

NEW YORK STATE ELECTRIC & GAS CORPORATION

BINGHAMTON, NEW YORK 13902

December 20, 1978

NYNRC - D013
File No. T3.2P
No Response Required

Mr. O. D. Parr
Chief LWR Branch 3
Division of Project Management
Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: NYSE&G 1 and 2 (P-657)
Draft Future Amendments for PSAR Chapter 7

Dear Mr. Parr:

As discussed at the December 15, 1978 meeting in your offices, we are forwarding a draft of a future amendment to PSAR Chapter 7. This draft provides additional guidance regarding the integration of our PSAR with CESSAR, SWESSAR and the TVA Yellow Creek application. The five exceptions discussed at the meeting and a statement regarding the CESSAR/SWESSAR interfaces have been incorporated in the draft text.

We request that you use this material in completing your acceptance review of Chapter 7. This will be issued as an amendment to the PSAR after docketing. If you have further questions or comments regarding this, please contact Mr. M. J. Ray (607-729-2551, Ext. 421).

Very truly yours,

A. E. Kintigh
A. E. Kintigh
Vice President

AEK/AFZ/RBK/ms
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NYSE&G PSAR

DRAFT CHAPTER 7

INSTRUMENTATION AND CONTROLS7.1 INTRODUCTION

Refer to Section 7.1 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

Systems designed by Stone & Webster will be functionally identical to those described in SWESSAR-P1 as it relates to the NSSS described in CESSAR.

Except as indicated herein, systems designed and supplied by Combustion Engineering will be functionally identical in those provided by Combustion Engineering for the Yellow Creek Nuclear Power Plants (Docket Nos. 50-566 and 50-567 which incorporates topical report CENPD 172A). References to the Yellow Creek PSAR are for Chapter 7 only, i.e., references in Chapter 7 of the Yellow Creek PSAR to other sections of the Yellow Creek PSAR are not included.

The Instrumentation and Control Introduction Section is as provided for the Yellow Creek Nuclear Power Plant Section 7.1, with the following exceptions:

1.) Section 7.1.1.3 Engineered Safety Features Systems (ESF Systems)

These systems are listed below:

<u>ESF SYSTEM</u>	<u>RESPONSIBILITY</u>		
	<u>Signal Generation</u>	<u>Actuated Components</u>	<u>ESF Signal</u>
a) Containment Isolation System	CE	S&W	CIAS
b) Containment Spray System	CE	S&W	CSAS
c) Iodine Removal System	CE	S&W	CSAS
d) Main Stream Isolation System	CE	S&W	MSIS
e) Safety Injection System	CE	CE	SIAS
f) Emergency Feedwater System	S&W	S&W	EFAS
g) Supplementary Leak Collection and Release System	CE	S&W	CIAS
h) Containment Atmosphere Recirculation System	CE	S&W	SIAS
i) Combustible Gas Control System	None	S&W	Manual

2.) Section 7.1.1.4 SAFE SHUTDOWN SYSTEMS

RESPONSIBILITY

a) Standby Diesel Generator	S&W
b) Standby Diesel Generator Fuel Oil System	S&W
c) Emergency Power Distribution System	S&W
d) Reactor Plant Service Water System	S&W
e) Reactor Plant Component Cooling Water System	S&W
f) Emergency Feedwater System	S&W
g) Atmospheric Dump System	S&W
h) Shutdown Cooling System	CE
i) Chemical & Volume Control System (Boron Addition Portion)	S&W
j) Safety Related HVAC Systems	S&W

Note: For Section 7.1.2.20 (Interface Requirements) - Refer to SWESSAR Section 7.8.

