

Revision #:

Engr. Spec. #	Importance	Source	Specification (description)	Unit of Measure	Marginal Value	Ideal Value	Comments/Status
ES1	9	CN1, CN2	collecting thermal energy usage data	BTU	3812613.808	0	BTU HW/CW Total/hr
ES2	9	CN1, CN2	collecting electrical energy useage data	kW	56.667	0	208V/480V
ES3	9	CN1, CN2	thermal energy useage per square foot of building	BTU/ft^2	179650	0	(HW+CW)/ft^2, (kW/ft^2)
ES4	9	CN1, CN3	cost of operation per square foot og building	\$/ft^2	\$3.40	\$0.00	\$/kW, \$/BTU referenced
ES5	3	CN3	determining the cost of units and labor	\$	————	————	Not Needed
ES6	3	CN3, CN4	calculating the installation time of units	h	————	————	Not needed
ES7	3	CN3, CN4, CN5, CN6	determining sensor quantity	#	————	————	6
ES8	3	CN4, CN5	determining the down time of units	h	————	0	BTU HW/CW Total
ES9	3	CN1, CN2	measuring the weather effects on data (temperature)	F	————	————	NOAA
ES10	3	CN1, CN2	measuring the weather effects on data (% humidity)	%	————	————	NOAA
ES11	3	CN1, CN2	measuring the weather effects on data (wind speed)	MPH	————	————	NOAA
ES12	3	CN1, CN2	measuring the weather effects on data (wind driection)	N/S/E/W	————	————	NOAA
ES13	3	CN1, CN2	measuring the weather effects on data (solar heat)	BTU	————	————	NOAA
ES14	1	CN5, CN7, CN9	determining the speed of interactivity of units (connectivity)	kbps	1/hr	unlimited	instantaneous
ES15	3	CN5, CN6, CN8, CN9	determining the interface unit quantity	#	1	1/bldg.	Web page/ 2nd floor TV
ES16	3	CN8, CN9	measuring the approval from faculty/staff/students	survey score	75%	100%	User Study
ES17	1	CN8, CN9	calculating the use of units by the people	#	KGCOE	all	Website hit counter
ES18	1	CN8, CN9	calculating the use of buildings by people (occupancy)	#	————	————	Head count data
ES19	9	CN6	detremining an archival length of time for the system	year	2 years	infinite	Maximum allowed
ES20	3	CN3	determining the cost of maintenance of units/system	\$	————	\$0.00	Web site updating

Engr. Spec. #: enables cross-referencing (traceability) and allows mapping to lower level specs within separate documents

Source: Customer need #, regulatory standard (eg. EN 60601), and/or "implied" (must exist but doesn't have an associated customer need)

Description: quantitative, measureable, testable details

* The area with lines through them have been excluded from the needed engineering specifications

** Areas with blank sections under ideal and marginal values are not needed due to what they are measuring