

DCS / PLC

NO MORE CONFLICT

FIG.1 EVOLUTION OF INDUSTRIAL CONTROL SYSTEM

Key Milestones In Industrial Computer Based Control Systems

1975 First Distributed Control System On Market (DCS)

**DISTRIBUTED CONTROL SYSTEM
(DCS)**

1963 First Direct Digital Control System Installed (DDC)

**DIRECT DIGITAL CONTROL
(DDC) SYSTEM**

1959 First Supervisory Computer System In Refinery (SDC)

**SUPERVISORY DIGITAL CONTROL
(SDC) SYSTEMS**

1950 1960 1970 1980 1990

ABSTRACT

- DCS & PLCs Each Have Their Advantages And Disadvantages And Have Been Applied To Process Applications Accordingly
- Many Processes Require A Combination Of The Two Technologies To Be Properly Controlled
- A System That Combines The Features Of PLC And DCS Provides A Synergistic Solution

DEFINITION

- DCS Is A Collection Of Independent Microprocessor Controllers Connected Together Via A Deterministic Communication Network That Appear To The Users As A Single Unit.
- PLC Is A Single Microprocessor Controller “Centralized System”

COMPARE DCS/PLC PARAMETERS

- Cost
- Batch Sequencing
- Security
- Reliability
- Diagnostics
- Database
- Service Support
- Training

PLCs & DCSs MERGING

(Integrated System Examination)

- User Interface
- Programming Environment
- Communications
- System Database
- Redundancy
- Security
- Support
- Training

POTENTIAL IMPLEMENTATION OF INTEGRATED SYSTEM IN ENPPI PROJECTS

- Enppi Are Committed To Quality & Technical Excellence Applied This Technology To Several Large Scale Projects
 - LPG (Amerya Plant)
 - QPC, Qarun Field Development
 - Sumed Pipeline

CONCLUSION

- The Integrated System Is An Excellent Solution For Processes That Require Continuous, Sequential And Logic Control
- The Integrated System Provides :
 - A Uniform Operator Interface
 - Integrated Programming Environment, Which Use A Consistent System Database
 - Efficient And Secure Communications At All Levels
 - Redundancy And Security At Many Levels
 - Single Source For Training And Support Issues

CONCLUSION (Cont'd)

- The Key To Control Solutions Today Is Not Simple To Solve Automation Needs But Provides A Solution That Fits The Customer's Business Requirements. The Integrated System Moves Closer To Provide Such A Solution.
- It Is Now Possible To Create DCS Which Incorporates All Of The Advantages Of DCS And PLC Technologies In A Common Integrated Control Unit .

ENPPI In Search For High Levels Of Performance Seeking The Advanced Technology In Process Automation, And Introducing The Latest Features To Improve Operation, Process And Quality Control.

