

APPENDIX 3.6A
DESCRIPTION OF BACKDRAFT DAMPER

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- A. The backdraft dampers, which isolate and/or direct the postulated steam flow to an acceptable area, are of the hinged parallel blade design with interconnecting linkage to enable the blades to operate in unison. Gasketing is provided along the blade edges to limit blade leakage to the design limits. Figure 3.6-30 shows the typical design detail and control logic for the backdraft damper operation. Normal operation essentially consists of a differential pressure transmitter actuating a solenoid valve that provides an air supply to operate the damper mechanism. Fail-safe logic is designed into the components by means of an internal spring in the damper's drive mechanism which makes the damper go to the fail-safe position should there be a loss-of-air supply.
- B. The backdraft dampers are considered an integral part of the equipment and hardware provided to protect against the unlikely consequences of the postulated break in the piping systems. As such, the dampers are designed to the existing Seismic Class I criteria for all the plant ventilation dampers which included actual prototype shake table testing. In addition to the dampers, equipment such as pipe encapsulation sleeves, pipe restraints, and impingement baffles were also employed where the preferred physical separation approach was not feasible in implementing regulatory criteria. For the dampers in question and because there is no additional space available to install a third level of protection against the postulated event(s), a periodic inspection testing program will be developed used to assure continuous functionality of the dampers.
- C. Pressure differential transmitters have been provided with trip points to assure a safe minimum trip point. Steam leakage causing conditions below the trip points is within the ventilation system capacity so as to provide conditions for a safe cold shutdown should it be required in the event of a small steam leak.