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April 20, 2010

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Attention: Mr. Jeffrey A. Ciocco

Docket No. 52-021
MHI Ref: UAP-HF-10109

Subject: MHI's Response to US-APWR DCD RAI No. 533-4261 Revision 2 and 535-4287 Revision 2

Reference: 1) "Request for Additional Information 533-4261 Revision 2, SRP Section: 11.03 - Gaseous Waste Management System, Application Section: 11.3," dated March 2, 2010.
2) "Request for Additional Information 535-4287 Revision 2, SRP Section: 11.03 – Gaseous Waste Management System, Application Section: 11.3," dates March 2, 2010.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") documents as listed in Enclosures.

Enclosed are the responses to ten RAIs contained within References 1 and 2.

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of the submittals. His contact information is below.

Sincerely,

Atsushi Kumaki for

Yoshiki Ogata
General Manager- APWR Promoting Department
Mitsubishi Heavy Industries, LTD.

D081
NRO

Enclosures:

1. Response to Request for Additional Information No. 533-4261 Revision 2
2. Response to Request for Additional Information No. 535-4287 Revision 2

CC: J. A. Ciocco
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Docket No. 52-021
MHI Ref: UAP-HF-10109

Enclosure 1

UAP-HF-10109
Docket Number 52-021

Response to Request for Additional Information
No. 533-4261 Revision 2

April 2010

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

4/20/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 533-4261 REVISION 2**
SRP SECTION:	**11.03 – Gaseous Waste Management System**
APPLICATION SECTION:	**11.3**
DATE OF RAI ISSUE:	**03/02/2010**

QUESTION NO. : 11.03-15

Staff review of DCD Tier 1, Revision 2, Section 2.7.4.2 and Table 2.7.4.2-1 found that information on ITAAC for the GWMS to demonstrate compliance with 10 CFR 52.47(b)(1) and to provide reasonable assurance that a plant that incorporates the US-APWR design certification and operates in accordance with the design certification will meet the provisions of the Atomic Energy Act and NRC regulations was not fully described. Without confirming the initial introduction of the proper types and amounts of charcoal media and desiccants, and delay time, the GWMS would fail to meet the design criteria in the DCD Tier 2, Revision 2, Section 11.3.1.2. As a result, gaseous releases could exceed 10 CFR 20, Appendix B, Table 1, effluent concentration and dose limits, and 10 CFR 50, Appendix I dose objectives. The staff requests the applicant to address the following:

1. Describe in DCD Tier 1, Section 2.7.4.2.1, how the GWMS is designed to process gaseous waste prior to release and insure compliance with 10 CFR 20, Appendix B, Table 1 effluent concentration and dose limits, and 10 CFR 50, Appendix I dose objectives for gaseous effluents when the plant is operational.

2. Describe in DCD Tier 1, Section 2.7.4.2.1, the process design of the GWMS subsystems and how the initial loading of the subsystem demineralizers and vessels includes the proper types and amounts of charcoal media and desiccant, and delay time that will meet or exceed the system design descriptions and parameters listed in DCD Tier 2, Revision 2, Tables 11.3-1 and 11.3-2. Provide in DCD Tier 1, Table 2.7.4.2-1, the assigned ITAAC to confirm the charcoal quantity.

3. Provide in DCD Tier 1, Table 2.7.4.2-1, the assigned ITAAC to confirm the radiation monitor at the discharge side of the adsorbers which sends a signal to close the GWMS discharge valves upon detection of radiation levels above the set point monitor, source test of the radiation monitor, alarms, indications, and automatic initiation functions as described in DCD Tier 1, Revision 2, Section 2.7.4.2.1 and DCD Tier 2, Revision 2, Sections 11.3.2.1.6 and 11.5.2.4.1.

Please revise the DCD to include this information and provide a markup.

ANSWER:

The GWMS is designed to use gas surge tanks to provide temporary storage of radioactive gases. It also includes four charcoal beds for the decay of radioactive gases before the gases are released into the environment. The four charcoal beds provide adequate delay and decay time of radioactive gases before it is routed to the discharge structure. The primary source of radioactive gases come from the vents from the holdup tanks and the volume control tank and contains moisture that is harmful to the charcoal medium. The gases are demoisturized in the waste gas dryer before it reaches the charcoal beds. This dry gas is then processed through the charcoal beds for decay of radioactive gases before release of the gases to the environment.