FIG.7 AMERYA LPG RECOVERY PLANT

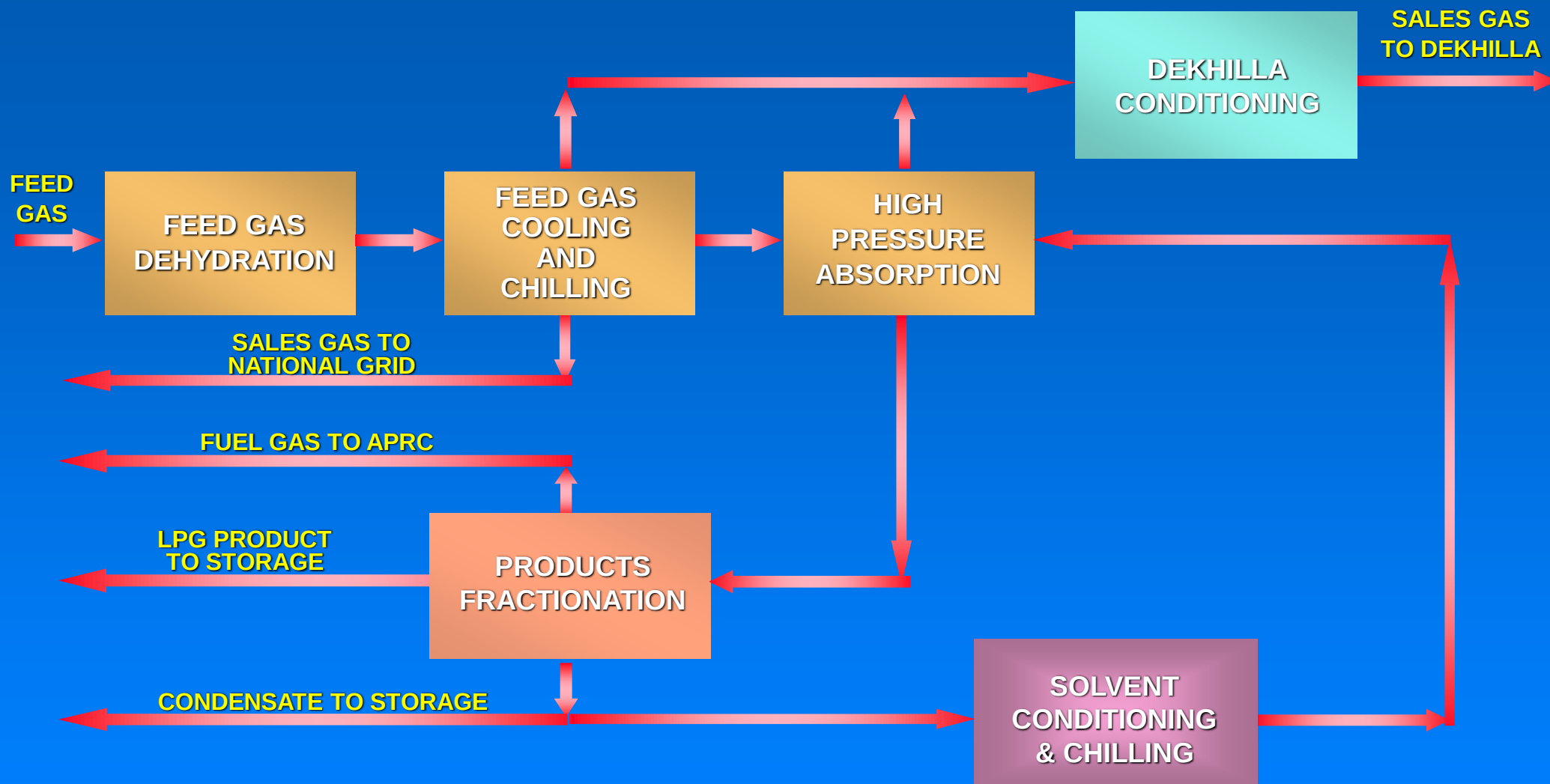


FIG.2 SIMPLE BLOCK