California Utility Allowance Calculator (CUAC)

Submission Requirements

Fee Requirements and Tenant Notification Requirements: All Projects

A fee is required for all CUAC submissions: new construction and existing tax credit MASH awarded projects. The cost for a CUAC quality control review is between $500 and $2,500. The fee charged is based on the complexity of the review and items being reviewed. Based on our history with prior submissions, a high percentage of projects will incur a fee higher than the initial $500.

Owners must submit an initial $500: for new construction, with the Certificate of Occupancy submission; for existing tax credit MASH awarded projects, with the CUAC submission. Once the review is complete, TCAC will notify the project owner in writing, including an invoice for any additional amount owing. CUAC reviews for existing tax credit projects with MASH Awards are more complex and it is anticipated that they will most likely require more than the initial $500 deposit. You will receive an invoice for any additional amount owed for the review.

- CUAC Utility Allowance for Tax Credit Projects –Submission Requirements and Institution of Fee

Review the above memo for tenant notification requirements.

New Construction Submission Requirements: Application Stage

The CUAC is a tool to provide an estimate of what tenants will pay for utilities and is typically more accurate than a public housing authority (PHA) utility allowance schedule. The certification and submission requirements below apply to all projects eligible to request the use of CUAC estimate utility allowances. The CUAC is prepared by qualified energy analysts as defined in TCAC Regulation Section 10322(h)(21). All CUAC estimates shall be completed by an independent third party and shall be at the expense of the developer. All CUAC estimates shall include an original submittal report, signed by the qualified professional energy analyst as defined in California Tax Credit Allocation Committee (TCAC) Regulation Section 10322(h)(21), certifying the following:

- The original submittal report should include the date the CUAC estimate was prepared, the project name for which the estimate was prepared, and each utility type and amount, by bedroom size.
- The name, address and phone number of the analyst who prepared and certified to the accuracy of the CUAC estimate (NOTE: the preparer and certifying analyst shall be the same person).
- Proof of the energy analyst's qualifications to use the CUAC, including a current California Association of Building Energy Consultant's (CABEC) Certified Energy Analyst (CEA) 2013 certification number and a California Home Energy Rating Systems (HERS) certification number.
- A statement that the energy analyst and the owner of the project, the project applicant, and the project's principals (general partners, members, etc.), are not related parties as defined by TCAC Regulation 10302(gg) and the Internal Revenue Code section 267(b) and 707(b).
- A statement that the CUAC estimate is based solely on the professional building energy modeling and analysis completed by the qualified professional building analyst signing the CUAC estimate.
- A copy of the completed California Alternative Rates for Energy (CARE) tariff eligibility analysis done as required by the CUAC User's Guide (if applicable).
- A copy of the California Energy Commission's CF-1R compliance document for the project.

New Construction Submission Requirements: 60 Days Prior to Issuance of Certificate of Occupancy

Owners proposing to utilize the CUAC for determining the utility allowance in lieu of the public housing authority's utility allowance numbers **must** submit their CUAC package and receive approval from TCAC **prior** to lease-up of the tenants. The owner's request to utilize the CUAC must be received by TCAC no later than 60 days prior to the issuance of the Certificate of Occupancy for all buildings in the project. All CUAC estimates require quality control review and approval.

Energy analysts submitting CUAC estimates for new construction projects shall confirm the energy efficiency measures of projects' units and buildings as required by the applicable Building Energy Efficiency Standards, Title 24, Part 6 (the Standards). If unable to confirm the energy efficiency measures actually used in the completed units and building(s), the energy analyst shall use conservative default assumptions needed to meet the minimum requirements under the appropriate Standards. The energy analyst shall also identify: the utility provider(s), the appropriate tariff, building orientation, the building(s) unit mix, unit floor plan layout(s), and apartment features. This shall be done through direct observation (including field testing or sampling at a minimum rate of 1:7 units), official documentation, or third-party resources. All CUAC estimates shall include all items listed above under **Submission Requirements: Application Stage**, as well as the following additional items:

