

# 2019 EXPRESS BUILDING TUNE-UP SUPPLEMENTAL DATA SHEET

THIS FORM MUST BE ATTACHED TO COMPLETED INCENTIVE APPLICATION AND SUBMITTED TOGETHER. NEED HELP? CALL 800.762.7077

## HOW TO FILL OUT THIS FORM

Please refer to:

- The Express Building Tune-Up (EBTU) Measure Descriptions section starting on Page 70 for measure requirements and information.
- Complete the applicable tables for all implemented measures.

## CUSTOMER INFORMATION

SIZE OF FACILITY (FT<sup>2</sup>)

PERCENTAGE OF BUILDING THAT IS HEATED

PERCENTAGE OF BUILDING THAT IS COOLED

TYPE OF BUILDING SPACE  
(OFFICE, LIBRARY, RETAIL, RESTAURANT ETC.)

TYPE OF COOLING SYSTEM  
(DX, AIR-COOLED CHILLER, WATER-COOLED CHILLER)

N CHILLER PLANT SETPOINT ADJUSTMENT - INCENTIVE CODE: 3659, 3660								PAGE 70
EQUIP #	CHILLER COOLING CAPACITY (Tons, AHRI rating if known)	EXISTING CHILLED SUPPLY WATER SETPOINT TEMP (°F)	PROPOSED CHILLED SUPPLY WATER SETPOINT TEMP (°F)	TOTAL INCENTIVE: \$1.50 *# TONS* (Proposed Chilled Water Temp - Existing Chilled Water Temp)	EXISTING CONDENSER SUPPLY WATER SETPOINT TEMP (°F)	PROPOSED CONDENSER SUPPLY WATER SETPOINT TEMP (°F)	TOTAL INCENTIVE: \$1.50 *# TONS* (Existing Condenser Water Temp - Proposed Condenser Water Temp)	
<i>Example</i>	150.000	42 °F	47 °F	\$1,125.00	85 °F	83 °F	\$450.00	

O HOT WATER SUPPLY RESET - INCENTIVE CODE: 3662						PAGE 70
EQUIP #	AVG HEATING WATER SUPPLY LOOP FLOW RATE (Use GPM at delta-T of 20°F if not known)	EXISTING OAT HOT WATER RESET RANGE (°F) (If existing reset/ If no existing reset)	EXISTING CORRESPONDING MAX AND MIN SETPOINTS (°F) (If existing reset/ If no existing reset)	PROPOSED OAT HOT WATER RESET RANGE (°F)	PROPOSED CORRESPONDING MAX AND MIN SETPOINTS (°F)	
<i>Example</i>	20 GPM	40-60 °F / Blank	180-160 °F / 180 °F	20-60 °F	170-150 °F	

**Instructions:** If a prior existing hot water reset strategy will be optimized, enter reset ranges as shown. If existing setup does **NOT** include an existing reset strategy, simply enter the hot water supply temperature setpoint.

P OUTSIDE AIR INTAKE OPTIMIZATION - INCENTIVE CODE: 3663							PAGE 70
EQUIP #	EXISTING OA INTAKE CFM	PROPOSED OA INTAKE CFM	SUPPLY FAN SIZE (HP)	ANNUAL HOURS OF SUPPLY FAN OPERATION	FAN MOTOR NAMEPLATE EFFICIENCY	% BUILDING SQ FT SUPPLIED BY OA INTAKE SUPPLY FAN	
<i>Example</i>	1,000	900	5	8,760	90%	50%	

Q ECONOMIZER OPTIMIZATION - INCENTIVE CODE: 3661						PAGE 71
EQUIP #	EXISTING ECONOMIZER IN PLACE IS FULLY OPERATIONAL (Yes/No)	EXISTING ECONOMIZER OAT OPERATING RANGE (°F)	PROPOSED ECONOMIZER OAT OPERATING RANGE (°F)	CURRENT COOLING SYSTEM CAPACITY (tons)	CURRENT COOLING SYSTEM EFFICIENCY (EER, if known)	
<i>Example</i>	Yes	55-65 °F	55-70 °F	25.00	10.50	