DIAGRAM OF A TYPICAL DCS

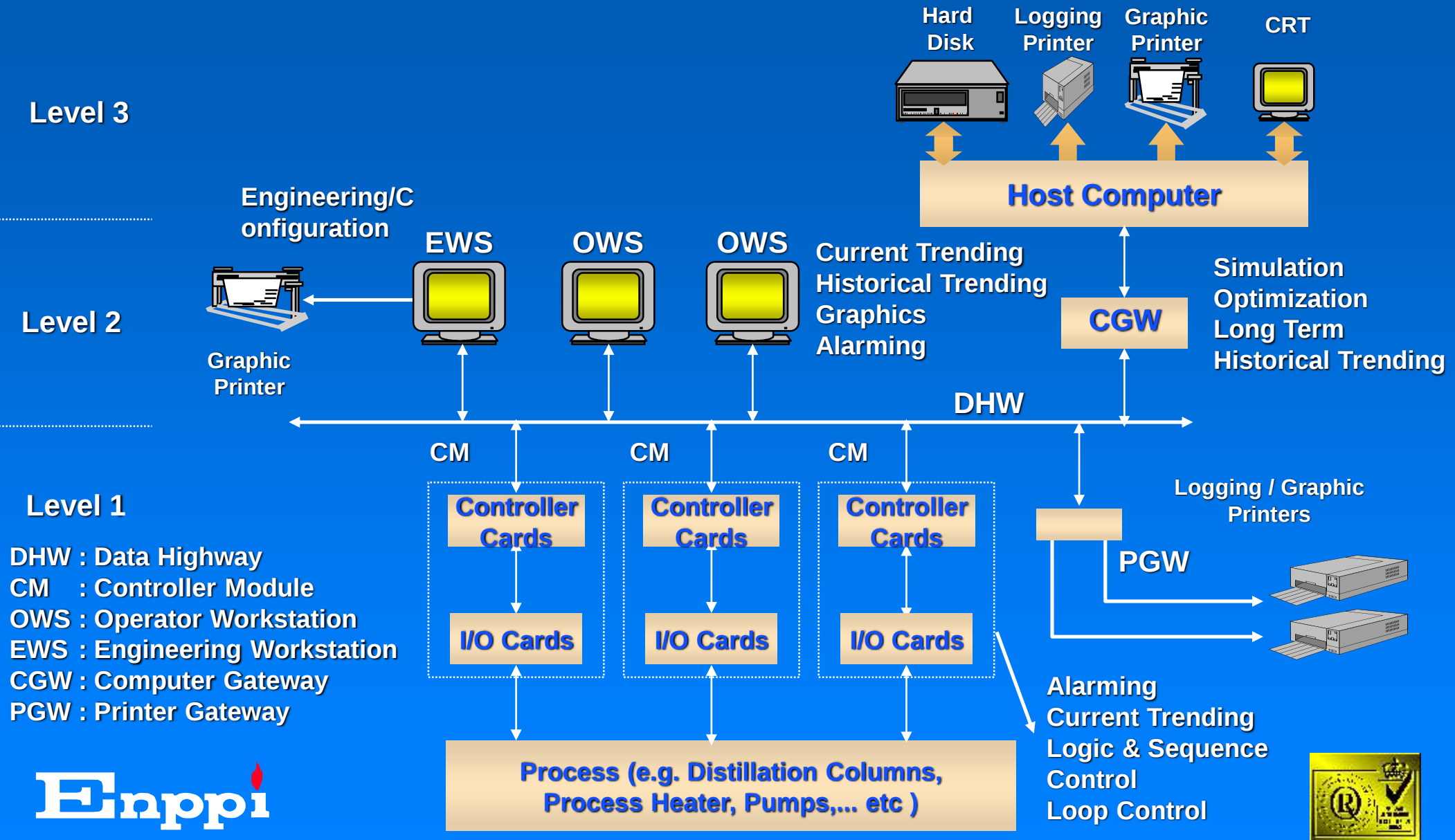


FIG.3 SIMPLE BLOCK DIAGRAM OF A TYPICAL PLC

