KANSAS GAS & ELECTRIC COMPANY
WOLF CREEK GENERATING STATION

EMERGENCY PROCEDURE GENERATION PACKAGE
WOLF CREEK GENERATING STATION

ADM 01-052

Revision 1

Classification: Major

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of the Wolf Creek Generating Station (WCGS) Procedures Generation Package is to describe Emergency Operating Procedure (EMGs) development for Wolf Creek Generating Station, a SNUPPS - Pressurized Water Reactor.

1.2 SCOPE

This document has been developed to respond to Supplement 1 to NUREG-0737, Item 7.2.b, page 15.

1.3 ORGANIZATION

This document consists of the following five parts:

- o Introduction
- o Plant Specific Technical Guidelines
- o Writers Guide for EMGs.
- O EMG Verification/Validation Program
- o EMG Training Program

2.0 PLANT-SPECIFIC TECHNICAL GUIDELINES

2.1 GENERAL

The generic plant used in the Westinghouse Owners Group (WOG) guideline development program was a SNUPPS type, 4 loop, 1150 MW plant. Consequently, plant specific differences between WCGS and the generic plant are minimal. The following program for converting the Westinghouse Emergency Response Guidelines (ERGs) into EMGs has been developed and will be used by the Wolf Creek Generating Station.

The ERGs, Revision 1, dated July 15, 1983, will be used for the initially implemented EMGs. Future revisions of the EMGs will be incorporated using the established revision, review, and approval process. (ADM 07-100 - Preparation, Review, Approval and Distribution of WCGS Procedures and ADM 02-022, Writers Guide for Emergency Operating Procedures).

The following major items were considered in the methodology to be used.

- o mechanics of conversion
- o location of the plant-specific technical information

- o how the plant-specific technical information will be used
- o the use of old EMGs (drafts)
- o documentation requirements
- o use of the background information supplied with WOG ERGs

2.2 PROGRAM DESCRIPTION

2.2.1 Mechanics of Conversion

2.2.1.1 Preparation

The designated EMG writing team will obtain and review the following plant-specific technical information (EMG source documents):

- o WOG ERGs, latest current revision, with background information
- o FSAR
- o Wolf Creek Generation Station, ADM 02-022, Writers Guide for Emergency Operating Procedures.
- o Technical Specifications
- o the most current revision of existing EMGs
- o as-built plant drawings
- o Component Technical Manuals

The EMG source documents are located in the Document Control Center.

2.2.1.2 Writing EMGs

The EMG writing team will follow the ERGs step-by-step, adding footnoted information where designated. Concurrently, the writers will review appropriate EMG source documents. The information on Figure 1 will be completed during the writing and verification of the EMG. The justification section will be used to provide the plant-specific technical information or analysis and is a part of the verification process.

Minor modifications to WOG steps are acceptable without extensive justification provided that the change does not alter the intent of the guideline. Examples of these types of changes are as follows:

a. Deletions of level of detail

b. Deletions of overly obvious actions called for under the RESPONSE NOT OBTAINED column of the WOG guidelines.

c. Rewording of WOG steps to conform to standard WCGS terminology.

d. Rearranging WOG steps to streamline the procedure due to WCGS control room design and for operator convenience.

2.2.2 Documentation

The Emergency Procedure Data Package, page 2 of Attachment 1 to ADM 02-022, Writers Guide for Emergency Operating Procedures, will be provided as a source document to assist in the EMG verification/validation process and in the future revision, review, and approval process. This completed form will be retained as a source document to assist the training, and the Safety Parameter Display System (SPDS) and control room design review programs.

An example of a completed Emergency Procedure Data Package is shown as Figure 1 for EMG ES-02, Rev. 0, comparing it to the equivalent ERG. Pages 3 and 4 document plant specific information required by the ERG, plus justification.

3.0 WRITERS GUIDE FOR EMGs

3.1 GENERAL

A writers guide for EMGs is a plant-specific document that provides instructions on writing EMGs, using good writing principles. In addition to establishing sound writing principles, the guide helps to promote consistency among all EMGs and their revisions, independent of the number of EMG writers.

The writers guide will be revised, as necessary, based on feedback from operator training, experience, and verification/validation.

3.2 DOCUMENT DESCRIPTION

Information on the following major items is included in the plant-specific writers guide for EMGs:

- o EMG designation and numbering
- o EMG format
- o writing instructional steps
- o mechanics of style

- o typing format
- o reproduction

The Wolf Creek Generating Station (WCGS) Writers Guide for Emergency Operating Procedures (ADM 02-022) is based on the industry document Emergency Operating Procedures Writing Guideline (INPO 82-017), developed by the Emergency Operating Procedures Implementation Assistance (EOPIA) Review Group and published by INPO. The WCGS guide is provided as Attachment 1.

4.0 EMG VERIFICATION/VALIDATION (V/V) PROGRAM

4.1 GENERAL

EMG verification/validation is the evaluation performed to confirm the written correctness of the procedure and to ensure that applicable generic and plant-specific technical information has been incorporated properly.

