Figure 20. Utility Bill Capture Process

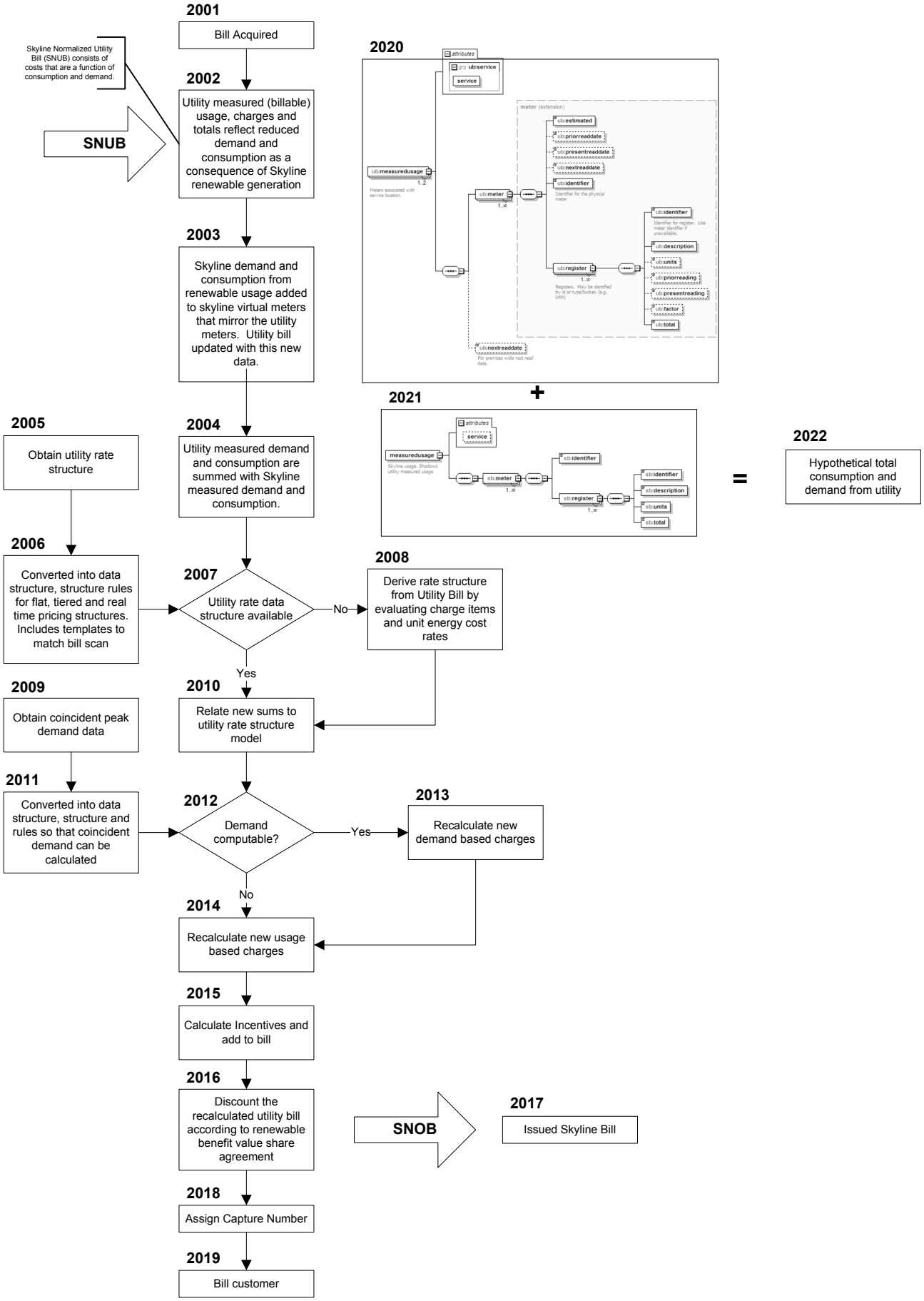

Figure 21 High Level Overview of Billing Computation

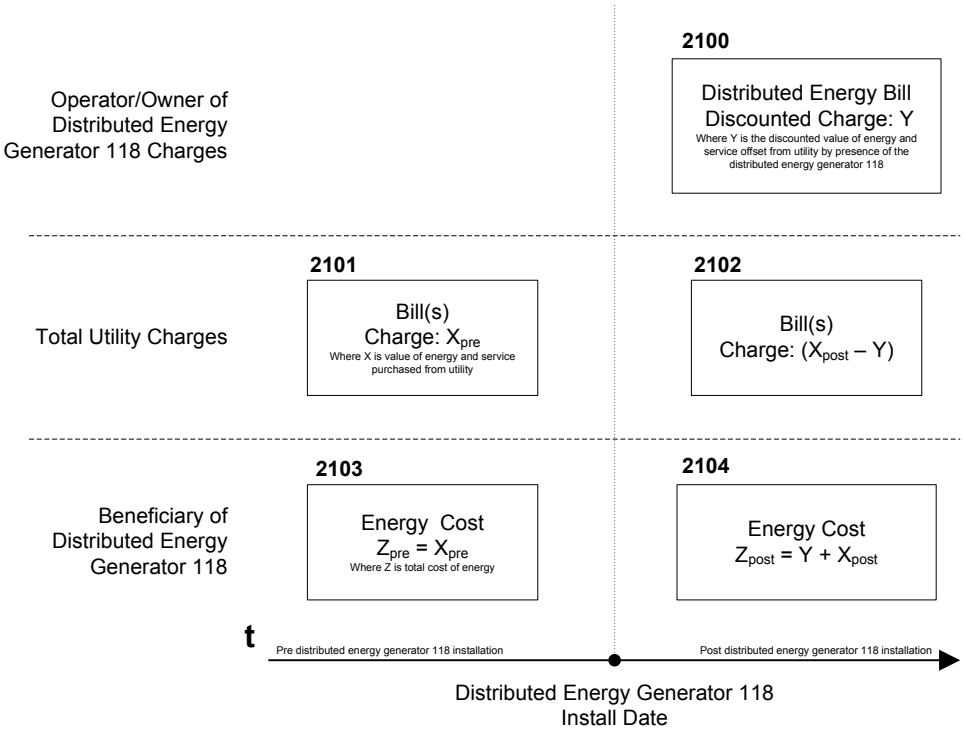

Figure 22 Recomputing Utility Bill

Flat Rate Structures and Tariffs

(1) $Cost_{utility} = Rate_{flat} \times Total\ Energy_{utility}$

(2) $Value_{deg} = Rate_{flat} \times Total\ Energy_{deg}$

Time Of Use Rate Structures

(3) $Cost_{utility} = \sum_{i=1}^{\#\ TOU\ Rates} (Rate_{tou\ i} \times TOU\ i\ Energy_{utility})$

(4) $Value_{deg} = \sum_{i=1}^{\#\ TOU\ Rates} (Rate_{tou\ i} \times TOU\ i\ Energy_{deg})$

Block Rate Structures – Inclining or Declining

(5) $Cost_{utility} = \sum_{i=1}^{Blocks\ Used} (Rate_{block\ i} \times Block\ i\ Energy_{utility})$

(6) $Value_{deg} = \sum_{i=Block\ Filled\ by\ Energy_{utility}}^{Last\ Block} (Rate_{block\ i} \times Block\ i\ Energy_{utility})$

Block Rate Structures – Total Usage Rate

(7) $Rate_{initial} = F(Total\ Energy_{utility})$

(8) $Cost_{utility} = Rate_{initial} \times Total\ Energy_{utility}$

(10) $Rate_{new} = F(Total\ Energy_{utility} + Total\ Energy_{deg})$

(11) $Value_{deg} = (Rate_{new} \times (Total\ Energy_{utility} + Total\ Energy_{deg})) - Cost_{utility}$

Computing hypothetical utility bill

(12) $Cost_{hypo} = Value_{deg} + Cost_{utility}$

(13) $Cost_{actual} = ((Value_{deg}) \times discount\ rate) + Cost_{utility}$