

General Electric Advanced Technology Manual

Chapter 2.1

EHC Problem

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2.1 EHC Problem

Learning Objective:

1. Using the attached EHC system figures, discuss the plant response to each of the following events:
 - a. Failure of the turbine load set causing it to run back to zero (0).
 - b. The cooldown bypass jack signal is increased to 3%.
 - c. Failure of the in service pressure regulator to maximum signal out.
 - d. Failure of the in service pressure regulator to minimum signal out.

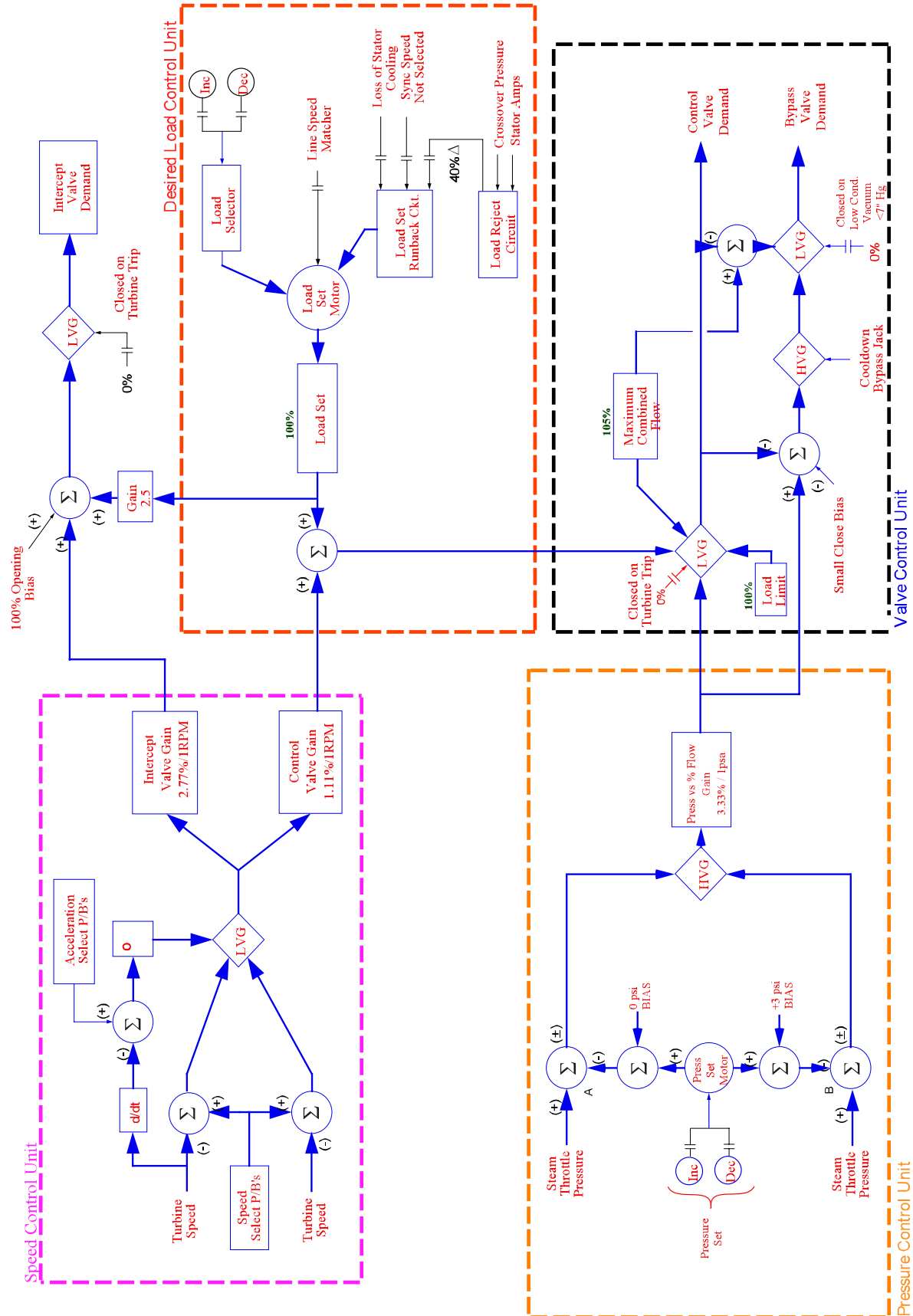
2.1.1 Introduction

Prior to the discussion of transient analysis it is essential to review some of the control systems covered in the Systems Course. The purpose of this section is cover the electro hydraulic control (EHC) system's response to various failures.

