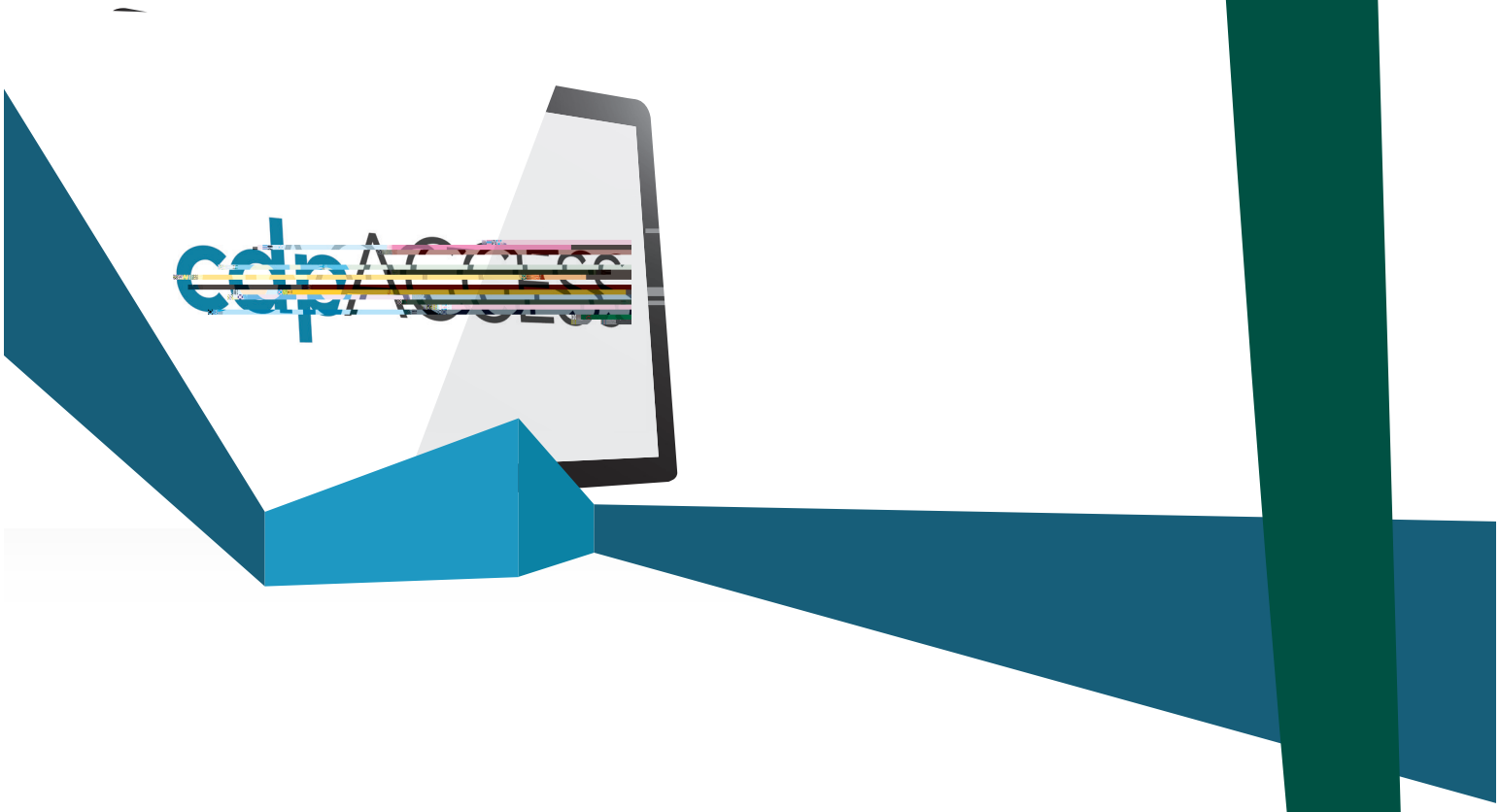

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The ICC Secretariat is Kristopher Stenger, AIA, CBO, LEED AP Director of Energy Programs at kstenger@iccsafe.org. Be sure to contact Kris in order to be placed on the email distribution list in order to receive timely meeting information, notices, etc.