**R1 VFD FAN MOTOR CONTROL RESTORATION – INCENTIVE CODE: 3677 PAGE 71**

VFD #	ANNUAL HOURS OF VFD/FAN OPERATION	MOTOR HORSEPOWER CONTROLLED BY VFD	FAN VFD APPLICATION (Cooling Tower Fan, HVAC Fan, Boiler Draft Fan)	EXISTING VFD CONTROL STATE (Auto, Hand-On, Bypass/Off)	MEASURED SPEED AT SETPOINT IF VFD IS STUCK IN 'HAND' MODE (Hz)	FAN MOTOR NAMEPLATE EFFICIENCY (%; if known)	VFD PROGRAMMED FAN LOADING MIN & MAX (%)
<i>Example</i>	8,760	5	Cooling Tower Fan	Hand	50	90%	50-80%

**R2 VFD PUMP MOTOR CONTROL RESTORATION – INCENTIVE CODE: 3678 PAGE 71**

VFD #	ANNUAL HOURS OF VFD/PUMP OPERATION	PUMP MOTOR HORSEPOWER CONTROLLED BY VFD (HP)	PUMP VFD APPLICATION (Chilled Water Pump, HVAC Heating Pump)	EXISTING VFD CONTROL STATE (Auto, Hand-On, Bypass/Off)	MEASURED SPEED AT SETPOINT IF VFD IS STUCK IN 'HAND' MODE (Hz)	PUMP MOTOR NAMEPLATE EFFICIENCY (%; if known)	VFD PROGRAMMED PUMP LOADING MIN & MAX (%)
<i>Example</i>	8,760	20	Chilled Water Pump	Hand	50	90%	50-80%

**S VALVE REPAIR – INCENTIVE CODE: 3675, 3676 PAGE 71**

VALVE #	VALVE SYSTEM TYPE (Heating or Chilled water)	CAPACITY OF HEATING/COOLING COIL SERVED (MBh/Tons)	FAILED VALVE POSITION IN % OPEN (100%=Fully Open)
<i>Example</i>	Heating	100 MBh	95%

**T SUPPLY AIR TEMPERATURE (SAT) RESET – INCENTIVE CODE: 3672, 3673 PAGE 72**

LOCATION #	OAT RESET RANGE – HEATING (°F)	EXISTING FACILITY SA HEATING TEMP SETPOINT (°F)	PROPOSED SA RESET HEATING TEMP RANGE: MAX-MIN (°F)	% OF BUILDING AFFECTED BY HEATING RESET	OAT RESET RANGE – COOLING (°F)	EXISTING FACILITY SA COOLING TEMP SETPOINT (°F)	PROPOSED SA RESET COOLING TEMP RANGE: MAX-MIN (°F)	# OF BUILDING AFFECTED BY COOLING RESET
<i>Example</i>	0 - 60 °F	90 °F	90 - 75 °F	50%	60 - 90 °F	55 °F	65-55 °F	50%

**U1 SCHEDULE OPTIMIZATION – INCENTIVE CODE: 4407, 4408, 4409, 4410 PAGE 72**

LOCATION #	# OF DEGREES OF TEMPERATURE SETBACK COMPARED TO OCCUPIED OPERATION
<i>Example</i>	8 °F

\*If a second schedule optimization measure is implemented, a second set of existing and proposed schedules must be completed and attached.

EXISTING - SCHEDULE HOURS (24hr time format)	NORMAL WEEKDAY SCHEDULE										NORMAL WEEKEND SCHEDULE			
	HEATING SCHEDULE					COOLING SCHEDULE					HEATING SCHEDULE		COOLING SCHEDULE	
	Mon	Tues	Wed	Thurs	Fri	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Sat	Sun

**Instructions:** Leave cell blank if hour is a part of normal HVAC system operating hours. Mark an 'X' if hour is on a setback schedule.

