Release Notes

Version CBECC-Res 2022.0.6 Alpha March 2022

Overview

CBECC-Res is an open-source software program developed by the California Energy Commission for use in showing compliance with the *2022 Building Energy Efficiency Standards* for single family residential buildings. These Release Notes are for CBECC-Res 2022.0.6 Alpha released in March 2022.

Please Note: For the 2022 Standards, all multifamily buildings will be included in CBECC 2022 and can no longer be analyzed in CBECC-Res.

This version has not been approved by the California Energy Commission and cannot be used to show compliance with the 2022 Title-24 Standards.

CBECC-Res changes since release of 2022.0.5-RV (4/10/21, SVN r2063)

Changes made primarily for 2019 analysis but also impacting 2022

- Ruleset update fixing bug in report logic preventing output of Existing air distribution objects to CF1R's HVAC - Distribution Systems table (related to tic #1118)
- Added HVACSys:PropEqStd flag enabling adjustments to fan power for consistency with standard design systems
- Revisions to IAQ vent rules to prevent zeroing out CFM in EAA & addition-alone standard design models where no minimum CFM is calculated
- Revised duct location defaulting when location set to 'Multiple Places' to ensure ducts not too large for attic before placement there (related to tics #1151 & #1270)
- Change range check for ExtWall:Tilt and add for attic roof and CathedralCeiling tilt to reflect std (was wall > 60 & roof <= 60 but is now wall >= 60 and roof < 60) (tic #1271)
- Enumeration and ruleset update to OG-100 solar collector manufacturer, brand, model and performance data
- Added shuffling and averaging of DHW draw profiles in each SFam CSE simulation
- Ensure IAQFan error messages are reported during analysis for fan assigned only to ADU (fixes SRE/ASRE undefined issue)
- Prevent creation of main home DHWSYS in CSE input when project is all-ADU (addition alone), halving DHW draws & use

- Fixed omissions/errors in mapping DHWHeater:ASHPType = "Rheem HB 50", "Rheem HBDR-22-65" & "Rheem HBDR-22-80" to CF1R XML T11a_HeatPumpWaterHeaterSimulationGroup
- CSE v0.893 - Add tier3 generic hpwh presets (40, 50, 65, 80 gal)
- Addition of new (generic) brand: "tier 3 (40+ gal)", "tier 3 (50+ gal)", "tier 3 (65+ gal)" and "tier 3 (80+ gal)" NEEA HPWH options
- Added CF1R XML output of HSPF & COP to W04_EfficiencyType and W04a_EfficiencyType (tic #1273)
- Fixed Std design model prep bug where Existing PTHP equipment flagged as requiring air distribution equipment (user support)
- Altered executables and ruleset defaults & compliance report message to prevent shuffling of SFam DHW draw schedules for 2019 analysis
- New Use Default ACH50 input (Proj:UseDefaultACH50) toggled on in ALL sample models (other sample model differences related to recent restructuring changes to DHWHeater and DHWSys inputs)
- Fix related to 6/25 ducts in attic support issue (tic #1270) - prevent locating ducts outside when MaxSupDuctArea not set >= 0
- Mods to prevent CSE object names from ending with '\', which CSE interprets as a line-break
- Mods to prevent assignment of multiple DHW systems per zone in single family models
- Ruleset fix to ensure that ALL assigned fans are reported in Section_Cc (HVAC - Fan Systems table)
- Addition of new 'VCHP - Detailed' heat pump type and numerous updates and adjustments over time as CSE model developed and tuned
- Removed 5% HERS derating on watts and SRE/ASRE (until future HERS audit implementation)
- Standard Design IAQ system CFM limit increased from 110% to 125%
- Update to IAQ filter/inlet/... accessibility checkbox label & tooltip message
- Add new building-wide IAQ FID (fault indication display) checkbox, defaulting to 0, which when checked removes 10% HRV & fan power derating
- Update to DWHR (drain water ht recov) default efficiency from 43 to 42%
- Update of default and standard design PV solar access from 100 to 98%.
- Data model, UI, defaulting and reporting rule mods enabling the user to specify DHW compactness factor (for compliance credit) without having to enter fixture distances
- New model checks added to ensure presence of a minimum window area (>= .05 * CFA) and reasonable volume to floor area ratio (CondVol >= 7 * CFA)
- Fix for problem where reduced PV requirement (AB 178) with PV size of 0kW specified throwing divide by zero error for Multiple Orientation models
- Adjustments to thermostat setpoints and equipment sizing multipliers to improve simulation accuracy and sizing of equipment to both cooling and heating loads
- Revised logic to keep StdHeatingType = input HeatSysType for EXISTING systems that are not PropEqStd (tic #1324)

2022-specific Updates

- Added 2022-specific DR HPWH Basic control schedules to look-up table
- Switch HVAC & DHW fuel options for '2022 Final', SFam, no proposed HPWHs, CZ 10 (making CZ 10 the same as CZs 1,2,5-9,11,12,15,16)
- Warning message presented to CBECC-Res users upon opening 2022 MFam project file (indicating MFam no longer supported)
- Error message added to pre-analysis check preventing 2022 MFam model calcs from any tool using CEC compliance engine
- Enable specification and use of EXCEPTION 2 to Section 150.1(c)8 of 2022 Std - allowing (no penalty) for an instantaneous electric water heater w/ point of use distribution installed in new dwelling units with a conditioned floor area <= 500 SF (tic #1289)
- Initial porting (placeholder) for 2022 Community Solar - calcs still require update to 2022 mults & weather (tic #1321)
- Target EDR, Self Utilization Credit and Precooling options removed from UI and analysis (unless EnableResearchMode activated)