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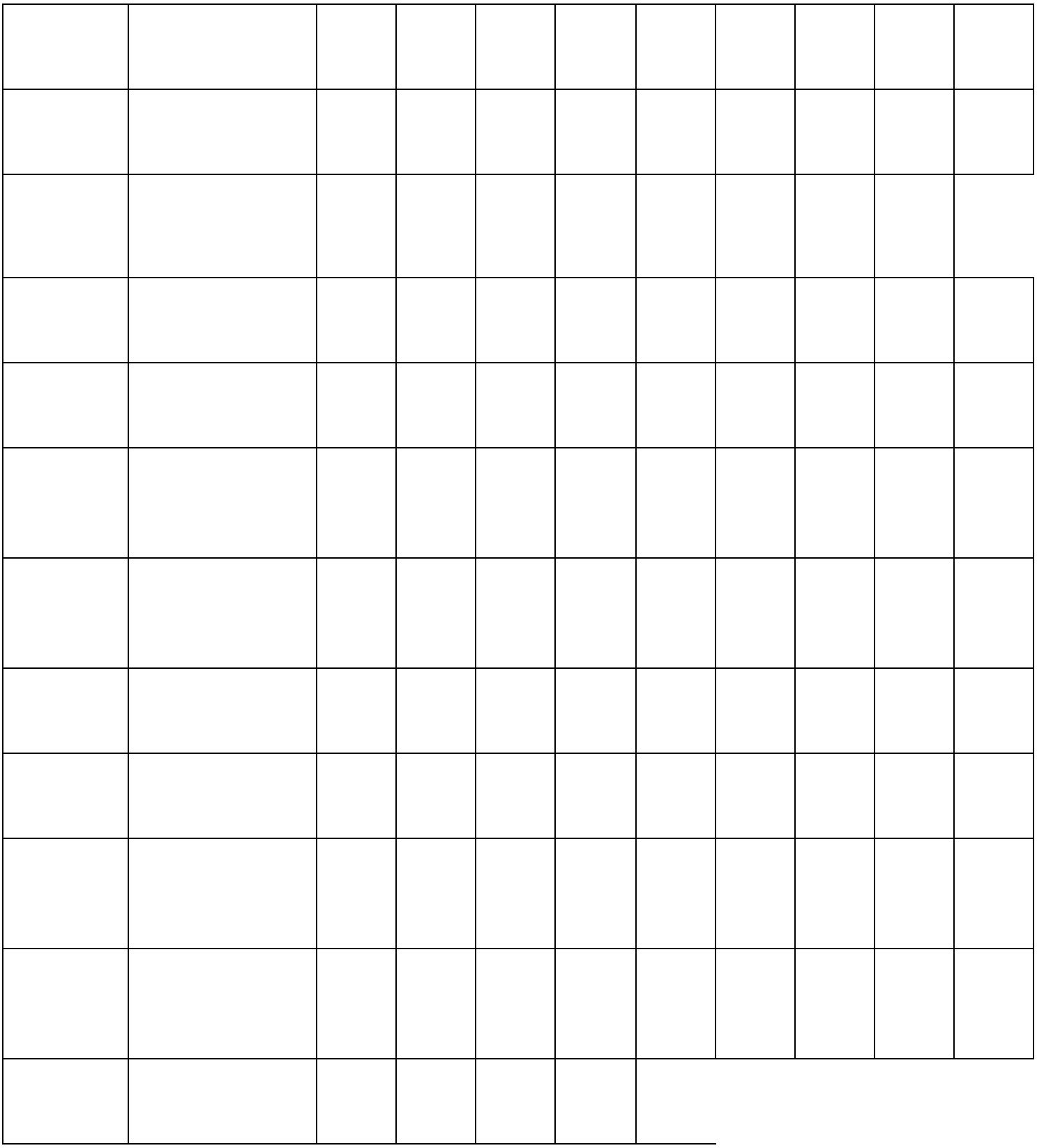
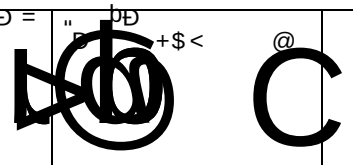