- Architectural drawings for proposed project
- Title 24 Report (CF-1R or PERF-1 compliance documentation) and ECON-1 or CSV's that were used in the analysis
- Data Collection Spreadsheet
- CUAC weighted average worksheet (Energy Pro 5 report with monthly averages computed per bedroom type (per month)).
- .Bld files from the energy modeling software
- A completed HERS verification from the energy analyst and evidenced by a HERS verification report that the project has all the measures required by the Energy Pro 5 analysis
- Bills of lading for all appliances
- If high efficacy lighting is installed, TCAC requires verification by a HERS Rater conducting a site visit and providing a letter or report, which includes photographs evidencing all of the lighting installed in a few units of each apartment type, at a minimum.
- If CARE rates are being used in the analysis, documentation must be provided verifying that the project meets the utility income requirements as well as a documented plan to assist tenants in signing up for the CARE program.
- If PV is included in the analysis, documentation demonstrating how the PV numbers in the CUAC submittal were derived. In addition, the New Solar Homes Partnership (NSHP) agreement or the PPA from the utility provider must be provided in order to determine what percentage serves tenants and what percentage serves the common area.
- Explanation of any testing or sampling done to confirm the constructed units and/or building(s) features.
- A list of all third party resources used to confirm the constructed buildings features, including copies of the building permits and the name and phone number of any HERS rater(s) that conducted review(s) of the project's units and /or building(s).
- Copies of any documentation relied upon to confirm the energy efficiency measures used in the modeling of the constructed units and/or building(s).
- Copies of any completed residential compliance forms (CF-1R, CF-4R, CF-6R, etc.) for the project's units and/or building(s) that were completed at the design phase and upon final construction.

- A list and justification of any conservative default assumptions (Title 24, Part 6 Standards) that were used by the energy analyst in the event the energy analyst was unable to independently confirm the building(s) energy efficiency measures.
- TCAC and the quality control reviewer may ask for additional documentation to confirm energy efficiency features.

Note that these requirements are for verification of CUAC analyses. Verification of other energy efficiency or sustainable building measures may be required depending upon the project's scoring criteria.

Existing Projects with MASH Award Submission Requirements

The CUAC is a tool to provide an estimate of what tenants will pay for utilities and is typically more accurate than a public housing authority (PHA) utility allowance schedule. The CUAC is prepared by qualified energy analysts as defined in TCAC Regulation Section 10322(h)(21). All CUAC estimates shall be completed by an independent third party and shall be at the expense of the developer. All CUAC estimates shall include an original submittal report, signed by the qualified professional energy analyst. The certification and submission requirements below apply to projects eligible to request the use of CUAC estimate utility allowances.

Owners should review the CUAC Utility Allowance for Tax Credit Projects –Submission Requirements and Institution of Fee for submission requirements related to cash flow limitations and tenant rent increase documentation.

All CUAC estimates for existing tax credit projects with MASH awards and an allocation of PV generation to tenants shall include the following items:

- The original submittal report should include the date the CUAC estimate was prepared, the project name for which the estimate was prepared, and each utility type and amount, by bedroom size
- The name, address and phone number of the analyst who prepared and certified to the accuracy of the CUAC estimate (NOTE: the preparer and certifying analyst shall be the same person)
- Proof of the energy analyst's qualifications to use the CUAC, including a current California Association of Building Energy Consultant's (CABEC) Certified Energy Analyst (CEA) 2013 certification number and a California Home Energy Rating Systems (HERS) certification number
- A statement that the energy analyst and the owner of the project, the project applicant, and the project's principals (general partners, members, etc.), are not related parties as defined by TCAC Regulation 10302(gg) and the Internal Revenue Code section 267(b) and 707(b)
- A statement that the CUAC estimate is based solely on the professional building energy modeling and analysis completed by the qualified professional building analyst signing the CUAC estimate
- MASH Incentive Claim Form and MASH award letter
- A summary of the PV system installations; This includes documentation that the PV system offsets tenant area loads (unit loads), how the PV numbers in the CUAC submittal were derived, documents verifying the percentage of PV output allocated to common area and tenant unit loads, and a summary of the benefits accruing to the project and tenants.
- Executed summary CUAC report
- Architectural drawings / take off sketch: To allow the quality control firms to verify a project's model(s), plans must be provided if they are available. If building plans are not available, see the "Take Off" section below for guidance on sketches and data collection. If original building plans are used, the analyst will confirm from site inspections that drawings are consistent with existing conditions. Any differences found between the plan sets and actual conditions must be noted in the Assessment Report. Plans will be used to confirm the Modeling and Assumptions section of the Assessment Report and inputs in the simulation model. Plans sets shall include:
    - Site plan for all buildings with North arrow
    - All floor levels plans for all building with dimensions

- All floor levels showing each dwelling unit/ bedroom type
- Elevation plans for all orientations for all buildings showing windows
- Details showing building framing assembly construction with R-value
- Specification sheets for equipment and fenestration