The use of the gas surge tanks and charcoal media and GWMS design is common in the nuclear industry and their performances on removal of radioactive gases are also commercially proven. The charcoal beds have sufficient amount of charcoal material to insure the gaseous release meets the limits of 10 CFR Part 20, Appendix B and 10 CFR Part 50, Appendix I. Radiation monitors are provided to monitor the release to insure these limits are not exceeded. The discharge valve remains open when the radiation setpoint is not exceeded, otherwise, the radiation monitors will an initiate alarms in the MCR for operator actions to close the discharge valves and recycle the gases for more treatment.

1. Based on the above discussion, DCD Tier 1, Section 2.7.4.2.1 will be revised to address GWMS processing capability as shown below under "Impact on DCD".

2. Based on the process design, technical specifications will be prepared to specify the size and design of gas surge tanks, charcoal adsorbers, waste gas compressors and waste coolers and dryers. The technical specifications will specify the type, size, and quantities of initial supply of charcoal and drying media, and the provision of the corresponding performance data, and/or test reports, as appropriate, by the corresponding equipment vendors. The design of the equipment, performance data of the media, test reports are required to be submitted by the equipment manufacturers during bid evaluation processes. In addition, engineering review of the vendor design is also conducted during equipment fabrication phase to insure it meets the design parameters specified. During equipment delivery, inspection of the types, the quality, and the volume of dessicant and charcoal media will be conducted for acceptance. Procedures for loading the media will be prepared to insure that the media loading meets the design and the corresponding vendor specifications for the molecular sieve tanks and charcoal adsorbers capabilities. DCD Tier 1, Section 2.7.4.2.1 will be revised accordingly.

3. Gaseous radwaste discharge monitor RMS-RE-072 is identified in DCD Tier 1 Table 2.7.6.6-1 of Process Effluent Radiation Monitoring and Sampling System (PERMS) equipment, and is subject to the functional arrangement ITAAC Item 1 of Table 2.7.6.6-2. Table 2.7.4.2-1 ITAAC Item 2 requires the GWMS discharge valves to close in response to a GWMS effluent discharge isolation signal.

Impact on DCD

1) In Tier 1 Section 2.7.4.2.1 Design Description, System Purpose and Functions, revise first paragraph to read as follows:

2.7.4.2.1 Design Description

System Purpose and Functions

The GWMS is a not safety-related system. The GWMS is designed to monitor, control, collect, process, handle, store, and dispose of gaseous radioactive waste generated as the result of normal operation, including anticipated operational occurrences (AOOs). **The GWMS is**

designed to process potentially radioactive gases using charcoal adsorbers to provide sufficient delay and decay time of radioactive gases prior to release. This insures compliance with 10 CFR Part 20, Appendix B, concentration and dose limits, and 10 CFR Part 50, Appendix I dose objectives for gaseous effluents when the plant is operational.

2) Tier 1 Section 2.7.4.2.1 Design Description, Key Design Features, revise this paragraph to read as follows:

2.7.4.2.1 Design Description

Key Design Features

The GWMS design provides sufficient capacity and flexibility to collect and process incoming radioactive waste gases for release. Streams in the GWMS are monitored for both hydrogen and oxygen content to prevent flammable mixture. The waste gas compressor packages are used to compress the nitrogen waste gas. The charcoal beds provide adequate delay and decay time before the gases are released into the environment. **The design shall incorporate sufficient delay time and proper types, quantities, sizes, and the quality of the media to meet requirements in NRC Regulations 10 CFR Part 20, Appendix B and 10 CFR Part 50, Appendix I, to ensure that the effluent releases do not exceed regulatory limits. Review of vendors' equipment design and equipment acceptance inspections are performed to insure equipment sizes, media type and loading procedures are consistent with the design and technical specifications. Pre-operational inspections and testing shall include verification of the media types and quantities to insure that the media will meet or exceed the process design parameters as specified.** The radiation level in the treated gases is verified with radiation monitors prior to release to the environment. These radiation monitors send signal to close the GWMS discharge valves upon detection of radiation levels above the set point.

