SEQUOYAH 2012-301 POST EXAM COMMENT

Request for answer key change for Question #62.

Based on the following documentation Sequoyah Station requests that the correct answer for question #62 be changed from "A" to "D."

#62. (9/13 missed) – Substantive post exam comments were provided by the following candidates:

Docket #'s- 23598; 22636; 23595; 23790; 23791; 23795

Question:

Given the following plant conditions:

- Unit 1 is shutdown and at NOP and NOT.
- Chemistry reports the Hydrogen concentration in "A" Waste Gas Decay tank at 5% by volume and Oxygen concentration at 3% by volume.

Which ONE of the following describes the gas concentration, if any, that exceeded the Unit 1 Tech Spec 3.11.2.5 limit for waste gas decay tanks?

A. Oxygen only.

B. Hydrogen only.

C. Neither Hydrogen or Oxygen.

D. Both Hydrogen and Oxygen.

Original answer: "A"

Reference: Tech Spec 3.11.2.5, "Explosive Gas Mixtures."

Recommended change in the correct answer to "D."

Justification:

All listed candidates made same comment:

The stem stated that Hydrogen concentration of "A" WGDT is at 5% and Oxygen concentration is at 3% by volume.

Tech Spec LCO 3.11.2.5 states the concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume. The basis for this specification states; "this specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas holdup system is maintained below the flammability limits of hydrogen and oxygen."

The surveillance requirement directs the determination of both H2 and O2 concentrations. The determination of both gases is due to the fact that if the H2 concentration is greater than a limit of 4%, then the O2 limits are required to comply with the LCO.

Furthermore, if the hydrogen concentration is reduced to below the hydrogen limit of 4%, then oxygen would be within its limits. If O2 increased to greater than 4% and Hydrogen is greater than the limit of 2% (which is less than LCO 3.11.2.5) then additional actions are required per action b.

Thus the Tech Spec LCO does contain a limit for Hydrogen (either 2% or 4%) and a limit for Oxygen (either 2% or 4%) so since H2 given in the stem is greater than 4% its limit has been exceeded and since O2 given in the stem is greater than 2% its limit is also exceeded.

Sequoyah Station agrees with the candidates and recommends that the correct answer be changed to "D."

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

3.11.2.5 The concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume.

APPLICABILITY: At all times.

ACTION:

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

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

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.5 The concentration of hydrogen and oxygen in the waste gas holdup system shall be determined to be within the above limits by monitoring the waste gas additions to the waste gas holdup system with the hydrogen and oxygen monitors required OPERABLE by Table 3.3-13 of Specification 3.3.3.10.

BASES

3/4.11.2.5 EXPLOSIVE GAS MIXTURE

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas holdup system is maintained below the flammability limits of hydrogen and oxygen. Maintaining the concentration of hydrogen and oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

3/4.11.2.6 GAS DECAY TANKS

Restricting the quantity of radioactivity contained in each gas decay tank provides assurance that in the event of an uncontrolled release of the tank's contents, the resulting total body exposure to an individual at the nearest exclusion area boundary will not exceed 0.5 rem. This is consistent with Standard Review Plan 15.7.1, "Waste Gas System Failure".

3/4.11.3

This specification is deleted.

3/4.11.4

This specification is deleted.