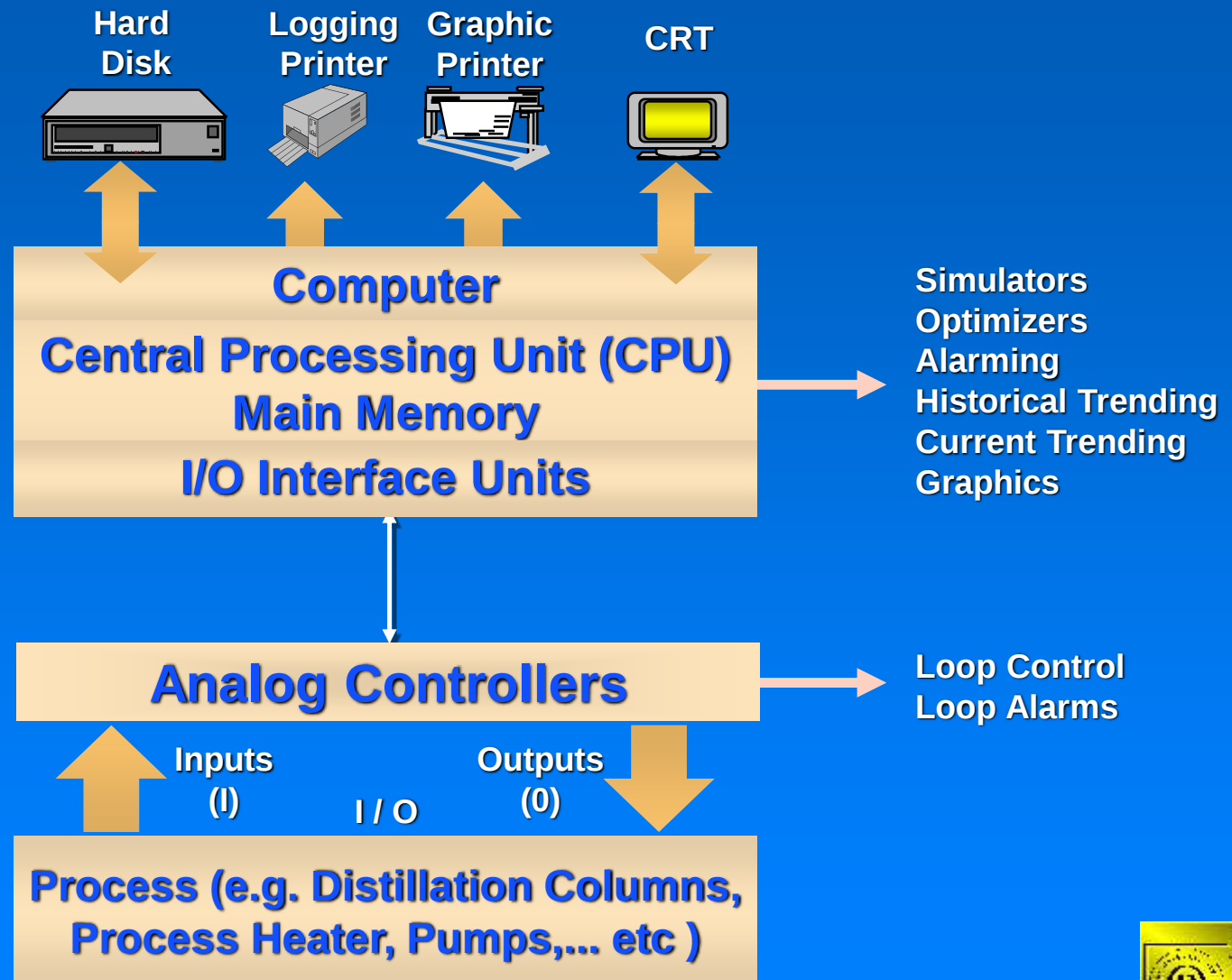


FIG.4 DCS / PLC MERGING