The discussion of the plant events, listed above, should include the transient and steady state conditions.

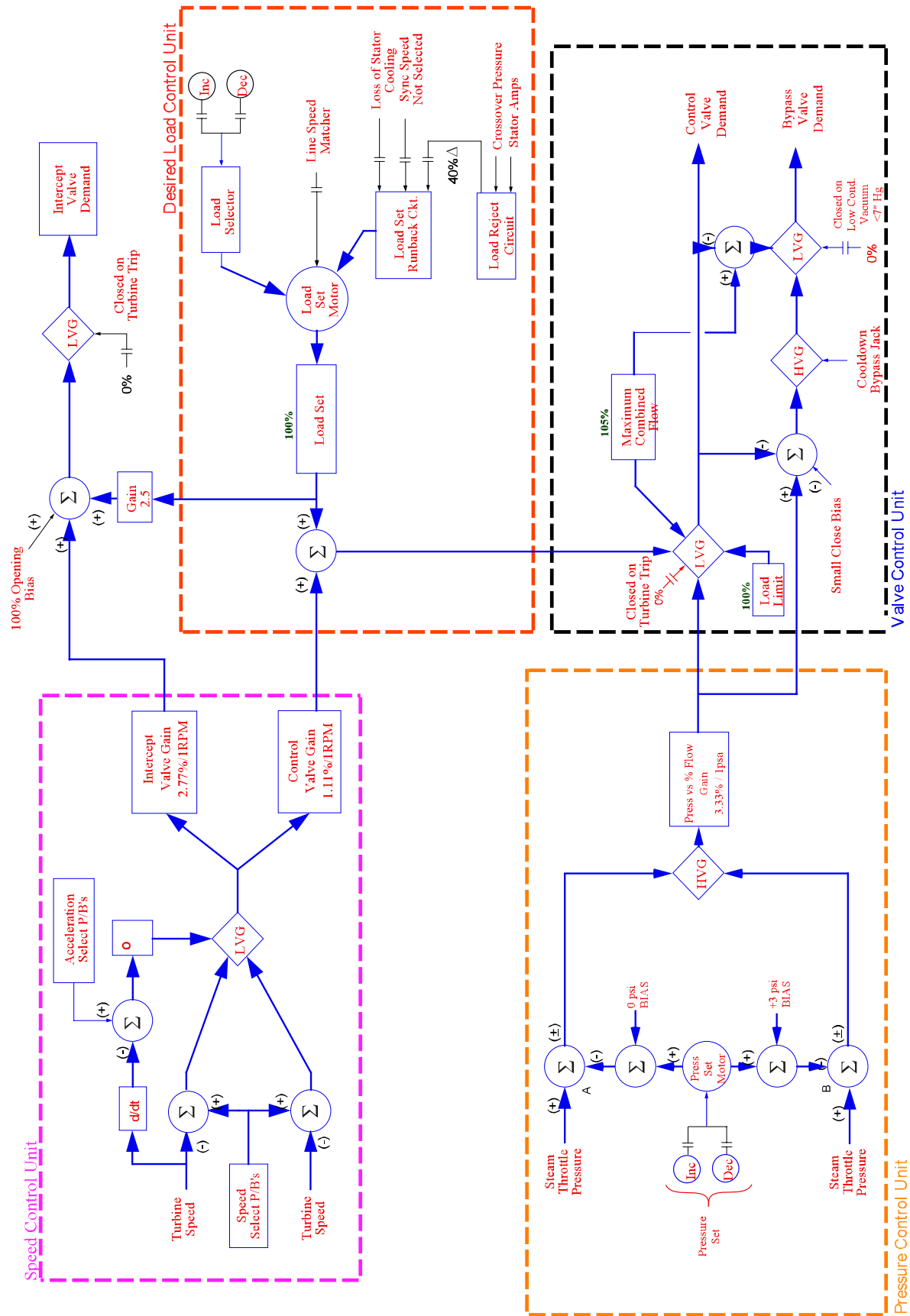
The initial plant conditions are indicated below:

