

Appendix K
Class 2 Buildings, Blank Forms

**Class 2 Building
Project Notification Form**

Agency:		Date submitted:			
Contact person:	E-mail:	Phone:			
Division or user:		ODOE Project ID #:			
Project name:					
Project address:					
City:		ZIP:			
Project Description:					
Energy systems affected:					
Area and Use Information:					
Project type:	<input type="checkbox"/> N = New construction	R = Renovation			
Total floor area (sq.ft.)	<input type="text"/>	gross heated or cooled			
Affected floor area (sq.ft.)	<input type="text"/>	full area if new, or renovated area			
Construction cost	\$ <input type="text"/>	total budget, not appropriated amount			
Breakdown area by use and schedule; show design occupancy					
Area breakdown	Use code	Number of occupants	Hours/day	Occupied Days/week	Weeks/Year
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Use Codes:					
A = Food/cafeteria, gym/pool/lockers, library/archives, theater/arena		M = shop/retail			
B = Computer center, education, laboratory, office		R = Residential/dorm			
I = Clinic, hospital, jail/prison		S = Warehouse			
Estimated schedule:					
	Month/Day/Year			Month/Day/Year	
RFP for design services:	<input type="text"/>	Bid date:	<input type="text"/>		
Schematic design begins:	<input type="text"/>	Construction begins:	<input type="text"/>		
Design development begins:	<input type="text"/>	Construction complete:	<input type="text"/>		
Design development complete:	<input type="text"/>				

Project Name:					
E100 Envelope					
Status Code					
B	A	N/A	ECM#	Potential ECMs	ECM Description
			E110	Reduce Heat Losses	
			E111	Ceiling/roof insulation	
			E112	Wall insulation	
			E113	Floor/slab insulation	
			E114	Fan penthouse insulation	
			E115	Windows:	
			A	Thermal break in metal window frames	
			B	Wood, vinyl, or fiberglass window frames	
			C	Argon gas-filled glazing panels	
			D	High-performance low-e (e = 0.05) coating	
			E	Tinted glazing or reflective coatings	
			E120	Reduce Heat Gain	
			E121	Architectural shading and overhangs	
			E122	Window sizing and orientation	
			E123	Cool roof, green roof	
			E130	Reduce Infiltration	
			E131	Seal openings at penetrations of building envelope	
			E132	Air-lock vestibule or revolving doors	
			E190	Other Envelope Measures	

L100 Lighting					
Status Code					
B	A	N/A	ECM#	Potential ECMs	
			L110	Efficient Lighting Systems	
			L111	Optimize fixture layout, spacing & orientation	
			L112 R	Delamp overlit areas	
			L113	Efficient Fixture Selection, (fixture CU)	
			L114	Optimize Ballast Selection	
			L115	Efficient Lamp Selection	
			A	Compact fluorescents in place of incandescents	
			B	Incandescent IR Halogen vs standard PAR lamps	
			C	Ceramic Metal Halide vs standard PAR lamps	
			D	High-output linear fluorescents in place of HID fixtures	
			E	Pulse Start Metal Halides vs standard Metal Halides	
			F	LED technology, exit signs and other applications	
			L116	Exterior LPD at or below ASHRAE-90.1-2004	
			L120	Lighting Controls	
			L121	Occupancy sensors (exceeding code requirements)	
			L122	Selective switching, (control of multiple lamps within fixture)	
			L123	Egress lighting scheduled off during unoccupied periods	
			L124	Exterior lighting controls (exterior lights extinguished after occupied period (i.e. 9PM - 5AM))	
			L130	Optimize Daylighting	
			L131	Continuous dimming controls	
			L132	On/off daylighting control	
			L133	Separate circuits for zoning flexibility in daylit zones	

Status Code					
B	A	N/A	ECM#	Potential ECMs	
			F110	Unitary Equipment	
			F111	Condensing furnaces	
			F112	Cooling-unit efficiency	
			F113	Air-to air heat pump efficiency	
			F114	Water-source heat pump	
			F115	Radiant heating	
			F116	Other HVAC general/unitary measures	
A100 HVAC - Air Distribution					
Status Code					
B	A	N/A	ECM#	Potential ECMs	
			A110	Reduce Airflow Rates	
			A111	Variable airflow with VFD	
			A112	Cold air distribution	
			A120	Reduce Fan Pressure Resistance	
			A121	Minimize fan unit static pressure-losses: air filters, cooling and heating coils, enlarge cabinet size.	
			A122	Minimize duct static pressure-losses: enlarging ducting & optimize fittings	
			A130	Reduce Ventilation Loads	
			A131	Separate make-up air units for high-ventilation areas	
			A132	Heat recovery (air-to- air, run-around loop, heat wheel)	
			A140	Reduce Air Leaks and Heat Losses	
			A141	Install low-leakage dampers	

