Essential Controls and Instrumentation

Chapter 8.2
B&W Cross-Training Course
R-326C

HRTD
Human Resources
Training & Development

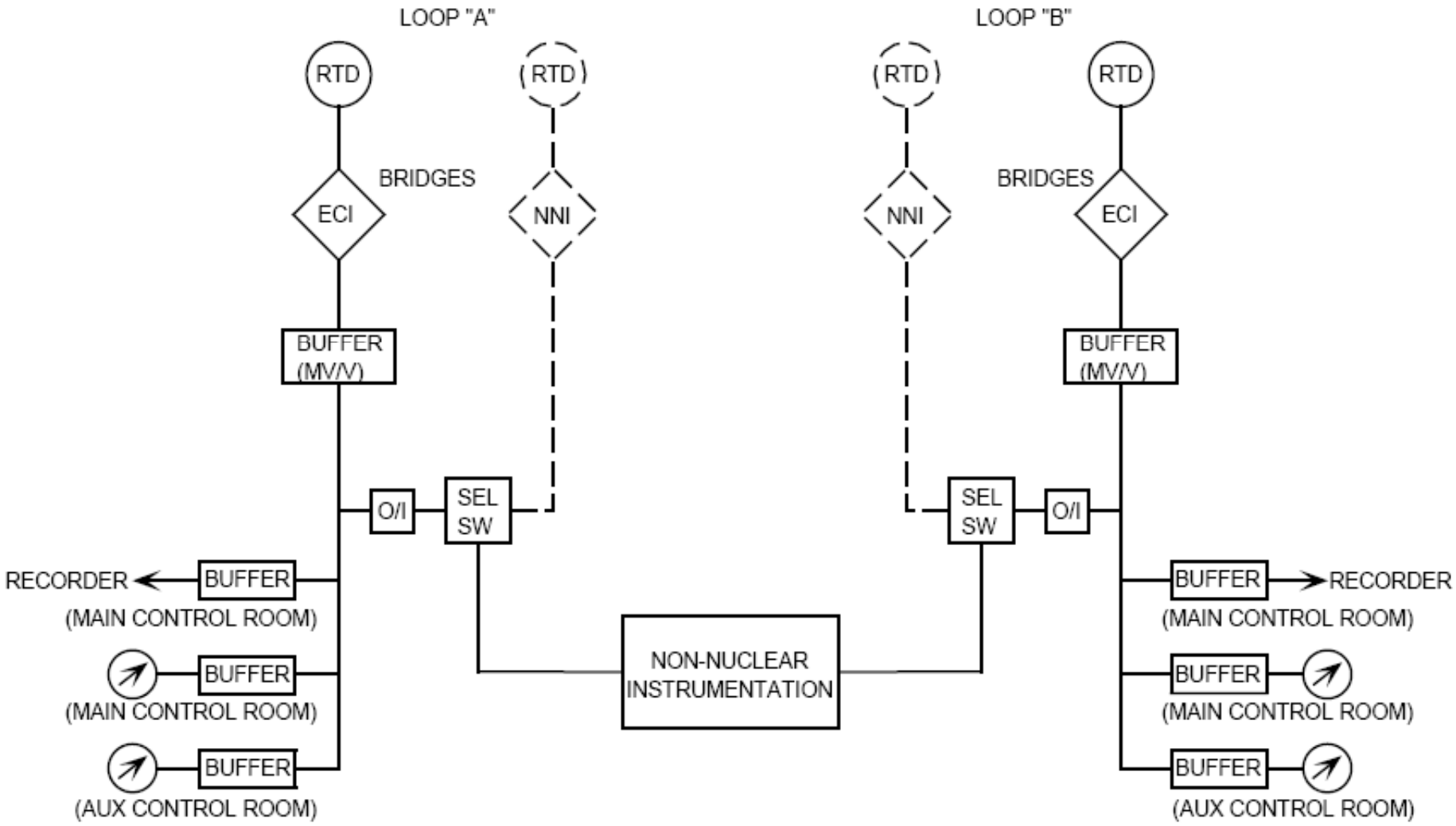
OBJECTIVES

1. State the function of the essential controls and instrumentation system.
2. Explain how the wide-range pressure signal is used in the decay heat removal system.
3. Explain how the once-through steam generator level is used in the auxiliary feedwater flow control circuitry.