.										
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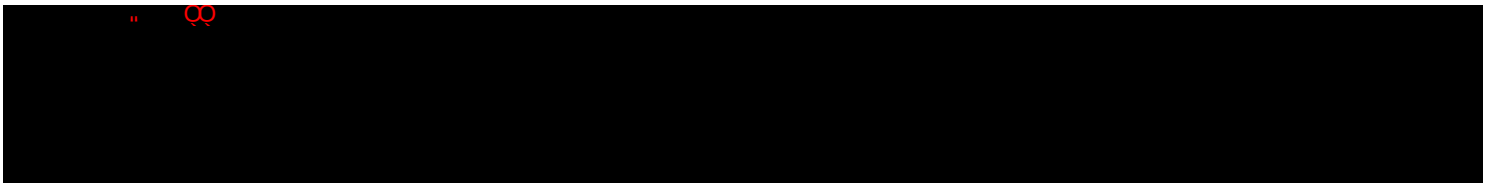

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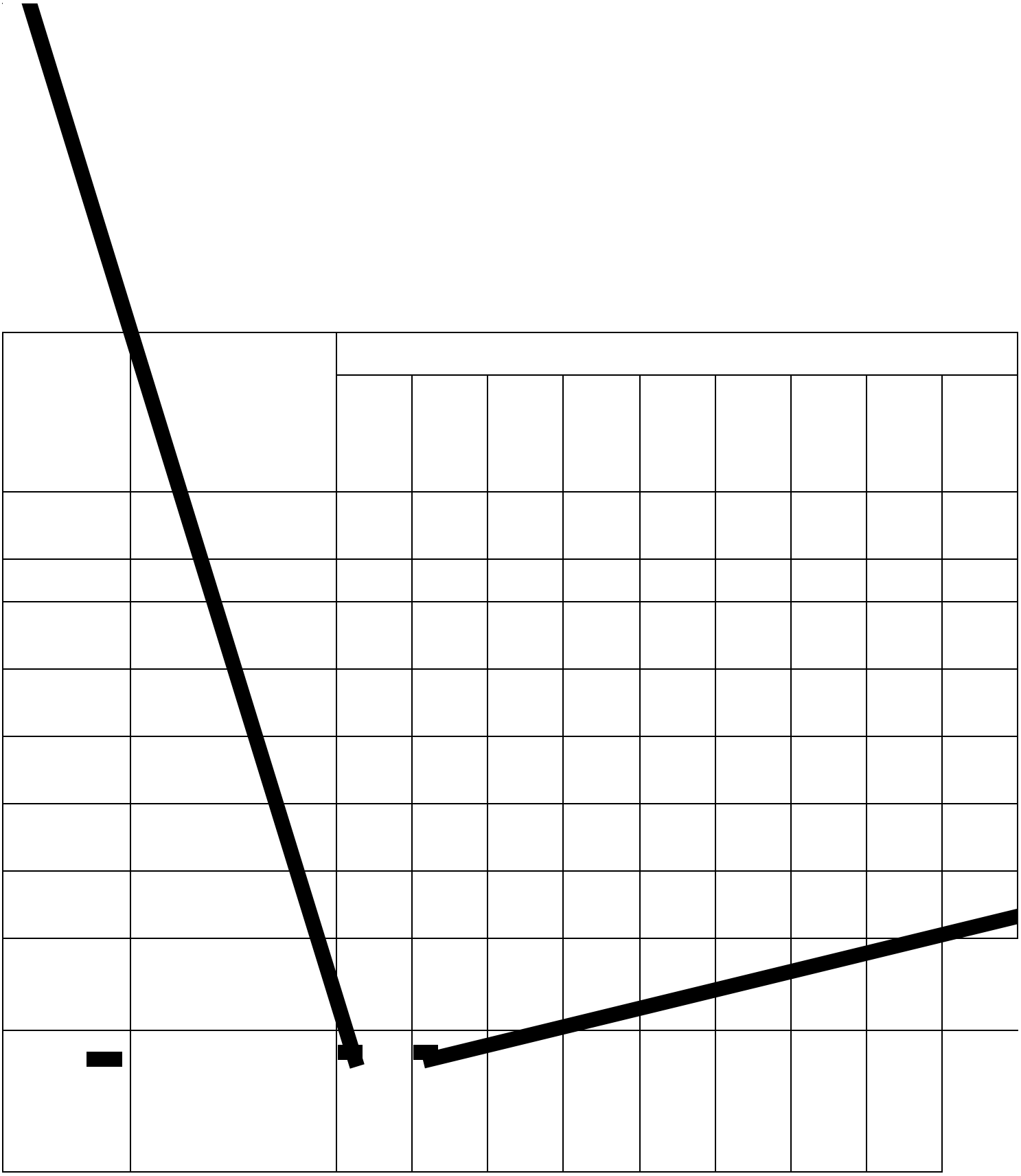