			T110	Air-Side Control Strategy	
			T111	Airflow and temperature setback in unoccupied areas through occupancy sensors or schedules	
			T112	Variable ventilation based on CO ₂ control	
			T113	Night-flush cooling cycle	
			T120	Water Side Control Strategy	
			T121	Time clock and OSA lockout control of heating and cooling pumps	
			T130	Misc. Controls	
			T131	Isolate large sheddable loads and install automated controls to limit electrical demand	
			T190	Other HVAC Controls	
C100 Cooling Plant					
Status Code					
B	A	N/A	ECM#	Potential ECMs	
			C110	More Efficient Cooling Equipment	
			C111	Select efficient kW/ton chillers: 1) centrifugal, 2) screw, 3) reciprocating	
			C112	Select chiller size(s) for efficient sequencing	
			C113	Optimization of chiller sequencing controls	
			C114	Central Heat Pump	
			C120	Alternate Cooling	
			C121	Water-side free cooling: cooling tower and P&F heat exchanger	
			C122	Heat recovery chiller	

			C130	Increase Condenser Efficiency	
			C131	Specify more efficient cooling tower to reduce LWT	
			C132	Water-cooled versus air cooled	
			C133	Evaporative-cooled versus air cooled	
			C134	Condenser water reset controls	
			C190	Other Cooling Plant Measures	
H100 Heating Plant					
Status Code					
B	A	N/A	ECM#	Potential ECMs	
			H110	Improve Boiler Efficiency	
			H111	Specify efficient boilers	
			H112	Select boiler size(s) for efficient sequencing	
			H113	Optimization of boiler sequencing controls	
			H114	Modulating burner control, specify high turn-down ratio (>5:1)	
			H115	Improve draft controls: turbulators, barometric dampers	
			H116 R	Improve combustion by reducing excess air with O2 trim controls	
			H117	Boiler flue heat recovery to preheat combustion air or feed water	
			H118R	Recover heat from boiler blow-down	
			H120	Alternate Heating Systems	
			H121	Condensing hydronic boiler, design at lower supply/return water temp. i.e 140 F supply and 110 F return water temp.	
			H122	Water-source or ground-source heat pumps	
			H190	Other Heating Plant Measures	

K100 Hood and Make-up Systems for Kitchens, Labs, Shops, Process Equipment, etc.				
Status Code				
B	A	N/A	ECM#	Potential ECMs
			K111	Minimize exhaust hood airflows, i.e. low flow hoods
			K112	Minimize exhaust hood run time
			K113	Separate make-up air unit set at lower temperature
K190 Other Hood and Make-up Systems				
S100 Swimming Pools				
Status Code				
B	A	N/A	ECM#	Potential ECMs
			S111	Elevate air temperature to reduce pool evaporation rates
			S112	Air-to-air heat recovery of ventilation air
			S113	De-humidification heat recovery
			S114	Variable ventilation based on advanced climate controls sensing humidity, indoor/outdoor/dew-point temperatures
			S115	Lower ventilation rates during unoccupied hours
			S116	Low pressure-drop pool water filters/strainers
			S117	Two-speed circulation/filtration pumping (occupied/unoccupied modes)
S190 Other Swimming Pool Measures				
P100 Power/Electrical Distribution				
Status Code				
B	A	NA	ECM#	Potential ECMs

			P110	Premium-efficiency motors	
			P111	In excess of code (Consortium for Energy Efficiency) i.e.fans, pumps, etc.	
			P120	Vertical Transport	
			P121	Hydraulic elevator pump/motor efficiency opportunities	
			P122	Traction Elevator	
			P130	Server and Telecom Rooms	
			P131	Multiple small compressors for efficiency and redundancy	
			P132	Air side economizer cooling	
			P133	Water side economizer cooling	
			P134	Wider deadband for humidity and temperature control (based on actual design requirements)	
			P140	Refrigeration Systems	
			P141	Select units with high efficiency compressors	
			P142	Increase condensing efficiency and optimize capacity control	
			P143	Install floating-head pressure controls	
			P150	Appliances	
			P151	Residential Energy Star- refrigerator, dishwashers, washing machines, etc	
			P152	Commercial Equipment- Pcs, LCD Monitors, copiers, vending misers	
			P190	Other Power Measures	

**Class 2 Building
ECM Installation Form**

Agency:		Date submitted:
Contact person:	E-mail:	Phone:
Division or user:		ODOE Project ID #:
Project name:		
Comments:		
Enter ECMs installed in finished building or project. Use ID number from <i>ECM Checklist</i> .		
ECM ID #:	ECM name:	
Comment:		
ECM ID #:	ECM name:	
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