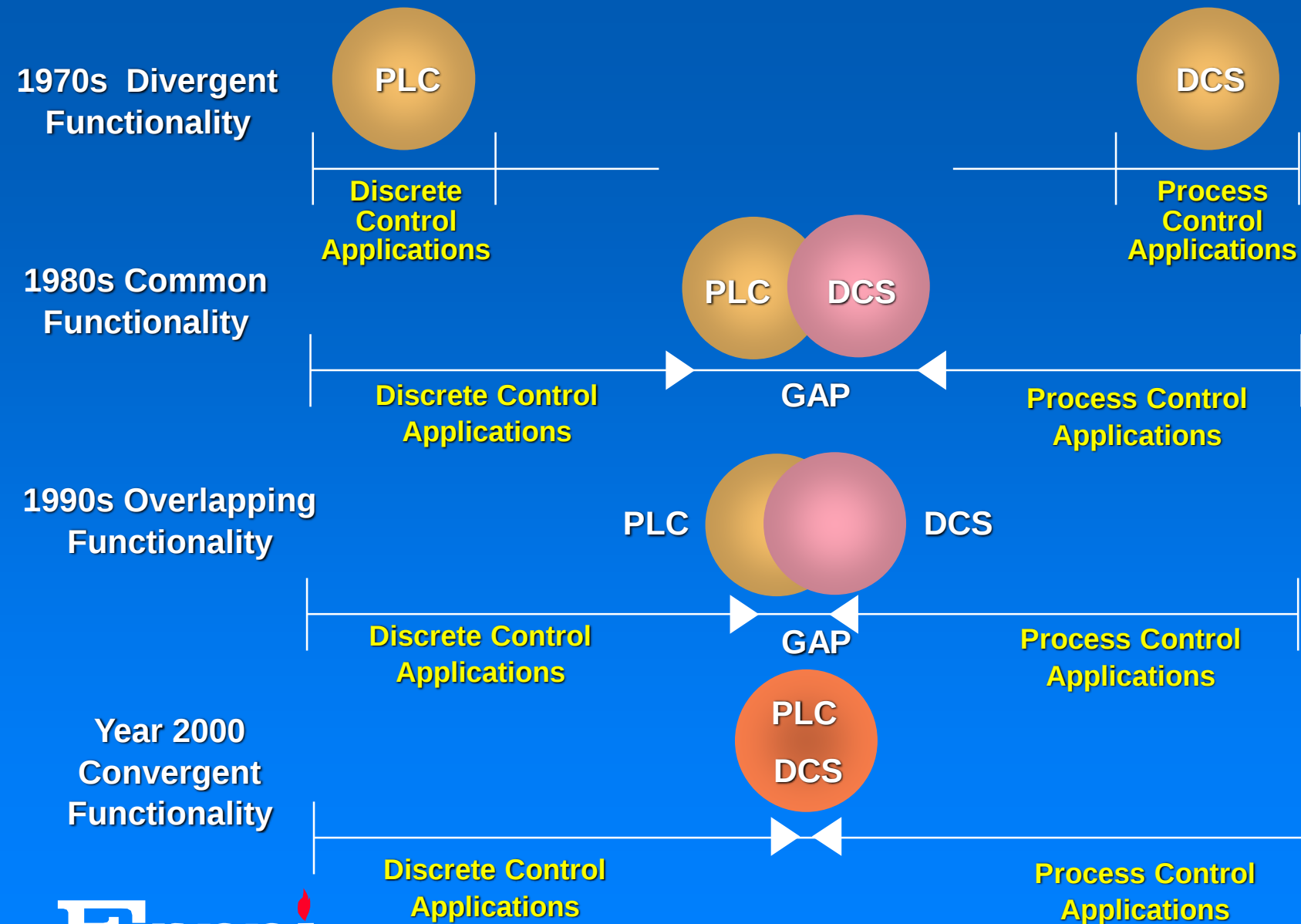


FIG.5 INTEGRATED SYSTEM EXAMINATION

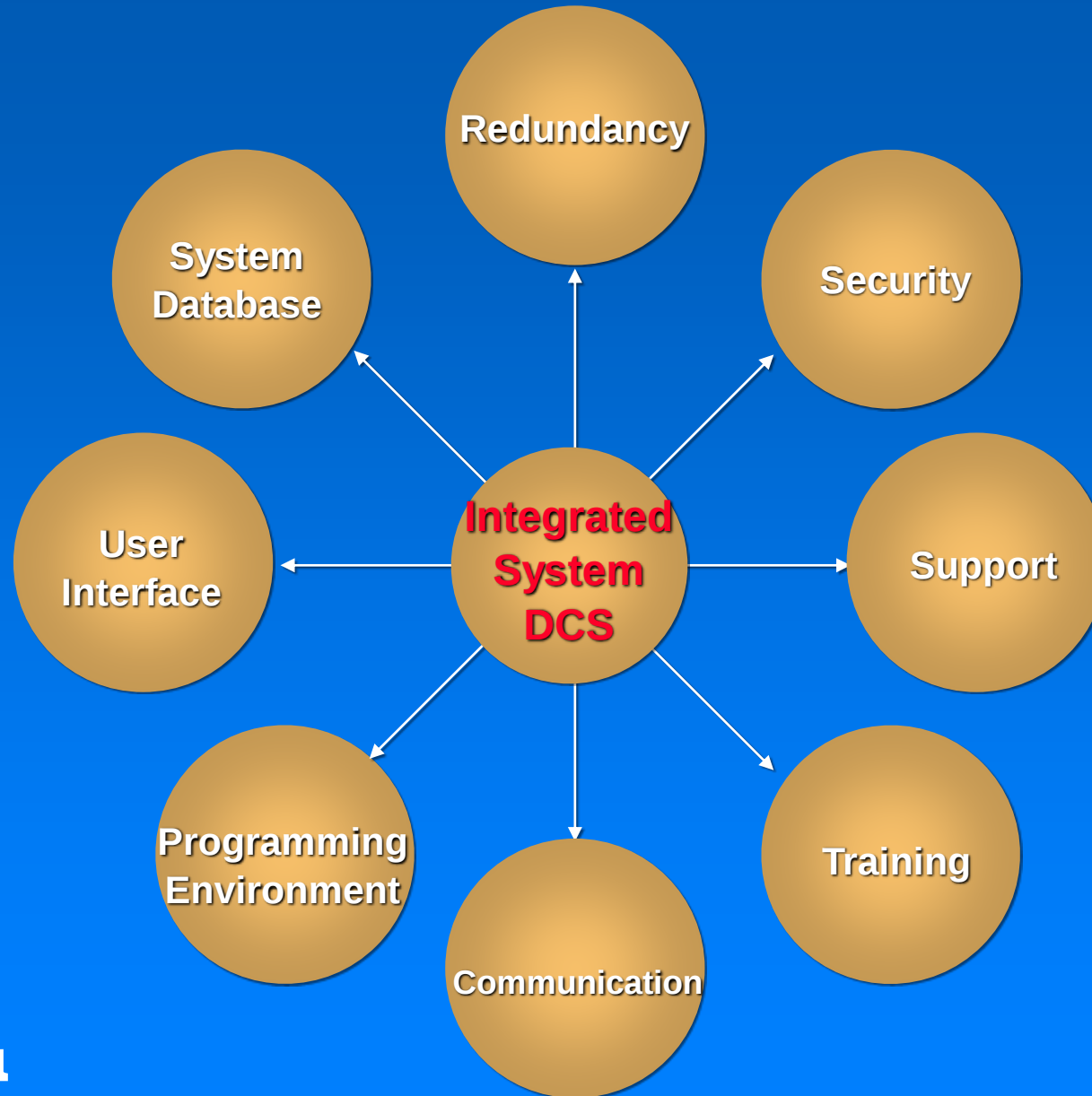