7.2 REACTOR PLANT PROTECTION SYSTEM

Refer to Section 7.2 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

The reactor plant protection system is as provided for the Yellow Creek Nuclear Power Plant (Docket Nos. 50-566 and 50-567) Section 7.2, with the following exceptions:

- 1) Protection system electronics as supplied for Yellow Creek are contained in cabinets which incorporate mechanical and thermal barriers between four redundant channels (i.e., Solid State Plant Protection System Cabinet and Auxiliary Protective Cabinet). For NYSE&G, the Compartmented Plant Protection System (CPPS) provides four separate enclosures, one for each channel of electronics. This approach allows redundant protection system equipment to be located in separate plant areas on a channel basis. The isolated CPPS inter-cabinet interfaces are provided by means of fiber optics.
- 2) The Reactor Trip Switchgear, as defined in the Yellow Creek Nuclear Plant Preliminary Safety Analysis Report, consists of a single enclosure containing nine trip circuit breakers. The NYSE&G design includes four separate enclosures for the trip circuit breakers; circuit breaker configuration and bus work have been modified for compatibility with the repackaging as shown in Figure 7.1-1.

- 3) For Sections 7.2.1.1.9.8 and 7.2.2.3.1 refer to CESSAR. Note: For Sections 7.2.3 (Interface Requirements) - Refer to SWESSAR Section 7.8.

The NYSE&G design incorporates the following changes to CESSAR:

1. Solid State Plant Protection System as identified in CE Topical Report CENPD-172A.
2. Revisions to the Reactor Trip Switchgear
3. Compartmented Plant Protection System

7.3 ENGINEERED SAFETY FEATURES SYSTEMS

Refer to Section 7.3 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

The Engineered Safety Features Systems for CE scope are as provided for the Yellow Creek Nuclear Power Plant, (Docket Nos. 50-566 and 50-567) Section 7.3, with the following exceptions:

1. For Section 7.3.1.2 refer to CESSAR

Note: For Section 7.3.3 (Interface Requirements) - Refer to SWESSAR Section 7.8

The NYSE&G design incorporates the following changes to CESSAR:

1. A Solid State Component Control System (SSCCS) will use solid state logic assemblies to interface with the solid state plant protection system as described in CENPD-172A. The SSCCS performs the system level actuation, test and indication of the engineered safety features and provides the control and indication for engineered safety features system components.

Interface requirements follow:

7.3.3.12.1 Protection Functions Which Are Only Partially Tested During Power Operation

Section 7.3.3.12.1 of SWESSAR-P1 lists those protection functions which are only partially tested during power operation since complete testing is not compatible with continued online unit operation.

A program for safety related system and sensor response time testing of these protection functions will be provided in the application for an operating license.

7.4 SYSTEMS REQUIRED FOR SAFE SHUTDOWN

Refer to Section 7.4 of SWESSAR-P1 as it relates to the NSSS described in CESSAR (For CE Scope refer to CESSAR, not Yellow Creek).

7.5 SAFETY RELATED DISPLAY INSTRUMENTATION

Refer to Section 7.5 of SWESSAR-P1 as it relates to the NSSS described in CESSAR. (For CE Scope refer to CESSAR, not Yellow Creek).

7.6 ALL OTHER INSTRUMENTATION SYSTEMS REQUIRED FOR SAFETY

Refer to Section 7.6 of SWESSAR-P1 as it relates to the NSSS described in CESSAR. (For CE Scope refer to CESSAR, not Yellow Creek).

7.7 CONTROL SYSTEMS NOT REQUIRED FOR SAFETY

Refer to Section 7.7 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

The Control Systems not required for safety for CE scope are as provided in the Yellow Creek Nuclear Power Plant, (Docket Nos. 50-566 and 50-567) Section 7.7.

The NYSE&G design incorporates the following change to CESSAR:

1. A Plant Monitoring System which provides backup status monitoring and display information for safety systems.

7.8 INTERFACE REQUIREMENTS

Refer to Section 7.8 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

Sections 7.1.2.20, 7.2.3 and 7.3.3 of CESSAR define the interface requirements applicable to balance of plant equipment and systems interfacing with the NSSS systems. The interface requirements stated in the referenced CESSAR sections are functionally identical and need not be changes for the CE Instrumentation and Control design scope incorporated in this application by reference to the Yellow Creek Nuclear Power Plant (Docket Nos. 50-566 and 50-567).

