

Table 1

Equivalence Partitions					
Parameter	Partition				
kWh	0 < kWh <= 500				
kWh	500 < kWh <= 1500				
kWh	kWh > 1500				
kWn	kWh < 0				
Boundary Value Analysis					
Parameter	Boundary Value	Logic			
kWh	0	Below min			
kWh	0.1	Tier 1 min			
kWh	500	Tier 1 max			
kWh	500.1	Tier 2 min			
kWh	1500	Tier 2 max			
kWh	1500.1	Tier 3 min			
Decision Table					
Causes	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5
kWh > 1500	FALSE	FALSE	FALSE	TRUE	TRUE
500 < kWh <= 1500	TRUE	TRUE	TRUE	FALSE	FALSE
Smart Thermostat	TRUE	FALSE	TRUE	TRUE	FALSE
Opt-Out	FALSE	TRUE	TRUE	TRUE	FALSE
Effects					
10% rebate	TRUE	TRUE	FALSE	FALSE	FALSE
15% rebate	FALSE	FALSE	TRUE	FALSE	FALSE
20% rebate	FALSE	FALSE	FALSE	TRUE	FALSE
5% rebate	FALSE	FALSE	FALSE	FALSE	TRUE
Code Coverage					
Line Covered	kWh	Smart	Opt-Out	Expected	
rebatePercent = 0.15;	700	TRUE	TRUE	0.15	
rebatePercent = 0.10;	700	TRUE	FALSE	0.10	
rebatePercent = 0.20;	1800	TRUE	TRUE	0.20	
rebatePercent = 0.05;	1800	FALSE	FALSE	0.05	
throw new IllegalArgumentException("Usage must be positive.");	-100	FALSE	FALSE	Invalid	
rebatePercent = 0.0;	200	FALSE	FALSE	0.0	

Branch Coverage					
Condition	kWh	Smart	Opt-Out	Expected	
kWh <= 0	-100	FALSE	FALSE	Invalid	
500 < kWh <= 1500	700	FALSE	FALSE	0.0	
kWh > 1500	1800	FALSE	FALSE	0.05	
500 < kWh <= 1500, hasSmartDevice && peakOptOut	700	TRUE	TRUE	0.15	
500 < kWh <= 1500, hasSmartDevice    peakOptOut	700	TRUE	FALSE	0.10	
kWh > 1500, hasSmartDevice && peakOptOut	1800	TRUE	TRUE	0.20	
500 < kWh <= 1500, hasSmartDevice    peakOptOut	700	FALSE	TRUE	0.10	