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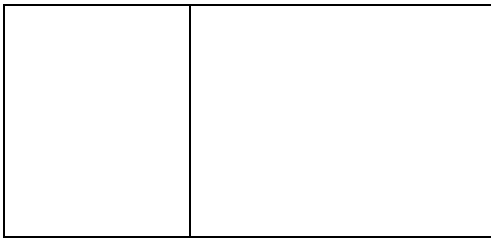

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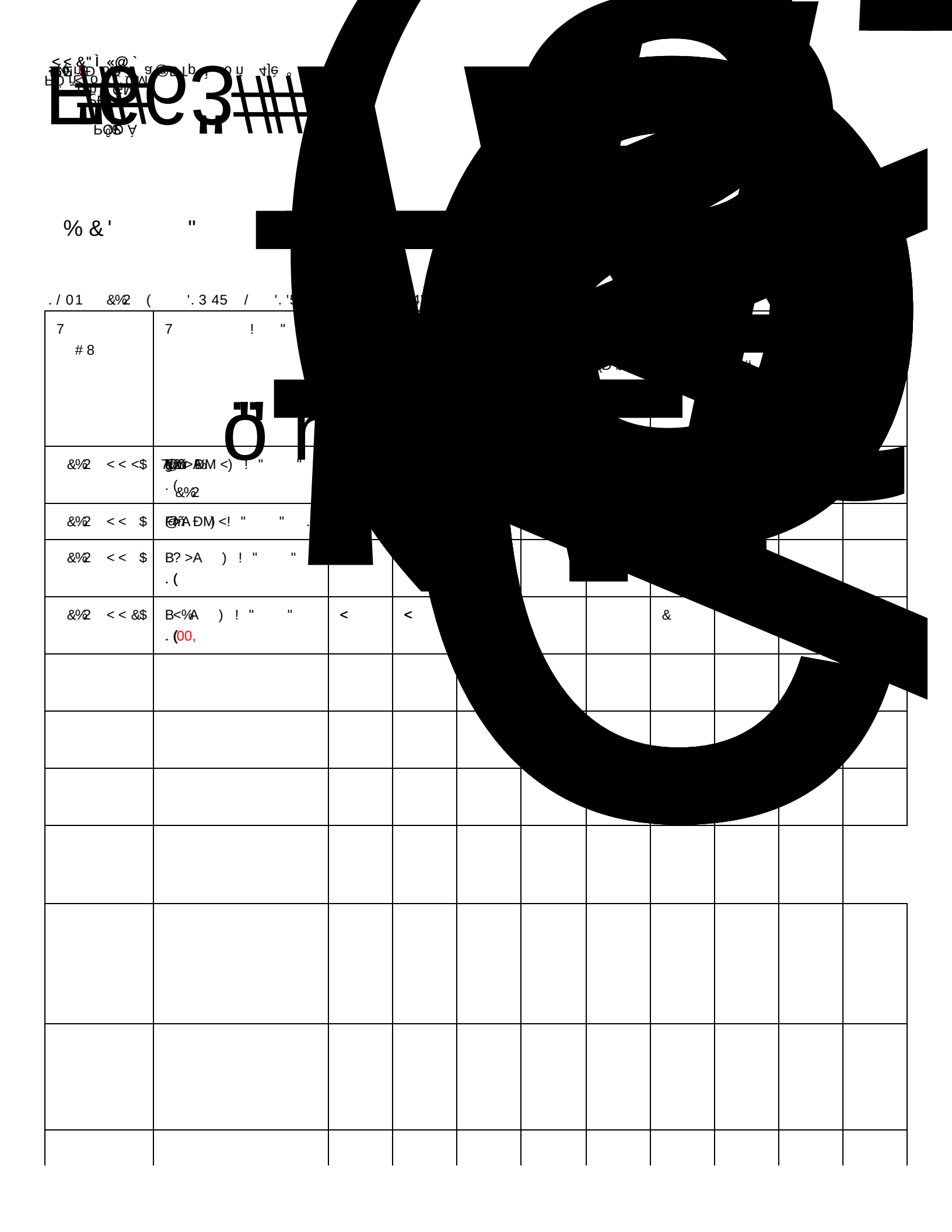

