ATTACHMENT 1

Marked-up Technical Specification Page

3/4 6-23

ATTACHMENT 1

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

3.6.4.1 ~~The~~ Two independent containment hydrogen analyzers ~~and grab sample system~~ shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With ~~either the~~ one hydrogen analyzer ~~or grab sample system~~ inoperable, restore the inoperable analyzer ~~or grab sample system~~ to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours. demonstrate within the next 24 hours that the grab sample system of the inoperable hydrogen analyzer has the capability to draw a sample of the containment atmosphere into the grab sample canister. Verify capability of the grab sample system at least once per 30 days thereafter until the inoperable hydrogen analyzer is returned to OPERABLE status, or

SURVEILLANCE REQUIREMENTS

4.6.4.1.1 ~~The~~ Each hydrogen analyzer shall be demonstrated OPERABLE by the performance of a channel functional test at least once per ~~92~~ 31 days, ~~by:~~ and at least once per 92 days on a STAGGERED TEST BASIS by performing a CHANNEL CALIBRATION using sample gases containing:

~~a. Performing a CHANNEL CALIBRATION using sample gases containing:~~

a. ~~One~~ Nominally one volume percent hydrogen, balance nitrogen, and oxygen. ~~and~~

b. ~~Four~~ Nominally four volume percent hydrogen, balance nitrogen and oxygen.

~~b. Verifying that the analyzer is aligned to receive electrical power from an OPERABLE emergency bus.~~

~~4.6.4.1.2 The grab sample system shall be demonstrated OPERABLE at least once per 92 days by using the hydrogen sample pumps to draw a sample of the containment atmosphere into the grab sample canister. The hydrogen sample pumps shall be used on an alternating basis.~~

ATTACHMENT 2

SAFETY EVALUATION

INTRODUCTION

A change is proposed to revise Technical Specification 3/4.6.4, Combustible Gas Control-Hydrogen Analyzers for St. Lucie Unit 1. The change is needed to: 1) reflect the need for oxygen as part of the calibration gas to perform a channel calibration; 2) to allow a second method of hydrogen analysis; and 3) to clarify the containment hydrogen analyzer system configuration.

DISCUSSION

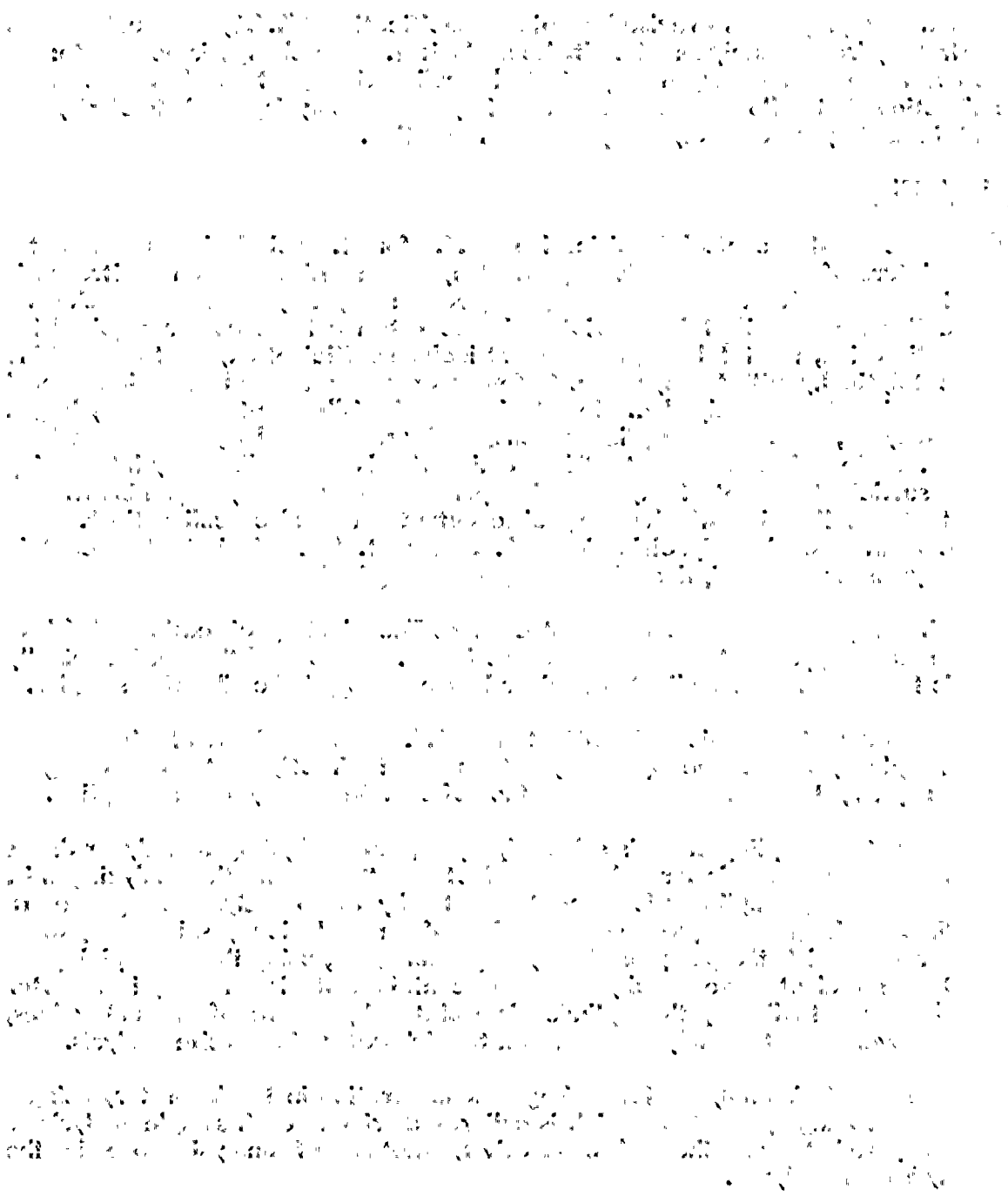
1) The current Technical Specification 3/4.6.4 for St. Lucie Unit 1 states that a mixture of one or four volume percent hydrogen with the balance nitrogen is the composition of the sample gas for hydrogen analyzer channel calibration. While this description is accurate for the span gas required for calibration, the total sample gas must include sufficient oxygen to recombine catalytically with the hydrogen to form water vapor. The Instruction Manual supplied by Comsip Inc. for their model K-III Containment Hydrogen Analyzer, which was supplied via shop order number 80102, and used at both St. Lucie Unit 1 and 2 states "Span calibration is accomplished by introducing a sufficient amount of oxygen and a span gas mixture of hydrogen in nitrogen to the cell; this will give a specific output for readout calibration". The current Technical Specification 3/4.6.4 for St. Lucie Unit 2 does contain oxygen in the description of the sample gas required.