FIG.6 REDUNDANCY

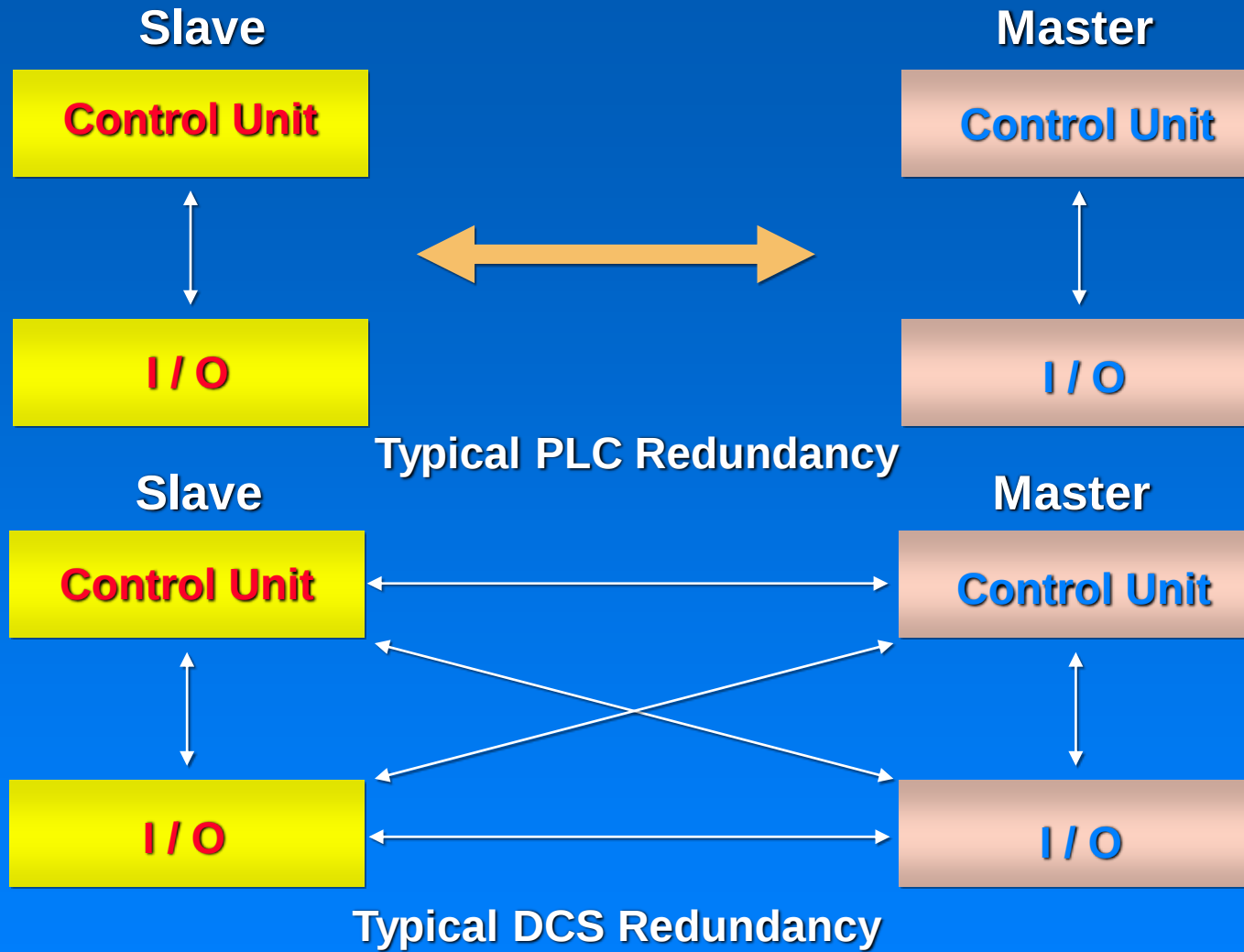


FIG.8 DCS / PLC OPTION FOR AMERYA LPG PROJECT