Take Off: When plan sets absolutely cannot be obtained, or when renovations or alterations result in the original plans being unrepresentative of current conditions, the site assessment document author must complete an onsite drawing and detailed take offs. Site drawings and details should be used to create and confirm model inputs. This option will require a detailed sketch and data collection sheet. The take-off sketch shall include:

- Site drawing for all buildings with North arrow
- All Buildings included in model with dimensions
- All floor levels for each building with all dwelling units/ bedroom type showing dimensions
- Elevation drawings for all buildings showing window dimensions and locations

- Title 24 Report (CF-1R, CF-4R, CF-6R, etc. or PERF-1 compliance documentation) and ECON-1 or CSV's that were used in the analysis
- Data Collection Spreadsheet Be sure to use the MASH Project Data Sheet. The TCAC Existing Multifamily Assessment Report should document the energy efficiency measures used in the modeling of the constructed units and/or building(s) and include any testing or sampling done to confirm the constructed units and/or building(s) features.
- CUAC weighted average worksheet (Energy Pro report with monthly averages computed per bedroom type (per month)).
- If CARE rates are being used in the analysis, documentation must be provided verifying that that the project meets the utility income requirements as well as a documented plan to assist tenants in signing up for the CARE program.
- Heating Ventilation, Air Conditioning (HVAC) and Domestic Hot Water (DHW): All HVAC and DHW systems will be verified on site and modeled based of the verified data. Pictures of, or details on HVAC and DHW nameplates for all components related to energy shall be obtained including fans and pumps.
- .Bld files from the energy modeling software
- Energy Modeling: Existing Homes: An energy model shall be completed in accordance with TCAC Existing Multifamily Assessment Protocols. All model simulations must be run using the residential performance module (for low rise buildings) or the non-residential performance module (for high rise buildings) in Energy Pro version 5. Use of other building performance software or modules is not acceptable.
- Methods and Assumptions: All major assumptions used to develop the energy model and analysis must be clearly stated in an Appendix of the Assessment Report. When certain building features cannot be physically verified, the values from the Table 1, Assumptions for non-verifiable existing condition below shall be used in the energy model and analysis. Table 1 was developed based on code and typical installation practices over time. The assumptions are meant to represent the lowest possible performing measure when the actual measure is not verifiable. This will provide a conservative estimate of energy efficiency (i.e., high energy use) for a building/unit.
- TCAC and the quality control reviewer may request additional documentation as needed.

Table 1. Assumptions for non-verifiable existing conditions

Measure	Assumption	Rationale
Floor	If insulation exists assume R -19, if no insulation exists assume R-0	R-19 has been the standard level of insulation since the advent of Title 24.
Wall*	If insulation exists assume R 11, if no insulation, assume R-0	1985 was the approximate date when R-11 wall insulation requirements for MF buildings were first effectively enforced.
Ceiling	Measure insulation depth and refer to CEC's insulation R value table	n/a
Windows	default table for Title 24 2008 based on frame and glazing type	n/a
Water Heater – tank type	0.52 Energy Factor	The Minimum code threshold was 0.52 from 1986-2005. We assume pre-1986 WHs have been replaced since then.
Water Heater – boiler	0.70 AFUE	Some older boilers might be slightly less efficient. This represents boilers from 1970s-80s.
Water Heater - tankless	0.75 EF	Applies CEC de-rating to older tankless water heaters.
Wall furnace	0.45 AFUE	Average wall heater efficiency in the 1980s was 0.60-0.65, but older ones about 0.45.
Floor furnace	0.45 AFUE	Average floor heater efficiency in the 1980s was 0.60-0.65, but older ones about 0.45.
Ducted central furnace	0.72 and 30% duct leakage	The minimum code threshold for a ducted central furnace has been code since mid-1980s. Research in early 1990s, showed typical leakage of ~30%
Air Conditioning	5.0 SEER	The code standard SEER in the 1970 and early 1980s was 6.8, but with normal degradation of systems, SEER 5 is appropriate.
Heat pump	1.32 COP	

*Wall Insulation can be verified by two methods; Using an IR Camera to verify all exterior walls have insulation in all elevations, or by following section A-2 of the 2008 HERS Technical Manual Appendix A, ACM section 3.5.2 Exterior Walls. (Determine type and thickness of existing insulation and resultant U-

factor). The verification procedures in the HERS Appendix must also be conducted on all exterior wall elevations.

For specific questions regarding the CUAC, please contact Compliance Program Manager, Ammer Singh at (916) 654-6340 or by email.