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R.O. WILLIAMS, JR.
VICE PRESIDENT
NUCLEAR OPERATIONS

July 1, 1988
Fort St. Vrain
Unit No. 1
P-88232

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Attention: Mr. Jose A. Calvo
Director, Project Directorate IV

Docket No. 50-267

SUBJECT: FSV Technical
Specification Review

REFERENCES: 1) NRC Letter, Wagner
to Lee, dated
3/21/83 (G-83127)

2) PSC Letter, Williams
to Calvo, dated
4/20/88 (P-88116)

Dear Mr. Calvo:

The purpose of this letter is to document the results of a page by page review of the Fort St. Vrain (FSV) Technical Specifications. The review was conducted at the request of Mr. K. Heitner following his initial review of the proposed license amendment submitted by Reference 2. Mr. Heitner identified a possible discrepancy between the proposed amendment and Amendment No. 34 to the FSV Technical Specifications (Reference 1). PSC has confirmed that the discrepancy between the NRC copy of the Technical Specifications and the PSC pages submitted by Reference 2 is a word processing difference only. Since PSC uses a computerized word processing system for its Technical Specifications, information is re-formatted as amendments to the Technical Specifications are issued. The PSC format provides a page to page consistency in appearance and computerized word search capability.

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The review compared a PSC copy and the NRC copy of the FSV Technical Specifications. As an example of differences, the note in the NRC's Amendment 34 (page 4.6-1 of Reference 1) is now found on page 4.6-6 of PSC's copy of the Technical Specifications. No other changes were associated with this amendment request.

Other minor differences noted in LCO 4.6.1 were as a result of the re-formatting. No technical differences exist.

The remainder of the FSV Technical Specifications was reviewed with only minor differences noted in such areas as:

1. Format (including page heading).

2. Two sided copies versus one sided copies

3. Placement/existence of revision markers.

4. Latest Amendments (58 and 59) not in NRC copy.

5. Page numbering discrepancy (FSV copy, Section 4.2).

Based on the nature of the differences noted in the review, it is concluded that no safety concerns or safety issues exist since there are no discrepancies in technical content.

PSC's plan to implement the Upgraded Technical Specifications during startup following the 4th refueling will ensure consistency between the NRC and PSC copies of the Technical Specifications. (At present, the startup is planned for mid-June, 1989.) To avoid recurrence of the identified differences, PSC will work closely with the NRC to ensure that pages unaffected by future amendment proposals retain their existing format.

For NRC reference, attached to this letter is page 4.6-1 of Amendment 34 (Reference 1). Also, attached are pages 4.6-1 through 4.6-9 of PSC's re-formatted Technical Specifications. PSC believes this should clarify the discrepancies and permit completion of NRC's review of the amendment request submitted in Reference 2.

If you have any questions or comments concerning the enclosed information, please contact Mr. M. H. Holmes at (303) 480-6960.

Very truly yours,

R. O. Williams, Jr.
Vice President,
Nuclear Operations

ROW/DLF/lmb

Attachments

cc: Regional Administrator, Region IV
ATTN: Mr. T. F. Westerman, Chief
Projects Section B

Mr. Robert Farrell
Senior Resident Inspector
Fort St. Vrain

Albert J. Hazle
Colorado Department of Health

PAGE 4.6-1 OF AMENDMENT 34

4.6 AUXILIARY ELECTRIC POWER SYSTEM - LIMITING CONDITIONS FOR OPERATION

Applicability

Applies to the minimum operable equipment supplying electric power to the plant auxiliaries.

Objective

To ensure that the capability of supplying electric power to the plant auxiliaries is maintained by defining the minimum operable equipment.

Specification LCO 4.6.1 - Auxiliary Electric System, Limiting Conditions for Operation

The reactor shall not be operated at power unless the following conditions are satisfied:

a)* Both the Unit Auxiliary and Reserve Auxiliary Transformers are operable.

The Unit Auxiliary Transformer or the Reserve Auxiliary Transformer can be made inoperable for 24 hours provided both diesel generator sets (two engines and associated generator per set) are started immediately prior to taking the affected transformer out of service to verify their operability, are shut down and their controls left in the automatic mode and all three 480 volt a-c essential buses are operable.

b) 4160 V a-c Bus 1B must be operable.

4160 V a-c Bus 1B may be made inoperable for 12 hours providing the 480 V a-c essential buses and both diesel generator sets are operable, operability to be proved as in a) above.

*The requirements of LCO 4.6.1 a) that both the Unit Auxiliary and Reserve Auxiliary Transformers be operable are waived for the Unit Auxiliary Transformer for the period from March 10, 1983, through midnight March 20, 1983, provided both diesel generator sets are verified operable and returned to the automatic mode at least once each 24 hours and reactor power is maintained at less than 30% rated power.

PAGES 4.6-1 THROUGH 4.6-9 OF
PSC's RE-FORMATTED TECHNICAL SPECIFICATIONS

4.6 AUXILIARY ELECTRIC POWER SYSTEM - LIMITING CONDITIONS FOR OPERATION

Applicability

Applies to the minimum operable equipment supplying electric power to the plant auxiliaries.

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*See Page 4.6-6

out of service to verify their operability, are shut down and their controls left in the automatic mode and all three 480 volt a-c essential buses are operable.

b) 4160 V a-c Bus 1B must be operable.

4160 V a-c Bus 1B may be made inoperable for 12 hours providing the 480 V a-c Essential buses and both diesel generator sets are operable, operability to be proved as in a) above.

c) The auxiliary power 480 V a-c essential buses 1A, 1B, and 1C must be operable.