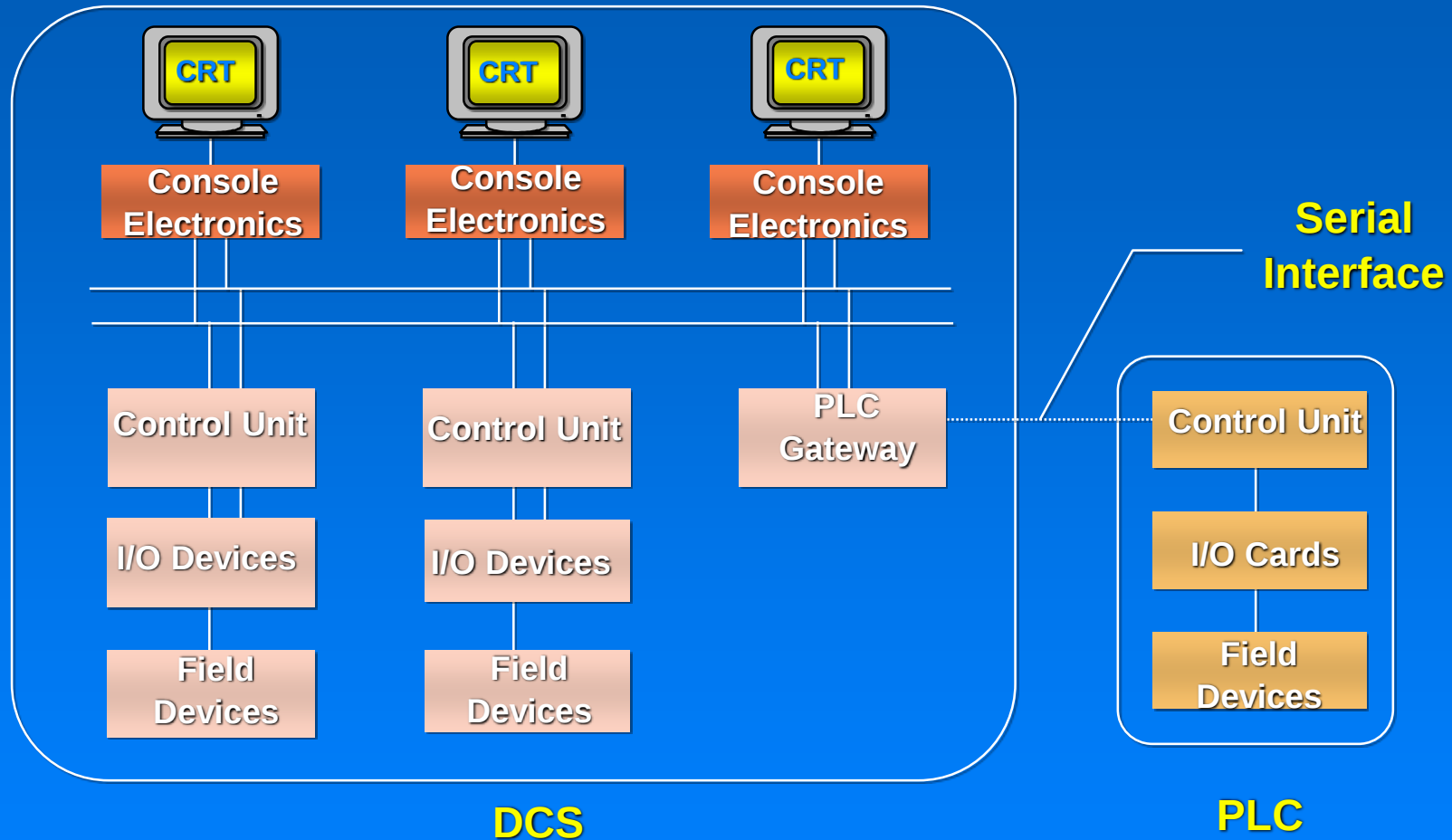
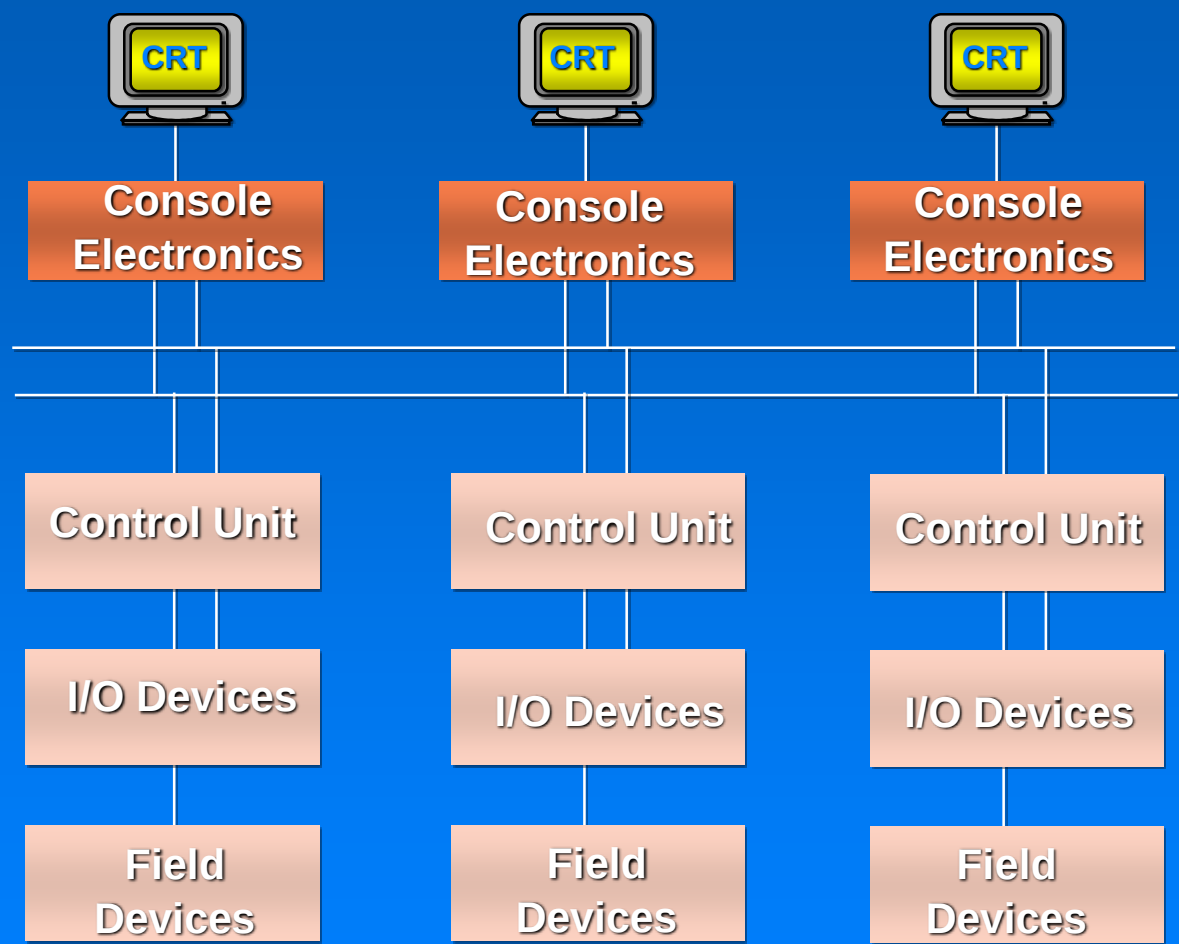