   The proposed license amendment changes Technical Specification 3/4.6.4 to include oxygen in the sample gas description. The use of the word nominally is to account for the slight variations in vendor supplied calibration samples.

2) The current Technical Specification 3/4.6.4 has requirements for a grab sample system to be operable, but does not directly state how the grab sample system can be used as a method of containment hydrogen sampling.

   When the sampling mode is selected, a pump on the hydrogen analyzer draws the containment air through a pre-selected path and into the analyzing unit. A grab sample cylinder is connected to the hydrogen analyzer sample return line. This grab sample system consists of a radiologically shielded cylinder through which the pump on the hydrogen analyzer, using the same piping for the pre-selected flow path, draws the containment air for sampling. After flow is established, the cylinder is isolated by means of manual valves, removed from the analyzer and taken to a laboratory for on site analysis.

   The sample is analyzed for hydrogen concentration in the laboratory using a gas chromagraph method which is calibrated prior to each sample analysis as compared to the thermal conductivity method of analysis done in the hydrogen analyzer.



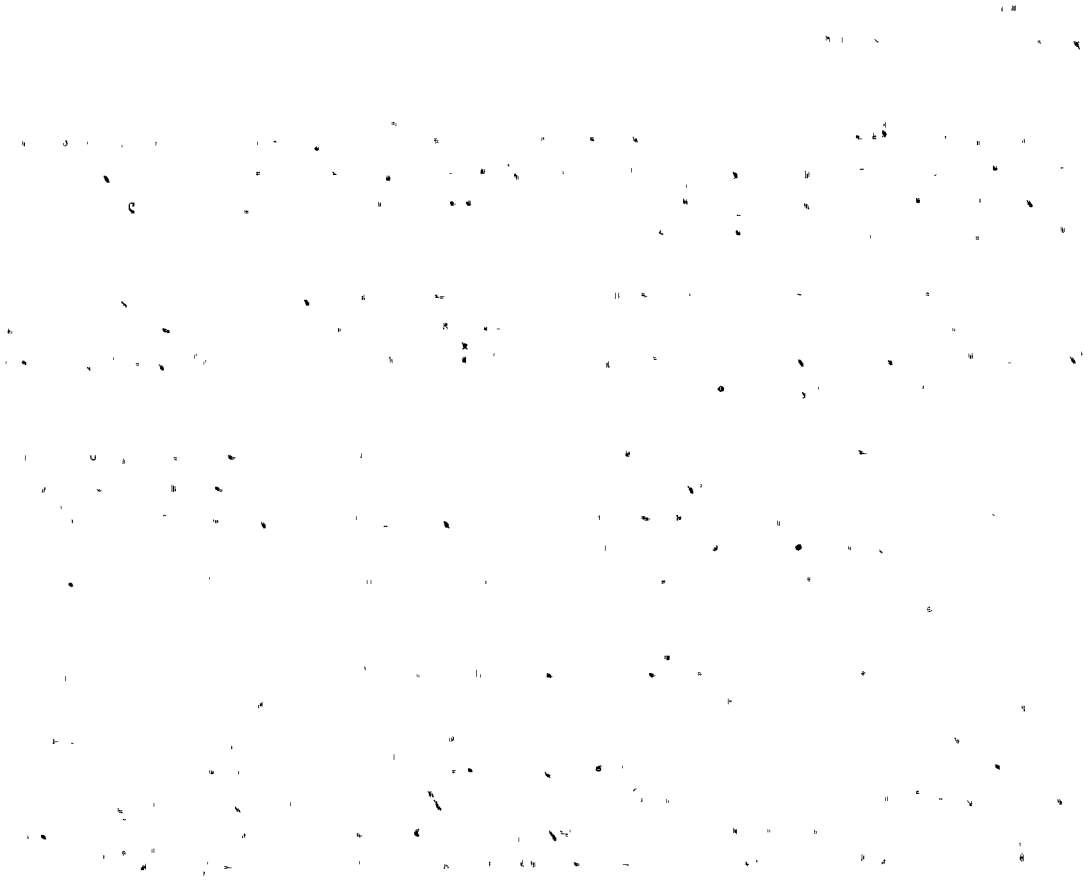
Attachment 2
Safety Evaluation (con't)