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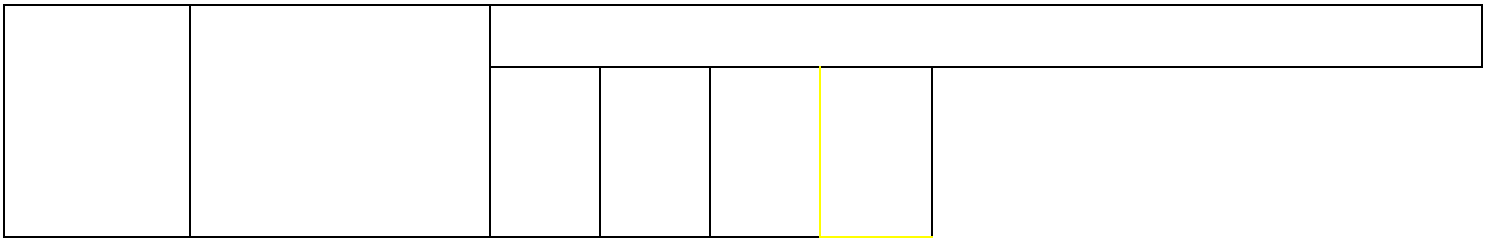

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RE2D-73-23

Harshad Inamdar, representing Rheem Manufacturing Company (harshad.inamdar@rheem.com)

2024 International Energy Code [RE] [RE Project] R3

TABLE R408.2 CREDITS FOR ADDITIONAL ENERGY EFFICIENCY

Measure Number	Measure Description	Credit Value								
	Reduct	Climate Zone 0 & 1	Climate Zone 2	Climate Zone 3	Climate Zone 4 except Marine	Climate Zone 4 Marine	Climate Zone 5	Climate Zone 6	Climate Zone 7	Climate Zone 8
R408.2.1.1(1)	≥2.5% Reduction in total	0	0	0	1	1	1	1	1	1
R408.2.1.1(2)	≥5% red,									

R408.2.2(1)	Ground source heat pump	4	8	12	19	14	25	32	3 ¿5n Đ	2

the homeowner when selecting a storage water heater.

We propose to use a baseline employing the same technology: a non condensing gas-fired instantaneous water heater with UEF = 0.81, which aligns with the minimum efficiency standard at 10 CFR §430.32(d) for low, medium, and high draw patterns. PNNL are performing annual energy use simulations to calculating energy savings resulting from the high-performance measure and therefore the energy credits to be assigned to the measures in each climate zone. Therefore, the values submitted in this public comment are yet to be defined.

The code change proposal will decrease the cost of construction.

Comment will decrease the cost of construction because the comment reduces the difference in construction costs between the high-performance measure and baseline.