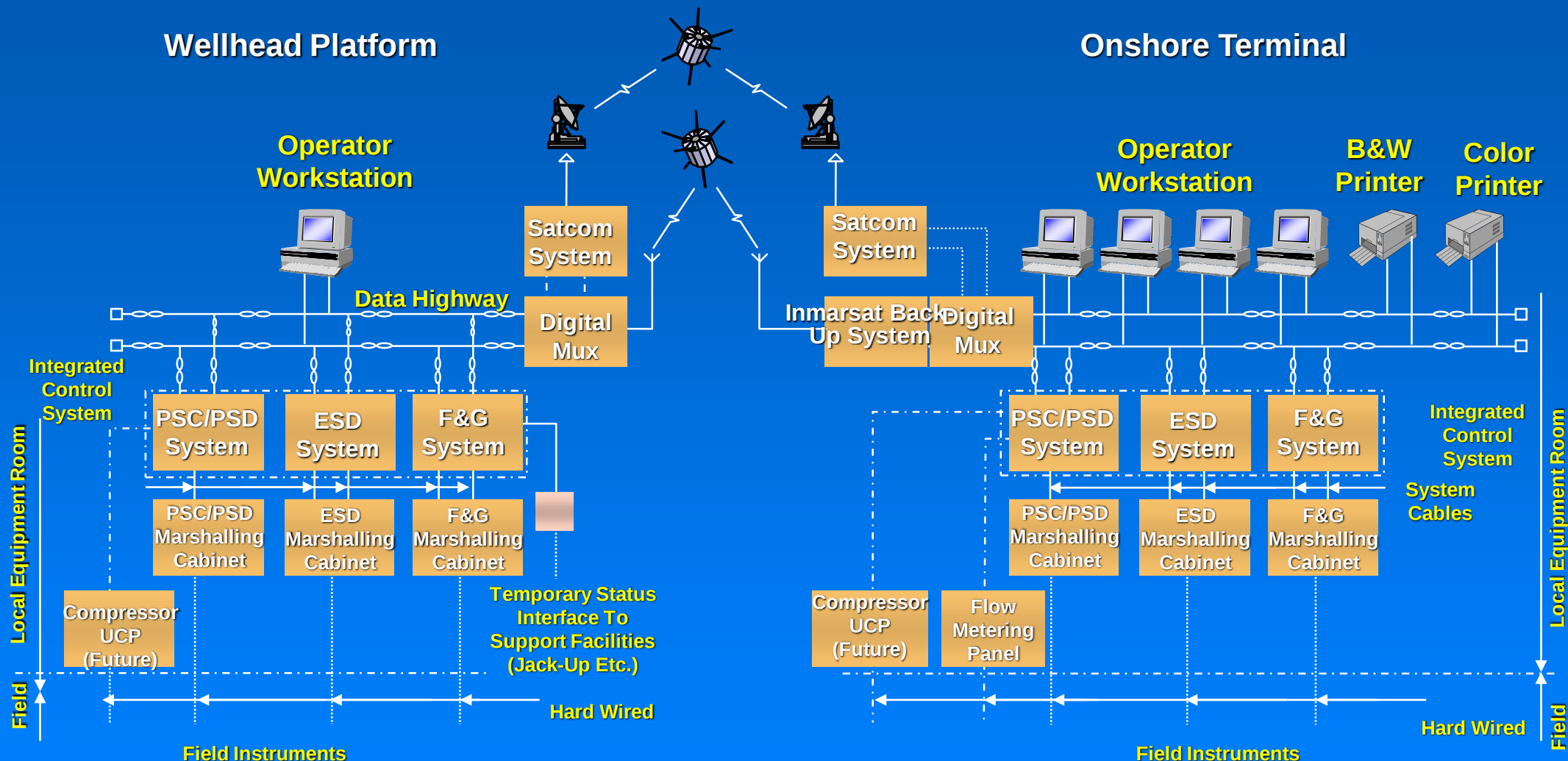
FIG.9 INTEGRATED DCS SYSTEM FOR AMERYA LPG PROJECT



EXAMPLE OF CURRENT INTEGRATED CONTROL SYSTEM BLOCK DIAGRAM

Wellhead Platform

Onshore Terminal



Thank You