

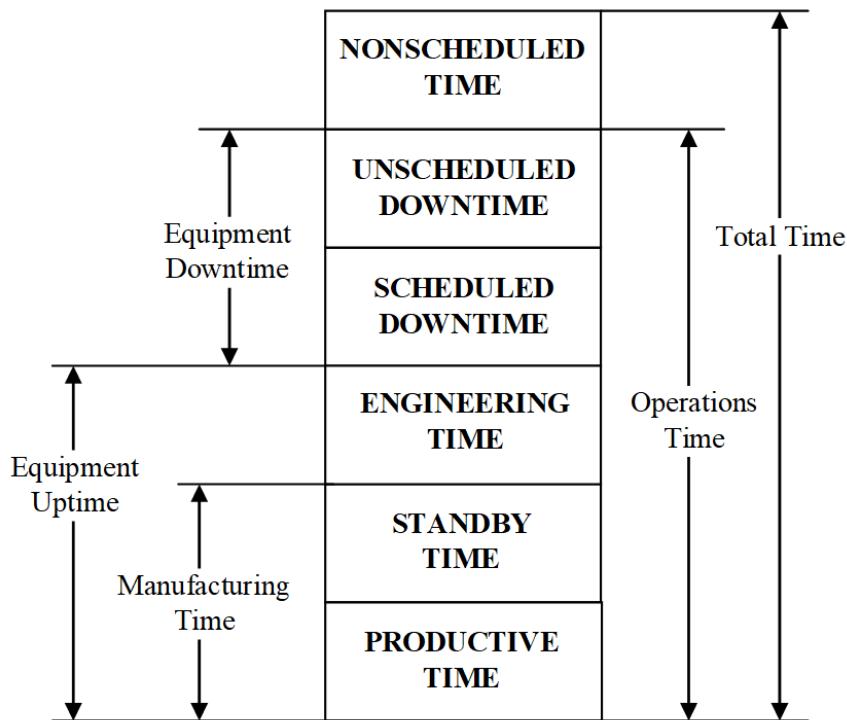
~~must shall~~ be in one and only one equipment~~SEMI E10~~ state at any point in time. One of these equipment states—unscheduled downtime (UDT)—represents the initial moment of an equipment system failure (i.e., a failure event) until its recovery from that failure event. Because an equipment system is in one and only one equipment~~SEMI E10~~ state at a time, an equipment system is subject to at most one failure at any point in time, regardless of the number of underlying problems contributing to or arising from that failure.

6.1.1.1 For certain equipment systems called intended process sets (IPSs) and multi-path cluster tools (MPCTs), independent tracking of equipment~~SEMI E10~~ states is required for each equipment module in these equipment systems. These equipment modules may be in different equipment~~SEMI E10~~ states at the same time, and they may experience failures independently from each other.

6.1.2 The equipment states are determined by function, not by organization. Any given maintenance procedure, for example, is classified the same way no matter who performs it (e.g., an operator, a production technician, a maintenance technician, a process engineer).

6.1.3 Figure 1 is a stack chart of the six basic equipment states. These basic equipment states can be divided into as many equipment substates (hereinafter substates) as are required to achieve the equipment tracking resolution that a manufacturing operation desires. This Document makes no attempt to list all possible substates, but does define mutually exclusive substates for the scheduled downtime state (SDT) and the unscheduled downtime state (UDT).  
~~t~~These substates are required to support certain metrics and other examples for guidance.

6.1.3.1 Besides the substates defined to support certain metrics and other examples for guidance, users may define additional substates (e.g., based on the list of key activities listed as being included for each equipment state) and higher resolution of substates within substates. It is highly recommended that these user-defined substates be mutually exclusive to avoid double-counting of time if they are used in additional user-defined equations.



**Figure 1**  
**Equipment Time/State Stack Chart**

6.1.4 Key activities and conditions associated with the basic equipment states and substates are given in Figure 2. The accumulated time in equipment states and substates are used in the metrics in this Document. The activities and conditions associated with the basic equipment states and substates are described in the following sections.