RE2D-74-23

Harshad Inamdar, Rheem Manufacturing Company (harshad.inamdar@rheem.com)

2024 International Energy Code [RE] [RE Project] R3

TABLE R408.2 CREDITS FOR ADDITIONAL ENERGY EFFICIENCY

Measure Number	Measure Description	Credit Value								
		Climate Zone 0								
R										

R408.2.2(1)										

R408.2.3(1) (a)	Gas-fired storage water heaters(option 1)	8	7	7	5	6	4	4	3	2
R408.2.3(1) (b)	Gas Fired Storage Water Heater(option 2)	9	8	8	6	7	5	4	4	3
R408.2.3(2) (a)	Gas-fired instantaneous water heaters (option 1)	10	9	9	6	7	5	5	4	3
R408.2.3(2) (b)	Gas-fired instantaneous water heaters (option 2)	11	10	9	6	7	6	5	4	3
R408.2.3(3) (a)	Electric water heaters (option 1)	12	11	11	8	8	5	4	4	3
R408.2.3(3) (b)	Electric water heaters (option 2)	12	11	11	8	8	5	4	4	3
R408.2.3(4)	Electric water heaters (option 3)	11	11	11	8	8	5	4	4	3
R408.2.3(5) (a)	Electric water heaters (option 4)	8	10	11	8	11	7	5	5	
R408.2.3(5) (b)	Electric water heaters (option 5)	9	11	12	8	11	7	6	5	4
R408.2.3(5)	Electric water heaters (option 6)	12	11	11	8	8	5	4	4	3
R408.2.3(6) (a)	Solar hot water heating system (option 1)	13	13	13	9	8	5	4	4	3
R408.2.3(6) (b)	Solar hot water heating system (option 2)	10	9	9	6	7	6	5	4	3
R408.2.3.1	Compact hot water distribution									

RE2D-75223

RZ

R408.2.2(1)	Ground source heat pump	4	8	12	19	14	25	32	35	46
R408.2.2(2)	High Performance Cooling (Option 1)	5	4	3	2	1	1	1	1	1
R408.2.2(3)	High Performance Cooling (Option 2)	6	4	3	2	1	1	1	1	1
R408.2.2(4)	High Performance Gas furnace (Option 1)	~~NA~~0	~~NA~~1	~~NA~~2	~~NA~~5	~~NA~~3	6	7	7	~~NA~~9
R408.2.2(5)	High Performance Gas furnace (Option 2)	0	1	2	4	3	~~NA~~5	~~NA~~6	~~NA~~7	8
R408.2.2(6)	High Performance Gas furnace (Option 3)	0	1	1	3	~~NA~~2	~~NA~~4	~~NA~~4	~~NA~~5	~~NA~~6
R408.2.2(7)	High Performance Gas furnace and cooling (Option 1)	5	5	4	5	~~NA~~3	~~NA~~5	~~NA~~5	~~NA~~6	~~NA~~6
R408.2.2(8)	High Performance Gas furnace and cooling (Option 2)	6	5	5	6	~~NA~~4	~~NA~~6			

R408.2.5(3)	≤2.0 ACH50 with a	0	0	0	0	0	0	4	4	4
R408.2.5(4)	≤1.5 ACH50 with ERV or HRV installed	0	0	0	6	5	10	9	9	9
R408.2.5(5)	≤1.0 ACH50 with ERV or HRV installed	0	0	d						

I do see that cell 22F is nearly the identical equipment rating and the code should not create redundant language. Therefore, better language should be developed during the next code cycle to assign formulas that allow the user to assign values such as AFUE, SEER2, HSPF and UEF along with a climate zone to determine the exact point value. This will allow many rows in this table to be condensed where redundant statements now occur.
In the meantime, I strongly recommend that all cells retain the number Zero or a whole number.