Reactor Power	100%
Total Core Flow	100%
Reactor Pressure	1005 psig
Turbine Inlet Pressure	950 psig
Turbine Load Selector	100%
Turbine Speed Set	Synchronous Speed Selected
Pressure Set	920 psig
Max. Combined Flow set	105%
Load Limit Set	100%
Bypass Capacity	25%



Electro Hydraulic Control System Logic

Figure 2.1-1 Electro-Hydraulic Control System Logic



Electro Hydraulic Control System Logic

Figure 2.1-2 Electro-Hydraulic Control System Logic

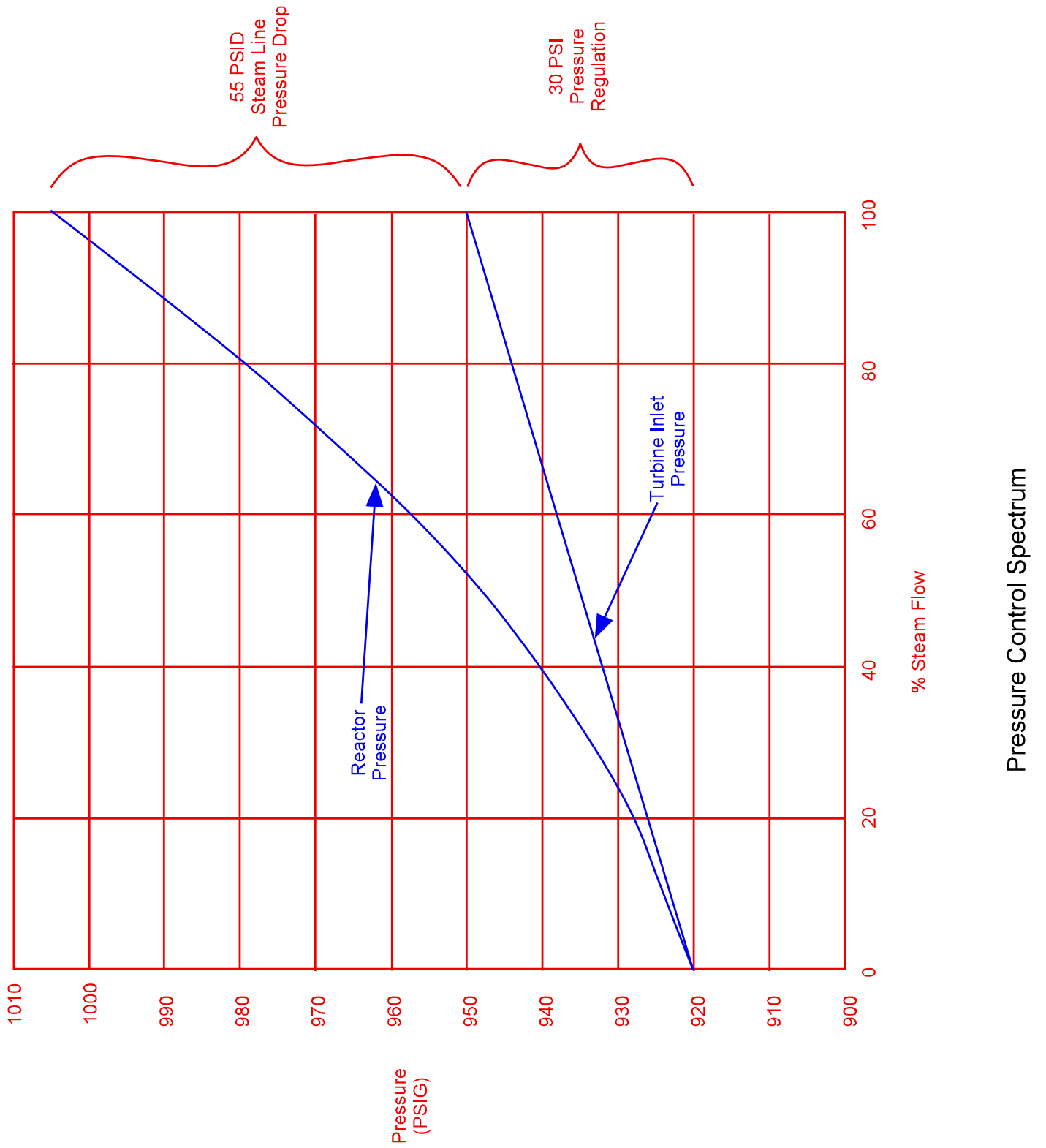


Figure 2.1-3 Pressure Control Spectrum