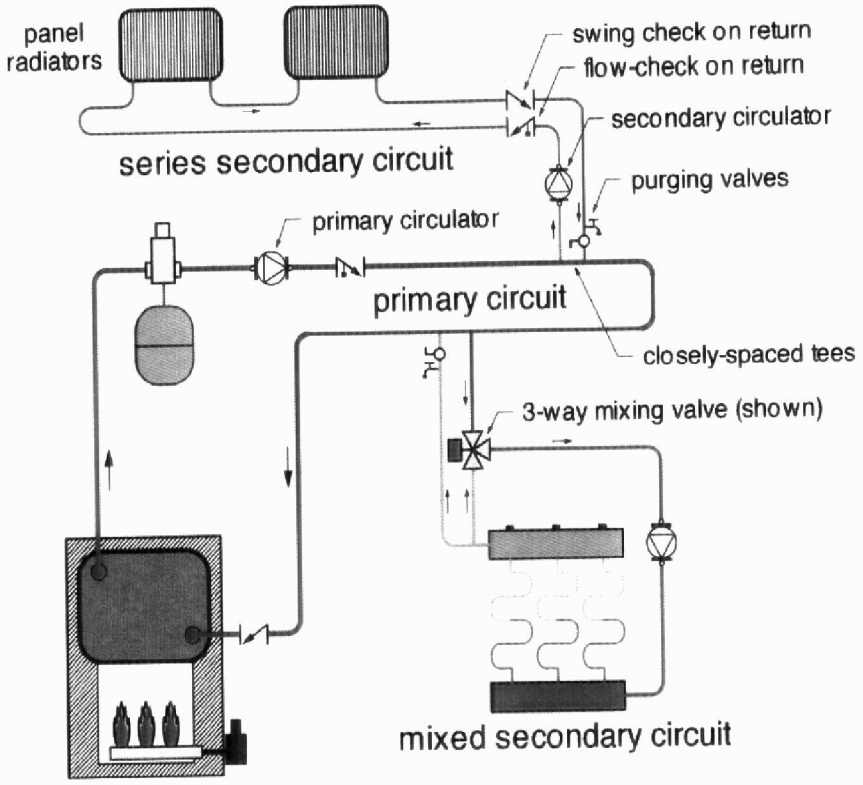
Fig 6-19 Primary/Secondary Injection Piping



could be a substantial drop in water temperature by the time the primary flow gets to the last secondary circuit. This is not necessarily a problem, but it does require sizing downstream loads accordingly.

Another way of connecting multiple secondary loads is parallel branch primary circuits, shown in Figure 6-21.

Here the primary circuit is broken up into parallel branches, each serving a secondary load. This design provides the same temperature water to each secondary load. Although more piping is involved, it may allow smaller heat emitters to be used in part of the system.

Although it is possible to supply an indirectly fired domestic water heater as one of several secondary loads on a common primary circuit, there may be reasons not to do so. For example, if the primary circuit is long or travels outside the mechanical room, it will give off heat to the building whenever domestic water needs to be heated. The heat loss of 100 feet of 1.5" annulated copper tubing carrying 180°F water through a space at 75°F is about 8500 Btuh. When this occurs in the summer, it adds almost 3/4 ton to the home's cooling load. Short, well-insulated primary circuits reduce this heat loss.