The Verification Program will evaluate the EMGs for written correctness and technical accuracy. This program will specifically address proper incorporation of information from our Writer's Guide and ADM 07-100, Preparation, Review, Approval and Distribution of WCGS Procedures, and generic and/or plant specific technical information from EMG source documents.

The Validation Program will also determine that the actions specified in the procedure can be performed by the operator in order to manage the emergency conditions effectively. The methodology for EMG validation utilizes present, available methods at the Wolf Creek Generating Station while recognizing and allowing for future improvements. The EMG Validation Program will evaluate the operators' ability to manage emergency conditions using the EMGs. This evaluation also checks that the human factors aspects presented in the writers guide for EMGs have been applied. Due to the involvement of WCGS in the WOG ERG Validation on the Callaway Simulator, additional assurance exists that the ERG's will work at WCGS.

4.2 PROGRAM DESCRIPTION

When developing this EMG V/V program, the following major items were considered:

- o how EMG V/V will be performed
- o how to appropriately use simulators, control room walk-throughs, or table-top methods of V/V.
- o how operating and training experience will be integrated into the program evaluation.

- o the evaluation criteria to be applied and the methods to be followed in resolving discrepancies

- o how completion of the EMG validation/verification process will be documented

The WCGS Program is a composite based on INPO documents "Emergency Operating Procedures Validation Guideline" (INPO 83-006), and Emergency Operating Procedures Verification Guideline" (INPO 83-004) developed by the EOPIA Review Group. The following objectives are addressed by the WCGS V/V program:

- o EMGs are usable, i.e., they can be understood and followed without confusion, delays, and errors.

- o EMGs are technically correct, i.e., they accurately reflect the technical guidelines and other EMG source documents.

- o EMGs are written correctly, i.e., they accurately reflect the plant-specific writers guide, and ADM 07-100, Preparation, Review, Approval and Distribution of WCGS Procedures.

- o A correspondence exists between the procedures and the control room/plant hardware.

- o The language and level of information presented in the EMGs are compatible with the qualifications, training, and experience of the operating staff.

- o The minimum crew complement can complete the procedures without outside assistance.

The WCGS Validation Checklist (ADM 02-022, Writers Guide for Emergency Operating Procedures, Attachment 2) will be used to document the Validation review. It will also be used to coordinate and satisfy requirements of the control room design review, SPDS and emergency preparedness commitments. The Improvement Recommendation (ADM 02-022, Writers Guide for Emergency Operating Procedures, Attachment 3) will be used both as a training, operator feedback mechanism and as documentation to resolve discrepancies noted during the Validation process.

5.0 EMG TRAINING PROGRAM

5.1 GENERAL

The EMG training program was developed to support implementation of the EMGs. The EMG writer interfaces with the Training Department to ensure a supportive program.

5.2 PROGRAM DESCRIPTION

When developing the EMG training program, the following major items were considered:

- o what type of operator training should be provided (initial, refresher)
- o what method of operator training should be followed
- o what operator knowledge and skill level is desired
- o what procedure tasks exist that require operator decision making
- o what training material is needed to support EMG training requirements
- o what current operator licensing requirements exist
- o what method should be provided for operator feedback into the training program and EMG development
- o what will be the effect on current plant operation while training operators on EMGs not yet in place at the plant

This description outlines the approach to be used to train licensed operators on EMGs and to ensure the operators are informed and knowledgeable of future changes to the EMGs.

5.3 TRAINING PROGRAM GOALS

The initial, overall training goals for the EMG training program are as follows:

- o to enable the operators to understand the structure of the EMGs
- o to enable the operators to understand the technical bases of the EMGs
- o to enable the operators to have a working knowledge of the technical content of the EMGs
- o to enable the operators to use the EMGs under operational conditions

Training program objectives to support these goals will be developed for each lesson plan.

5.4 INITIAL EMG TRAINING METHODS

The EMG training program is established to instruct operators in the EMGs. It consists of classroom instruction and simulator exercises.

5.4.1 Classroom Instruction

Classroom instruction sessions will be conducted. Included in the infomation presented during this method will be the following:

- o the logic behind the development of EMGs
- o the process used to develop the EMGs
- o the EMGs themselves, including supporting technical and human-factors information, automatic actions, entry condition and immediate operator actions.

5.4.2 Simulator Exercises

Training on the EMGs will be conducted for all licensed operators using realistic scenarios on a control room simulator. Training will be conducted with all operators performing their normal control room functions. Additional training will be conducted where the members of a crew alternate responsibilities. This additional training is important to promote understanding of the other operators' responsibilites in the overall conduct of the actions, and it should lead to enhanced communications within the control room.

5.5 REFRESHER TRAINING

All licensed operators will receive simulator training using the EMGs during refresher training. Realistic scenarios will be developed to ensure that the critical aspects of the EMGs are exercised.