Each essential bus may be inoperable for 12 hours provided the following conditions are satisfied:

1) Only one 480 V essential bus is inoperable at a time.

2) 4160 V a-c bus 1B is operable.

3) Engine Driven Fire Pump is operable.

4) Emergency Condensate Header is operable.

5) The diesel-generator set(s) supplying the remaining operable 480 V a-c essential buses are operable.

6) All equipment supplied by the operable essential buses, associated with Safe Shutdown Cooling must be operable.

7) Reactor building exhaust fans supplied from the operable essential buses must be operable.

d) Both the diesel-generator sets are operable, including the following:

1) One fuel oil transfer pump from the diesel fuel oil storage tank to the diesel fuel oil day tanks.

2) One starting air compressor and receiver per diesel-generator set.

3) Associated automatic load shedding, load programming, and auto diesel-generator set starting equipment.

4) 325 gallons of fuel in each day tank.

One diesel generator set may be inoperable for up to 7 days (total for both) during any month provided the operability of the other diesel-generator set is demonstrated immediately as in a) above and all essential buses are operable.

e) The two station batteries and their associated D.C. buses and battery chargers are operable. One battery

charger or battery may be inoperable for 24 hours provided conditions 1 through 4 below are satisfied.

1) The other station battery and its associated battery charger and both D.C. buses are operable.

2) The D.C. bus tie breaker is closed.

3) Both diesel-generators and their associated essential 480v buses are operable.

4) The PPS battery and battery charger/inverter are operable.

A battery and battery charger disconnected from a D.C. bus to overcharge the battery is not considered inoperable if the overcharge period does not exceed 24 hours, provided conditions 1) through 4) above are met.

One D.C. bus may be inoperable for 12 hours provided the following conditions are satisfied:

1) The station battery and the associated battery charger of the operable D.C. bus are operable.

2) Instrument power inverter supplied from the operable D.C. bus is operable.

3) Both diesel-generators and their associated 480v essential buses are operable.

4) The PPS battery and battery charger/inverter are operable.

5) Instrument bus No. 3 is supplied from the 480v essential bus associated with the out-of-service D.C. bus.

f) The PPS battery charger/inverter and both the instrument inverters are operable. One inverter may be inoperable for 24 hours provided the following conditions are satisfied.

1) 480v essential buses 1A and 1C are operable.

2) Both diesel-generator sets are operable.

3) The PPS or instrument bus associated with the out-of-service inverter is energized from its backup source.

g) A minimum of 20,000 gallons of fuel in underground storage. Upon reaching this minimum quantity, the auxiliary boiler shall be shut down.

h) At least one Boiler Fuel Oil Pump operable between the auxiliary boiler fuel supply and the diesel fuel oil day tanks.

Both Boiler Fuel Oil Pumps may be inoperable for up to 24 hours if at least 5,500 gallons are in the diesel oil storage tank and both fuel oil transfer pumps

between the diesel oil storage tank and the day tanks are operable.

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*The requirements of LCO 4.6.1 a) that both the Unit Auxiliary and Reserve Auxiliary Transformers be operable are waived for the Unit Auxiliary Transformer for the period from March 10, 1983, through midnight March 20, 1983, provided both diesel generator sets are verified operable and returned to the automatic mode at least once each 24 hours and reactor power is maintained at less than 30% rated power.

Basis for Specification LCO 4.6.1

The objective of this specification is to assure that an adequate source of electrical power is available to operate the plant during normal operation, for cooling during shutdown, and for operation of engineered safeguards in emergency situations. There are three sources of power available for shutdown: unit auxiliary transformer, reserve auxiliary transformer, and the standby diesel-generator sets.

In the normal operating mode, the unit auxiliary transformer is in operation, reserve auxiliary transformer

is energized and the standby-generator sets are operable. (FSAR Section 8.2.3.3.)

The main turbine-generator can be used as a source of auxiliary power in the event that outside electrical power is lost.

In the event of loss of all outside power and a turbine-generator trip, the diesel-generator sets would come on automatically to provide the required energy necessary to safely shut down the plant.

In the event of the loss of the Reserve Auxiliary Transformer when the main turbine-generator is out of service, links in the bus between the main turbine-generator and the main power transformer can be removed, allowing the main power transformer and unit auxiliary transformer to be returned to service.

The essential 480v power source is supplied from three separate buses, any two of which can supply adequate power to shut the plant down. Under accident conditions, if the normal supply of power to these three essential buses should fail, the diesel-generator sets would come on and energize them. Bus load shedding, breaker closing, and load sequencing on to the diesel-generator sets is handled automatically.

The station batteries supply power for the instrument power inverters, protective devices and equipment operational control. During normal operation, d-c power is supplied by a-c to d-c rectifiers which also keep the batteries fully charged. (FSAR Section 8.2.2.4.)

Backup electric power for the non-interruptible a-c instrument loads is provided by bus ties from Instrument Bus No. 3 to Instrument Buses 1 and 2 which are normally fed by the two Instrument Power Inverters. Bus No. 3 receives its power from redundant instrument transformers which are supplied from the essential 480 volt switchgear. (FSAR Section 8.2.2.3.)

A redundant source of electric power for the d-c instrument loads is available from a bus tie between the two d-c buses which allows one battery or a-c to d-c rectifier to supply both buses.

These backups and redundancies permit the temporary removal from service of an instrument power inverter, a battery, a d-c bus or an a-c to d-c rectifier.

A diesel fuel storage capacity of 50,000 gallons is provided. A supply of 20,000 gallons of diesel fuel is adequate to provide for operation of the standby generators for at least seven days under required loading conditions. This allows adequate time to obtain

additional fuel and to make provisions to restore the standby source of power into the station.