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RE2D-77-23

Tracee Rhodes, representing ONE Gas (tracee.rhodes@onegas.com)

2024 International Energy Code [RE] [RE Project] R3

TABLE R408.23 (t ED,T T R DD,T,ONAe ENEs G E ,EN eas j

R408.2.2(1)	Ground source heat pump	4	8	12	19	14	25	32	35	46
R408.2.2(2)	High Performance Cooling (Option 1)	5	4	3	2	1	1	1	1	1
R408.2.2(3)	High Performance Cooling (Option 2)	6	4	3	2	1	1	1	1	1
R408.2.2(4)	High Performance Gas furnace (Option 1)	~~NA~~2	~~NA~~2	~~NA~~2	~~NA~~2	~~NA~~2	6	7	7	NA
R408.2.2(5)	High Performance Gas furnace (Option 2)	~~0~~2	~~1~~3	~~2~~3	4	3	NA	NA	NA	8
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R408.2.5(3)	≤2.0 ACH50 with	0	0	0	0	0	0	4	4	4
R408.2.5(4)	≤1.5 ACH50 with ERV or HRV installed	0	0	0	6	5	10	9	9	9
R408.2.5(5)	≤1.0 ACH50 with ERV or HRV installed	0	0	1	7	6	12	12	12	12
R408.2.6	Energy efficient appliances	1	1	1	1	1	1	0	0	0
R408.2.7	On-site renewable energy measures	17	16	17	11	11	9	8	7	4
R408.2.8	Off-site renewable energy measures	71	65	62	55	46	41	43	41	39
R408.2.8b	Off-site renewable energy measure	1	1	1	1	1	1	1	1	1
R408.2.9	Demand responsive thermostat	1	1	1	1	1	1	1	1	1
R408.2.11	Whole home lighting control	0	0	0	0	0	0	0	0	0
R408.2.12	Higher efficacy lighting	0	0	0	0	0	0	0	0	0

a. Where the measure is selected, each dwelling unit, sleeping unit, and common areas where the measure is applicable must have the measure installed.

b. Where multiple heating or cooling systems are installed, credits shall be determined using a weighted average of the square footage served by each system.

c. Where the measure is selected, each dwelling unit and sleeping unit must comply with the measure.

d. Where the measure is selected, each dwelling unit shall be served by a water heater meeting the applicable requirements. Where multiple service water heating systems are installed, credits shall be determined using a weighted average of the square footage served by each system.

SEER2: Seasonal Energy Efficiency Ratio, HSPF2: Heating Season Performance Factor, EER2: Energy Efficiency Ratio, COP: Coefficient of Performance

ONE Gas comments on Table R408.2 relate to table columns covering Climate Zones 1 through 4 since almost all of its customers (residing in Texas, Oklahoma, and Kansas), are found in those climate zones. From PNNL's description of its analysis, "High Performance" options are those that exceed federal minimum efficiencies for appliances and equipment, but its proposal for "Option 1" [Table row R408.2.2(4)] receives no credits in Climate Zones 1 through 4. This row does not

R408.2.

ONE Gas proposes that Table R408.2 incorporate a 2-point credit for each cell of Climate Zones 1 through 4 for Table row R408.2.2(4) where “N/A” is currently shown to account for this efficiency gain over the current federal minimum efficiency. This point allocation is also justified to account for the additional cost of installing the PNNL-described “Option 1” efficiency gas furnaces, which require installation of Category IV gas furnaces instead of the federal minimum efficiency technology (Category I) and when in combination with other gas combustion equipment, are likely to require unique venting systems and additional incremental costs. While nationally, installation of Category IV furnaces is becoming the virtual norm for new construction, that is not the case for cooling dominated climates such as Climate Zones 1 through 4 where ONE Gas customers reside and where installation of Category I furnaces represent, in most cases, the most cost-effective option for space heating.

Elsewhere in Table R408.2 [R408.2.2(5), R408.2.2(6), R408.2.2(7), R408.2.2(8) and R408.2.2(9)-Marine only, R408.2.2(11), R408.2.2(12), and R408.2.2(13)], the 2-point credit is applied incrementally to the current table credits shown. For mixed “gas furnace and cooling options,” incremental credit for options other than “Option 1” is not proposed since the PNNL analysis does not explain the relative efficiency contributions of gas furnace/cooling technologies.

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The code change proposal will neither increase nor decrease the cost o monstruction,

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