2) (con't)
The proposed license amendment changes Technical Specification 3/4.6.4 to allow the grab sample system to satisfy the requirements of one hydrogen analyzer if the analyzer part is out of service but the sample path, controls and sample pump are available.

3) The current Technical Specification references the hydrogen analyzer and grab sample system and does not address the fact that the containment hydrogen analyzer system is composed of two independent analyzers, each with a grab sample system.

The proposed license amendment changes Technical Specification 3/4.6.4 to show action and operability statements in a manner which reflects the presence of two independent containment hydrogen analyzers each with a grab sample system. The surveillance requirements for the grab sample system are now included in the action statement of the proposed license amendment.

4) The current Technical Specification contains a surveillance requirement to verify the analyzer is aligned to receive electrical power from an OPERABLE emergency bus. This surveillance requirement is no longer applicable because as described in FSAR Section 6.2.5.2.3, "Each of the redundant subsystems is physically separate and operates independently of the other, and is powered from an independent onsite (emergency) power source." No single failure can result in a total loss of hydrogen concentration measurement capability.



ATTACHMENT 3

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

The standards used to arrive at a determination that a request for amendment involves no significant hazards consideration are included in the Commission's regulations, 10 CFR 50.92, which states that no significant hazards considerations are involved if the operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated or (3) involve a significant reduction in a margin of safety. Each standard is discussed as follows:

(1) Operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The change to show oxygen as part of the sample gas required for channel calibration is a correction required to bring the Technical Specifications into conformance with the hydrogen analyzer instruction manual. It is purely a wording clarification and has no physical effect on the operation of the hydrogen analyzer. Therefore this modification does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The inclusion of the grab sample laboratory analysis being a substitution for the local hydrogen analyzer analysis cannot involve a significant increase in the probability or consequences of an accident previously evaluated because:

a) the same containment sample flow path is used;
b) the same sample pump is used with the two systems so that the sample through either is the same; and
c) the method of grab sample laboratory analysis requires a calibration as part of the analysis. This ensures accuracy during analysis.

The proposed changes to show two independent hydrogen analyzers are available do not involve a significant increase in the probability or consequences of an accident previously evaluated because:

a) the rewording describes the actual hydrogen analyzer system in terms of its components and thus creates a clear presentation of the system's design which is described in FSAR Section 6.2.5; and
b) the changes to the action and surveillance requirements establish the guidelines to insure that sufficient hydrogen sampling capability is available in the event of an accident.
c) the electrical power alignment verification is no longer necessary in that each of the redundant subsystems is powered from an independent onsite emergency power source. No single failure can result in a total loss of hydrogen concentration measurement capability

(2) Use of the modified specification would not create the possibility of a new or different kind of accident from any accident previously evaluated.

A new or different kind of accident than any previously evaluated is not possible as a result of the specification being modified to include oxygen as part of the sample gas because oxygen is part of the calibration process described by the vendor. By accurately describing the gasses required for calibration, the method of calibration and the capability of hydrogen monitoring during an accident does not change.

A new or different kind of accident than any previously evaluated is not created by the specification being modified to allow for the laboratory analysis of the grab sample. This grab sample is an alternative method of monitoring the containment atmosphere after an accident and is not a possible cause of a new or different kind of accident.

A new or different kind of accident than any previously evaluated is not created by the specification being modified to indicate that two independent hydrogen analyzers are available for monitoring the containment atmosphere. Providing the operability checks and action statements is a clarification and an administrative change to insure system availability during an accident. This system is for accident monitoring and cannot create a new or different accident.

(3) Use of the modified specification would not involve a significant reduction in a margin of safety.

The hydrogen analyzers, while being required by Technical Specifications, do not have an active part in the determination of margin of safety. The change in sample gas description, the clarification of system composition, the inclusion of an alternate method of analysis and deleting the surveillance requirement to verify electrical alignment do not change the function or accuracy of the hydrogen analyzer system.

Based on the above, we have determined that the amendment request does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the probability of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety; and therefore does not involve a significant hazards consideration.

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