Introduction

- The ECI system provides instrumentation required to place the plant in a safe shutdown condition
- GDC 19 of 10 CFR 50, App. A requires that instrumentation and controls be installed in location(s) outside the main control room – ECI supplies these instrumentation and controls for both the main and auxiliary control rooms
- ECI provides post-LOCA qualified instrumentation

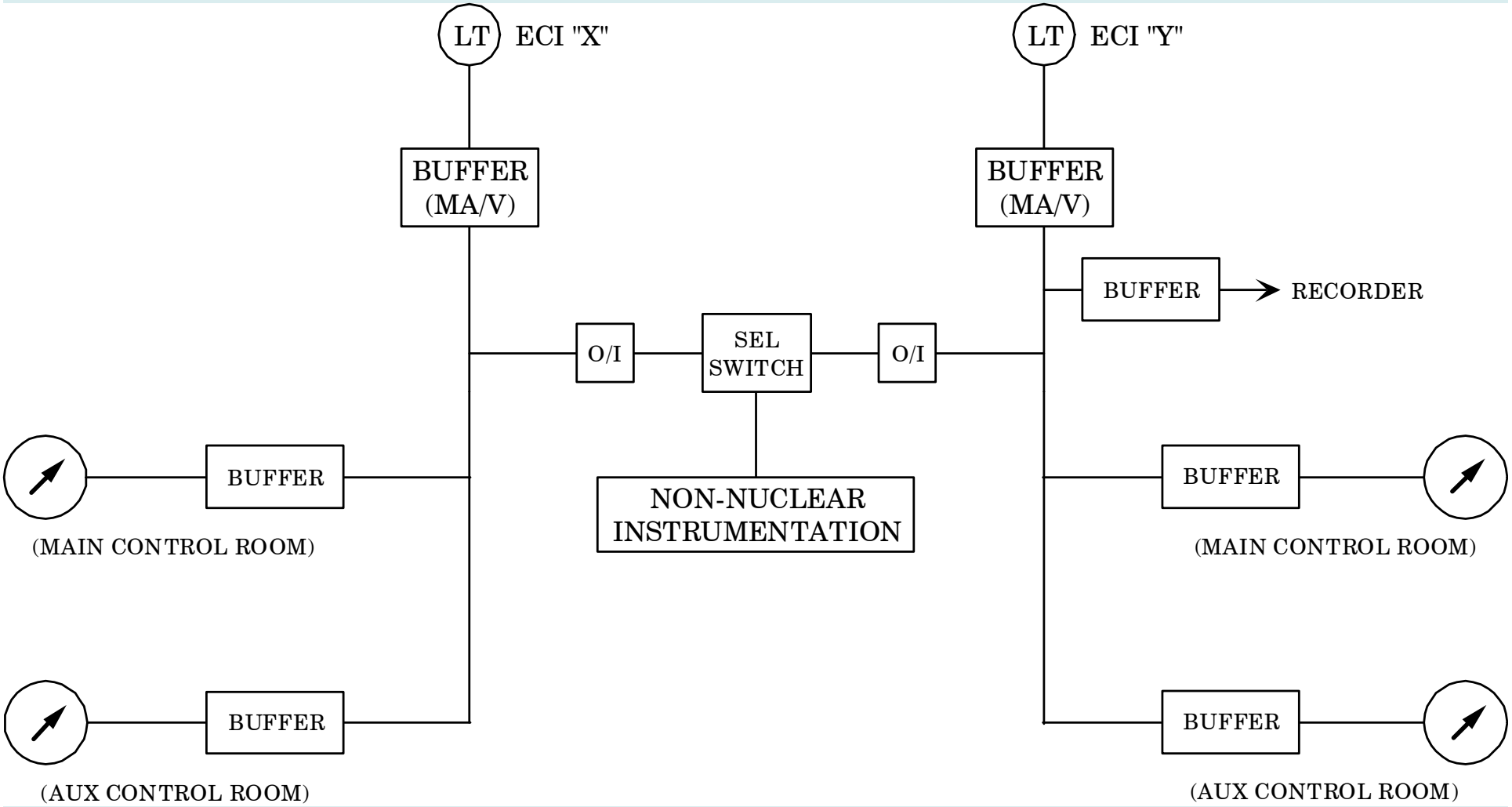
Narrow range hot leg temperatures (530°F to 650°F)
Wide range cold leg temperatures (50° to 650°F)