Training on EMGs will be conducted in such a manner that each crew conducts the scenarios with each operator performing the actions that he normally would be responsible for during an emergency incident. Licensed operators not assigned to a shift will participate in the simulator exercises as part of a control room crew.

The plant training and operations staffs will participate in the development and execution of refresher training. The training staff is responsible for developing the scenarios, observing and evaluating simulator training, and critiquing the results. Any additional training needs will be determined from the performance of the operators.

The scenarios will be varied sufficiently to ensure the operators do not develop a set pattern of responses to incidents but are able to respond to the symptoms as they develop.

5.6 TRAINING ON REVISIONS

Training on procedure revisions will be conducted through a program of required readings (self-taught), preshift briefings, or lectures in the requalification program. If the significance of the change warrants, training on major revisions will be conducted by the use of classroom instruction and on the plant-specific simulator. If the plant-specific simulator is not available, training on these revisions will be conducted during classroom instruction.

5.7 INPUTS INTO TRAINING PROGRAM CHANGES

5.7.1 Supporting Training Material Changes

Changes to supporting training material will be factored into updated lesson plans and operator memos. Some of the supporting material identified to date is as follows:

- o EMGs
- o background information
- o associated WCAPs
- o EMG Writers Guide
- 0 OAR Program - ADM 01-031, Operating Experience Review Program.

5.7.2 Operator Feedback

Operator feedback resulting from EMG verification, EMG validation, and training critique forms will be used to keep the training program and EMGs current and relevant. The Improvement Recommendation Form (ADM 02-022, Writers Guide for Emergency Operating Procedures, Figure 3) will be used to document feedback.

5.8 EVALUATION

Evaluation of the effectiveness of the EMG Training Program will be done in accordance with ADM 06-002, Training Effectiveness Evaluation Program.

6.0 RECORDS

6.1 There are no Q.A. records generated as a result of this procedure.

INFO ONLY

WOLF CREEK GENERATING STATION

EMERGENCY PROCEDURE DATA PACKAGE

GUIDELINE NO. EMG ES-02
REVISION NO. 1
GENERIC GUIDELINE
REVISION DATE
NAME NATURAL CIRCULATION COOLDOWN

Figure 1

INFO ONLY

PROCEDURE GENERATION

1. Data on pages 3 through 4 of this data package has been made specific to the Wolf Creek design and does not compromise the generic technical basis for this guideline.

   Comments:

Signature Date

Print name of person entering data

PROCEDURE VERIFICATION

2. Data on pages 3 through 4 of this data package has been verified as specific to the Wolf Creek design and does not compromise the generic technical basis for this guideline.

   Comments/brief description of verification process:

Signature Date

Print name of person entering data

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Figure 1

Guideline Step No.	Plant Specific Data Required	Source/Justification/ Calculations
3b.1	Steps to set VCT makeup for AUTO control	Control Room and Simulator walkdown
5a	Cooldown rate per background document (50°F/hr)	Per WOG background document Pg 5
5b.1	Steps to dump steam to condenser	Control room and simulator walkdown
5c	No lead SG level plus instrument errors (60%)	Calculation KAN-05
7	SI block permissive minus 50 psi (1920 psig)	Setpoint study WCAP 9917 Pg 3-10. 1970 psig - 50 psig = 1920 psig
Caution after 7	SI auto unblock (1970 psig)	Setpoint study WCAP 9917 Table 3-1, Pg 3-18, Pg 3-21
9a	Same as Step 7	
9b	PZR no load level (25%)	Setpoint study WCAP 9917 Table 2-5, Pg 2-36
9c	Same as Step 5a	
11a	RCS Subcooling CRDM's running (50°F)	WOG background document Pg 5
11a RNO	RCS subcooling CRDM's not running (100°F)	WOG background document Pg 5
12a	Cooldown rate (50°F/hr)	WOG background document Pg 5
14f.1	Valves to realign if SI locked out	Tech specs Section 5.0
19a RNO	Time for upper head to cool to < 200°F	WOG background document Table A-1

Figure 1

Guideline Step No.	Plant Specific Data Required	Source/Justification/ Calculations
Foldout		
1b	Pressure to trip RCPS (1550 psig)	Calculation KAN-09
2a.3	RCS subcooling (40°F)	Calculation KAN-10
2a.4	PZR no load level (25%)	Setpoint study WCAP 9917 Table 2-5, Pg 2-36
2a.5,a	SG WR level above top of U-Tubes (80%)	Calculation KAN-06
2a.5,b	AFW Flow for SI termination (415,000 lbm/hr)	Calculation KAN-08
3a.1	PZR low press SI set-point (1850 psig)	Setpoint study WCAP 9917 Pg 3-21 1849 psig, HF to 1850 psig
3a.2	RCS subcooling (40°F)	Calculation KAN-10
4-4	RVLIS WR level (Later)	

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Figure 1