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	U2.A: DAILY SUBTOTAL					U2.B: DAILY SUBTOTAL					U2.C: DAILY SUBTOTAL		U2.D: DAILY SUBTOTAL	
ADD Xs IN EACH COLUMN														
	U2.E: AVERAGE SETBACK HOURS FROM WEEKDAY HEATING SCHEDULE (SUM U2.A ÷ 5)					U2.F: AVERAGE SETBACK HOURS FROM WEEKDAY COOLING SCHEDULE (SUM U2.B ÷ 5)					U2.G: AVERAGE SETBACK HOURS FROM WEEKEND HEATING SCHEDULE (SUM U2.C ÷ 2)		U2.H: AVERAGE SETBACK HOURS FROM WEEKEND COOLING SCHEDULE (SUM U2.D ÷ 2)	

PROPOSED SETBACK SCHEDULE HOURS (24hr time format)	NORMAL WEEKDAY SCHEDULE										NORMAL WEEKEND SCHEDULE			
	HEATING SCHEDULE					COOLING SCHEDULE					HEATING SCHEDULE		COOLING SCHEDULE	
	Mon	Tues	Wed	Thurs	Fri	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Sat	Sun

**Instructions:** Leave cell blank if hour is a part of normal HVAC system operating hours. Mark an 'X' if hour is on a setback schedule.

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	U3.A: DAILY SUBTOTAL					U3.B: DAILY SUBTOTAL					U3.C: DAILY SUBTOTAL		U3.D: DAILY SUBTOTAL	
ADD Xs IN EACH COLUMN														
	U3.E: AVERAGE SETBACK HOURS FROM WEEKDAY HEATING SCHEDULE (SUM U3.A ÷ 5)					U3.F: AVERAGE SETBACK HOURS FROM WEEKDAY COOLING SCHEDULE (SUM U3.B ÷ 5)					U3.G: AVERAGE SETBACK HOURS FROM WEEKEND HEATING SCHEDULE (SUM U3.C ÷ 2)		U3.H: AVERAGE SETBACK HOURS FROM WEEKEND COOLING SCHEDULE (SUM U3.D ÷ 2)	

	U4.A: BUILDING FT² AFFECTED BY ADJUSTED SCHEDULE	BASE WEEKDAY HEATING INCENTIVE (\$1.30 / 1,000 FT² X U4.A)	BASE WEEKDAY COOLING INCENTIVE (\$0.30 / 1,000 FT² X U4.A)	BASE WEEKEND HEATING INCENTIVE (\$0.50 / 1,000 FT² X U4.A)	BASE WEEKEND COOLING INCENTIVE (\$0.15 / 1,000 FT² X U4.A)
<i>Example</i>	12,000 ft²	\$15.60	\$3.60	\$6	\$1.80
		INCENTIVE CODE 4407: TOTAL WEEKDAY HEATING INCENTIVE = (U2.E - U3.E) X BASE WEEKDAY HEATING INCENTIVE	INCENTIVE CODE 4408: TOTAL WEEKDAY COOLING INCENTIVE = (U2.F - U3.F) X BASE WEEKDAY COOLING INCENTIVE	INCENTIVE CODE 4409: TOTAL WEEKEND HEATING INCENTIVE = (U2.G - U3.G) X BASE WEEKEND HEATING INCENTIVE	INCENTIVE CODE 4410: TOTAL WEEKEND COOLING INCENTIVE = (U2.H - U3.H) X BASE WEEKEND COOLING INCENTIVE

**Note:** If more than one schedule optimization measure is implemented, combined square footage must be less than or equal to the total building square footage.

EQUIP #	CHILLER UNIT CAPACITY (tons)
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<i>Example</i>	<i>80.000</i>

CHECKLIST	SYSTEM PRESSURE CHECK/ADJUSTMENT	FILTER INSPECTION/REPLACEMENT	BELT INSPECTION/REPLACEMENT	ECONOMIZER CONDITION CHECK AND REPAIR
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<i>Example</i>	✓	✓	✓	✓

CONTACTOR CONDITIONS	EVAPORATOR CONDITIONS	COMPRESSOR AMP DRAW	SUPPLY MOTOR AMP DRAW	CONDENSER FAN AMP DRAW
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✓	✓	✓	✓	✓

LIQUID LINE TEMPERATURE	SUB-COOLING AND SUPERHEAT TEMPERATURES	SUCTION PRESSURE AND TEMPERATURE	OIL LEVEL AND PRESSURE	LOW PRESSURE CONTROLS
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✓	✓	✓	✓	✓

HIGH PRESSURE CONTROLS	CRANKCASE HEATER OPERATION	CONDENSER COIL CLEANING	CONDENSER TUBE CLEANING	EVAPORATOR TUBE CLEANING
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✓	✓	✓	✓	✓

**Notes:**

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