RCS Temperature Block Diagram (Fig. 8.2-1)

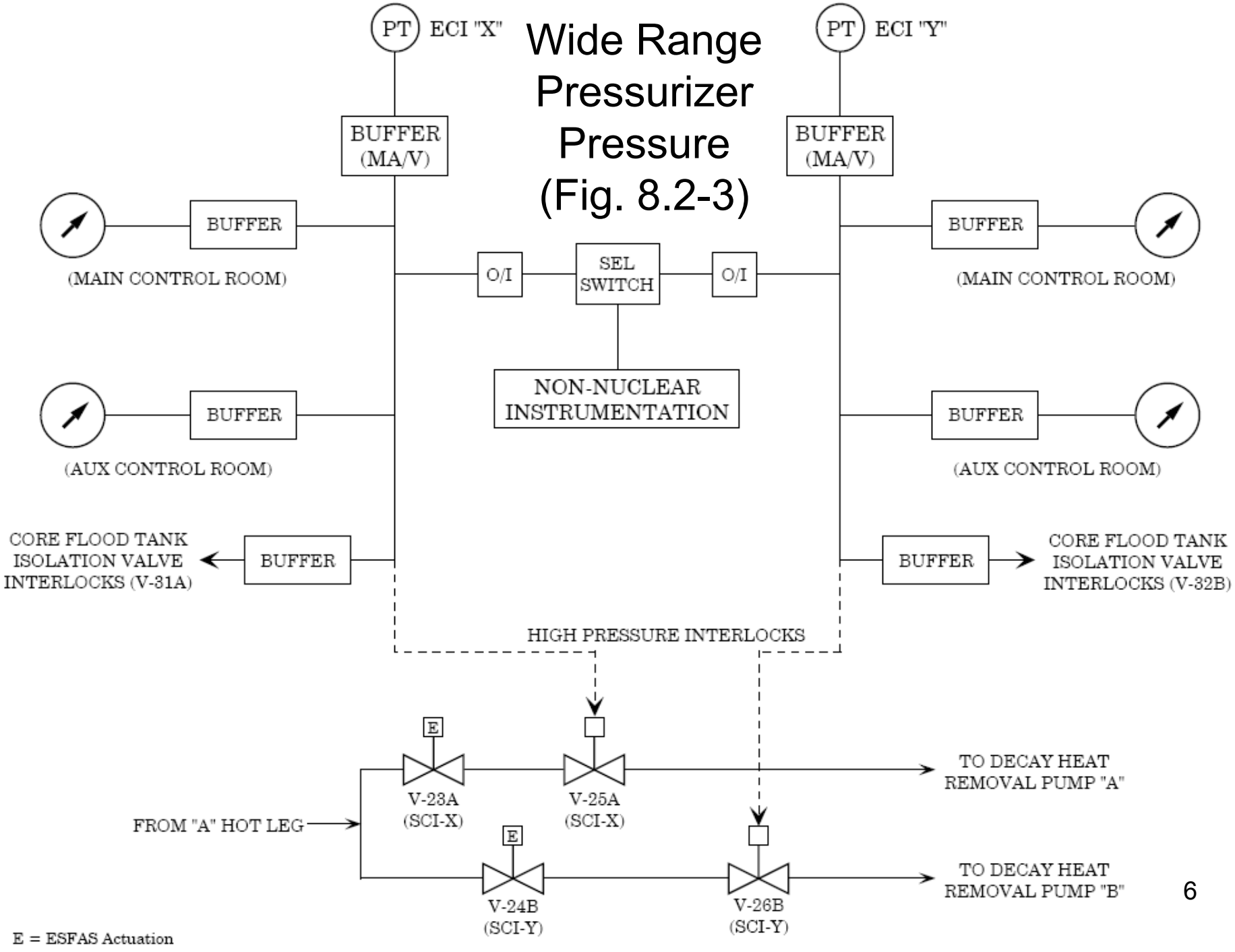
PRESSURIZER LEVEL

Two transmitters with a range of 0 to 400 inches