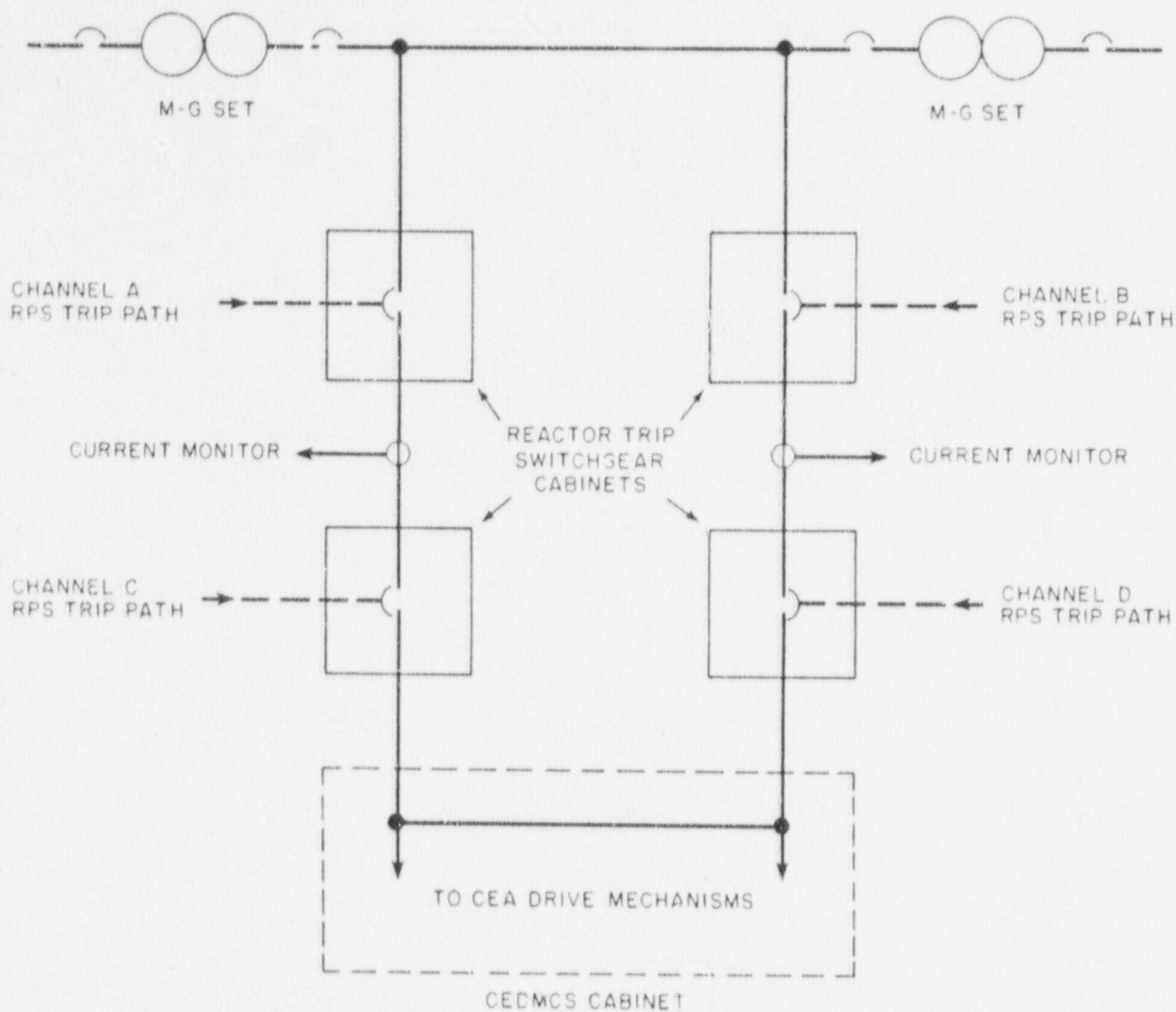


FIGURE 7.1-1

REACTOR TRIP SWITCHGEAR SYSTEM BLOCK DIAGRAM

NEW YORK STATE ELECTRIC & GAS CORPORATION
PRELIMINARY SAFETY ANALYSIS REPORT