TECHNICAL SPECIFICATION CHANGE REQUEST NO. 121

The Licensee requests the attached changed pages replace the following pages of the existing Technical Specification.

Appendix A

Replace 3-101, 3-105, 3-105a, 3-116

This Tech Spec Change Request is equivalent to the NRC Standardized Tech Spec on explosive gas mixtures. The Spec allows higher limits of either hydrogen or oxygen as long as one of the gases is kept below its lower flammability limit. With the installation of a second H_2/O_2 monitor in the waste disposal gas system (WDGS), the Tech Spec will allow higher levels of O_2 in the WDGS during times of maintenance and inspection of the system when the system is open to the atmosphere. This will eliminate the need to report during routine maintenance and certain degassing operations (see LER 82-08 Corrective Actions).

SAFETY EVALUATION JUSTIFYING CHANGE

Experimental data* on the flammability of hydrogen in oxygen or air provides, under ideal conditions, a lower limit of 4% hydrogen, and an upper limit of 95% hydrogen. Therefore, as long as the hydrogen concentration is maintained at less than 4% no limit on the oxygen concentration is required. Conversely, if the oxygen concentration is less than 5%, no mixture of hydrogen, nitorgen and air is capable of propagating a flame.

Furthermore, to provide redundancy to the gas monitoring system an additional H_2/O_2 monitor is currently being installed. This additional capability to monitor both gases, meets the intent of NRC model Tech Spec requirements.

(1) The probability of consequences of accidents previously evaluated have not been increased over that previously analyzed as the Waste Gas Tank Rupture (FSAR Update Section 14.2.2.6), since there is now additional monitoring capability for the waste gas vent header.

(2) No accidents other than those previously considered will be introduced since monitoring capability has been improved.

(3) No safety margin has been reduced. Adopted safety margins of conbustible limits of H_2 and O_2 concentrations are conservative and consistent with NRC Standardized Tech Spec on Explosive Gas Mixtures.

AMENDMENT CLASSIFICATION (10 CFR 170.22)

The change request involves a single safety issue and is, therefore, considered a Class III License Amendment. A check for $4,000.00 is enclosed with this submittal.

IMPLEMENTATION

It is requested that this amendment be effective upon plant acceptance of the additional H_2/O_2 monitor.

*Bulletin 503, Bureau of Mines; Limits of Flammability of Gases and Vapors.

TABLE 3.21-2

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
1. Waste Gas Holdup System			
a. Noble Gas Activity Monitor (RM-A7)	1	***	25
b. Effluent System Flow Rate Measuring Device (FT-46)	1	***	26
2. Waste Gas Holdup System Explosive Gas Monitoring System			
a. Hydrogen Monitor	2	* *	30
b. Oxygen Monitor	2	* *	30

TABLE 3.21-2
(Continued)

TABLE NOTATION

*At all times.
**During waste gas holdup system operation.
***Operability is not required when discharges are positively controlled through the closure of WDG-V47, and RM-A8 and FT-151 are operable.

ACTION 25 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, the contents of the tank may be released to the environment for up to 14 days provided that prior to initiating the release:

1. At least two independent samples of the tank's contents are analysed, and
2. At least two technically qualified members of the Unit staff independently verify the release rate calculations and verify the discharge valve lineup.
3. The O&M Director shall approve each release.

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 26 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 28 days provided the flow rate is estimated at least once per 4 hours.

ACTION 27 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 28 days provided grab samples are taken at least once per 8 hours and these samples are analyzed for gross activity within 24 hours.

ACTION 30 With the number of channels OPERABLE on less than required by the Minimum Channels OPERABLE requirement, operation of this Waste Disposal Gas System may continue for up to 14 days provided grab samples are taken and analyzed daily. With both channels inoperable, operation may continue for up to 14 days provided grab samples are taken and analyzed (1) every 4 hours during degassing operations, and (2) daily during other operation.

ACTION 31 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 28 days, provided, that within 4 hours after the channel has been declared inoperable, samples are continuously collected with auxiliary sampling equipment.

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RADIOACTIVE EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

3.22.2.5 The concentration of either hydrogen or oxygen in the waste gas holdup system shall be limited to less than or equal to 2% by volume.

APPLICABILITY: At all times

ACTION:

a. With the concentration of hydrogen and oxygen in the waste gas holdup system greater than 2% by volume but less than or equal to 4% by volume, reduce the concentration of either hydrogen or oxygen to less than 2% within 48 hours.

b. With the concentration of hydrogen and oxygen in the waste gas holdup system greater than 4% by volume, immediately suspend all additions of waste gases to the system and reduce the concentration of hydrogen to less than or equal to 2% by volume without delay.

BASES:

Based on experimental data, lower limits of flammability, for hydrogen is 4% and for oxygen is 5% by volume. Therefore, if the concentration of either gas is kept below its lower limit, the other gas may be present in higher amounts without the danger of an explosive mixture.*

*Bulletin 503, Bureau of Mines, AD-701-575.