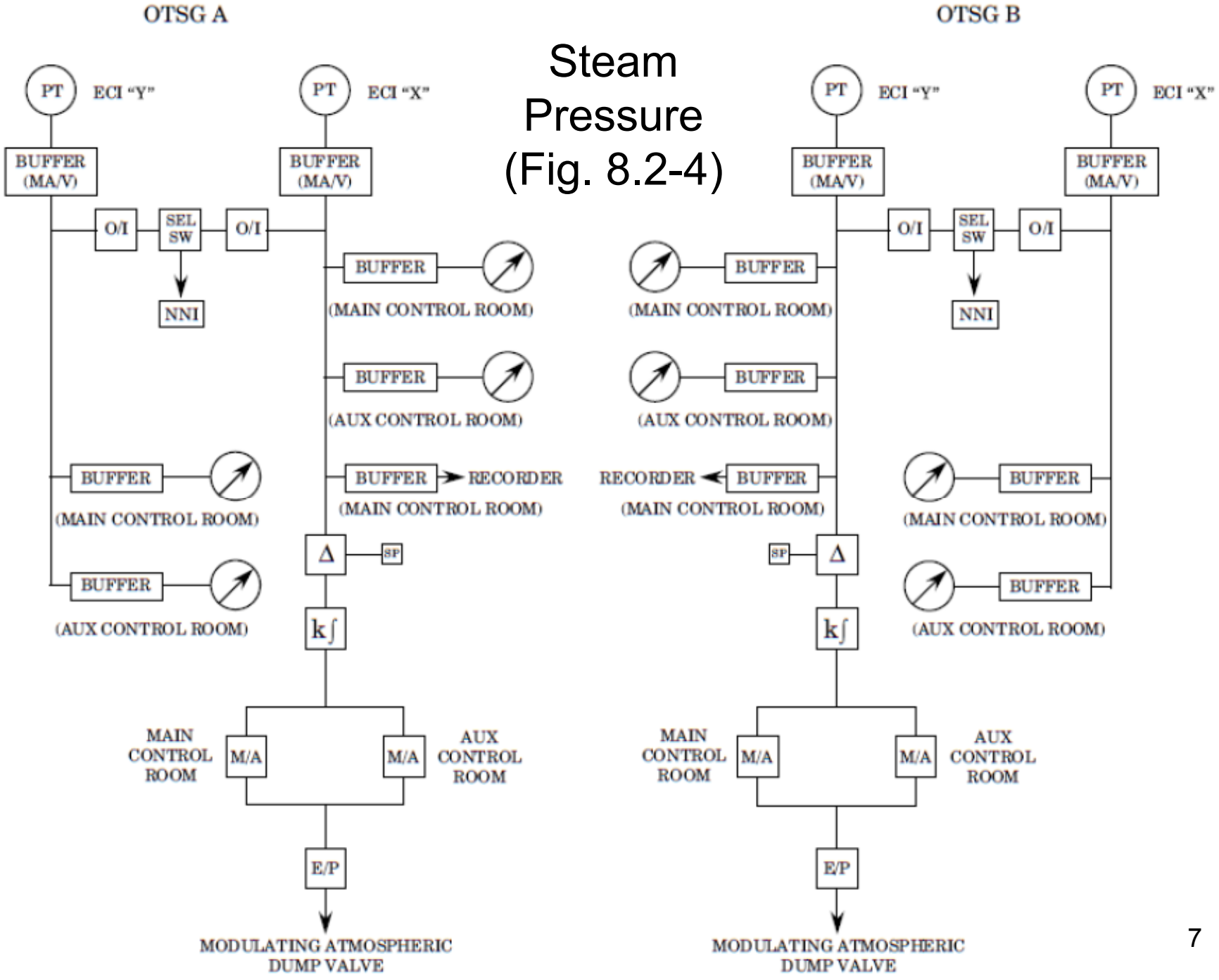


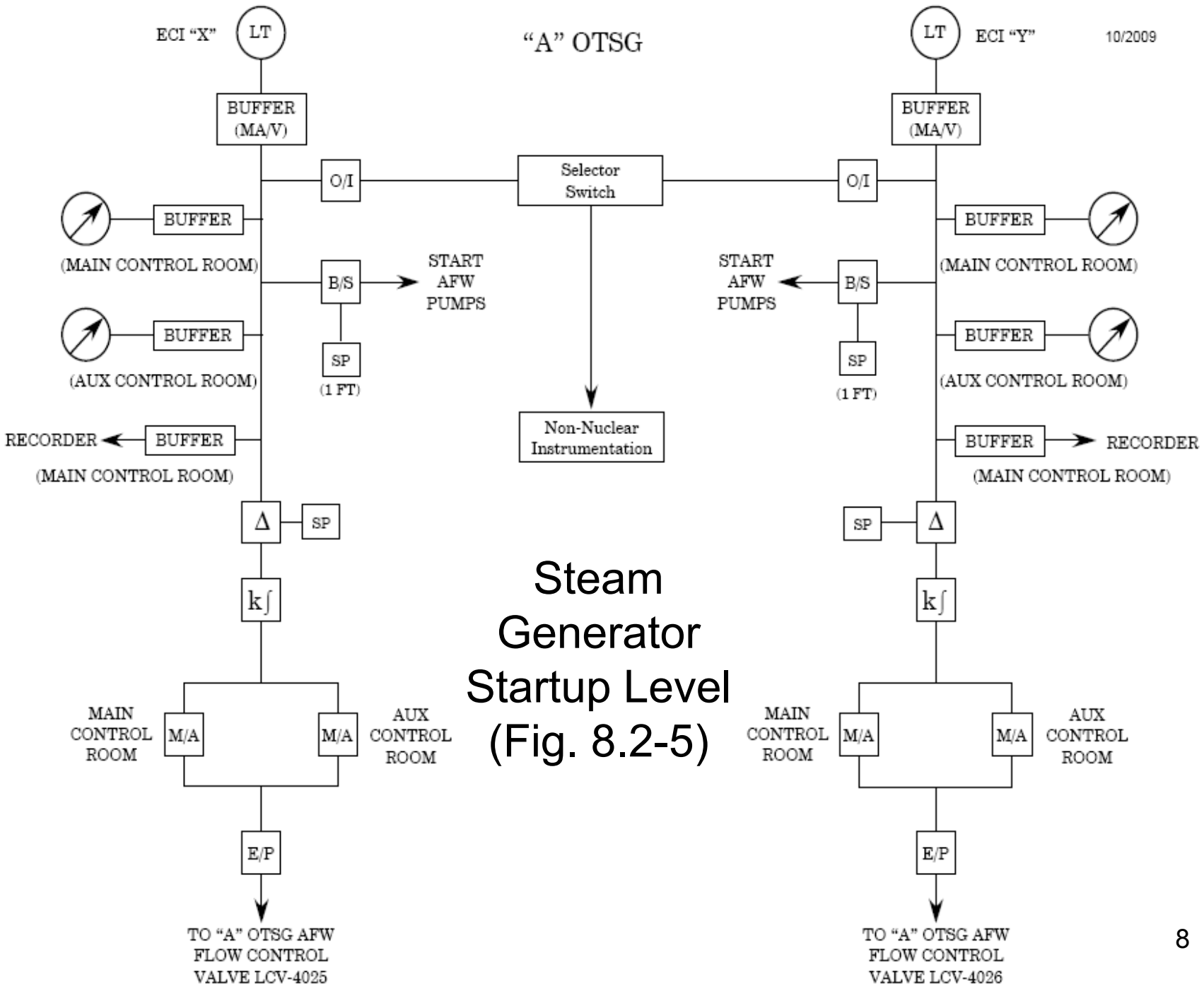
Pressurizer Level Indication (Fig. 8.2-2)

Wide Range Pressurizer Pressure (Fig. 8.2-3)



Steam Pressure (Fig. 8.2-4)





Steam Generator Startup Level (Fig. 8.2-5)

LT = LEVEL TRANSMITTER

LCV = LEVEL CONTROL VALVE

Auxiliary Feedwater Control (Fig. 8.2-6)