection Support	This study area will focus on capturing cost data collection economies-of-scale through other EM&V studies such as impact evaluation, process evaluation, market studies, and potential studies. These cost data will generally be provided to the primary Measure Cost Study team for analysis, although in some cases the Measure Cost team may direct the other study team to conduct a specific measure cost analysis.	\$500,000	Not yet started	40
CFL_LAB	CFL Laboratory Testing (pre 2010-2012)	The CPUC and SCE have co-funded laboratory study to look at CFL lamp life as a function of usage and switching patterns. In September 2010, a two-year "cycle test" was initiated where the 3,600 CFLs were placed on 10 different timing cycles (360 identical batches in each of the 10 cycles) to look at life characteristics vs switching patterns. One project objective is to combine results of the laboratory cycle test with logger data from real world applications to get better estimates of actual expected CFL life (as opposed to rated life, which is based on 3 hr cycles). The laboratory study will also be conducting a number of other measurements including lamp lumen output (which will allow for a comparison of rated lumens vs measured lumens), lumen depreciation, CRI, CCT, PF, and Mercury content.	\$750,000	Approved	7
WO048	Manage EM&V (Special Studies, Evaluation Guidelines)	The activity area will support research focused on improving existing EM&V methods and guidance within the context of cost-effectively meeting the CPUC's goals and objectives for EM&V.	\$1,000,000	Draft	63

List of Non-Impact EM Work Orders

ED Work Order Number	ED Work Order Name	Brief Work Order Description	2010-2012 EM&V Project Budget	Work Order Status	Xref #
WO061	EM&V Best Practices Study	This study will conduct a review of EM&V issues, approaches, and best practices both within and outside the energy-efficiency field.	\$200,000	Not yet started	64
WO062	Evaluation Methods and Procedures Assessment	This study will entail a review of energy-efficiency program evaluation-related methods and issues by leading evaluators outside of the energy efficiency field.	\$200,000	Not yet started	65
WO063	ED Reporting	This activity area will focus on Energy Division's regulatory-related reporting requirements for energy efficiency. This will include data management activities associated with IOU submittals of program accomplishments and all associated tracking and reporting compliance data. It will also include all Energy Division management, analysis, and reporting activities associated with integrating program, portfolio, and market analysis results into regulatory-required reports of overall IOU energy efficiency impacts, costs, and cost effectiveness.	\$2,000,000	Not yet started	68
WO064	Savings Decay and Cumulative Goals Analysis	This study will estimate the effect on cumulative goals of measures with short measure lives and concomitantly examine the likelihood of re-adoption of such measures at the end of their initial service life. The results of this analysis will be compared to the current CPUC policy requirements that IOUs must replace 50% of the savings associated with short-lived measures to meet cumulative goals requirements.	\$100,000	Approved	69
WO065	Energy Efficiency Load Forecasting Integration	This study will continue work on introducing stochastic/probabilistic modeling approaches for EE resources into load forecasting and procurement. It will also continue work efforts to harmonize inputs and methods for CEC load forecast and CPUC Potential and Goals Study.	\$250,000	Approved	70
WO066	Update and Refine Cost-Effectiveness Tools	This study area will review, assess, and update tools to calculate cost-effectiveness for measures, projects, programs, and portfolios.	\$500,000	Not yet started	71