In Tier 1 Section 2.7.4.2.1, Table 2.7.4.2-1 Gaseous Waste Management System Inspections, Tests, Analyses, and Acceptance Criteria, revise the table as follows:

Table 2.7.4.2-1 Gaseous Waste Management System Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
5. The GWMS design shall incorporate sufficient delay time and proper types, quantities, sizes, and the quality of the media to meet requirements in NRC Regulations 10 CFR Part 20, Appendix B and 10 CFR Part 50, Appendix I, to ensure that the effluent releases do not exceed regulatory limits.	**5. Inspections of the GWMS process equipment will be performed to verify the type, volume, and quality of charcoal media.**	**5. The as-built charcoal adsorber contains the proper media type, size, volume, and quality of charcoal as specified.**

Impact on COLA

There are no impacts on the COLA.

Impact on PRA

There is no impact on the PRA.

This completes MHI's response to the NRC's question.

Docket No. 52-021
MHI Ref: UAP-HF-10109

Enclosure 2

UAP-HF-10109
Docket Number 52-021

Response to Request for Additional Information
No. 535-4287 Revision 2

April 2010

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

4/20/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	NO. 535-4287 REVISION 2
SRP SECTION:	11.03 – Gaseous Waste Management System
APPLICATION SECTION:	11.3
DATE OF RAI ISSUE:	3/2/2010

QUESTION NO. : 11.03-16

RAI 11.3-1 Supp 1 (eRAI 4287, Question 16421) (Related to eRAI 2007, Question 7886)

The staff asked the applicant in RAI 188-2007, Question 11.3-1 to provide in the DCD additional information to justify how the guidance in Regulatory Position 2.3 (which points to Regulatory Position 5) is met. The applicant replied to Question 11.3-1 in its response to Request for Additional Information (RAI) Number 188-2007, Revision 1, dated March 10, 2009. In its response the applicant stated, "According to Table 3.2-2 (Sheet 32 of 53) the GWMS components are all designed to the codes and standards of Class 6, which as shown in Table 3.2-3, means that codes and standards meeting RG 1.143 are applied. Also, Table 3.2-2 (Sheet 32 of 53) shows that the seismic category of SSCs in the GWMS are classified based on RG 1.143."

The staff has reviewed the applicant's response to the RAI and recognizes that DCD Section 3.2.2.5, "Other Equipment Classes," states, "The codes and standards defined in RG 1.143, Table 1, are applied to equipment Class 6 components." However, RG 1.143, Regulatory Position 5, "Classification of Radwaste Systems for Design Purposes," states:

"Any systems or components in a RW-IIa facility that store, process, or handle radioactive waste in excess of the A1 quantities given in Appendix A, 'Determination of A1 and A2,' to 10 CFR Part 71, 'Packaging and Transportation of Radioactive Material,' are classified as RW-IIa. These systems or components that process radioactive waste in excess of the A2 quantities but less than the A1 quantities given in Appendix A to 10 CFR Part 71 are classified as RW-IIb. All other components are classified as RW-IIc. This classification may be modified for specific radwaste components."

To ensure that RG 1.143, Regulatory Position 5 guidance is met, the applicant is requested to provide a discussion of each of the GWMS components and the quantities of radioactive waste they process. Based on this discussion, provide in the DCD appropriate classifications (RW-IIa, RW-IIb, or RW-IIc) for the systems or components that process radioactive waste similar to the proposed Table 11.2-20 for the LWMS.

ANSWER:

The gas surge tanks and the charcoal adsorbers contains significant amount of radioactive waste and have a safety classification of IIa, in accordance with RG 1.143, Position 5 guidance. Other components, including the waste gas compressors, oxygen analyzer, hydrogen/oxygen analyzers,

waste gas dryer, waste gas coolers, moisture separator, molecular sieve tanks, and the blower fans are classified as IIc. A table, similar to Table 11.2-20 for the LWMS, is added to this DCD section.

Impact on DCD

The following Table 11.3-12 will be added to DCD Tier 2 in its next revision.

Table 11.3-12 Component Classification

Component	Safety Classification
Waste Gas Surge Tanks	RW IIa
Charcoal Beds	RW IIa
Waste Gas Compressor Package	RW IIb
Waste Gas Dryer	RW IIb
Oxygen Gas Analyzer	RW IIc
Waste Gas Analyzer (Hydrogen/Oxygen)	RW IIc

Impact on COLA

There are no impacts on the COLA.

Impact on PRA

There is no impact on the PRA.

This completes MHI's response to the NRC's question.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

4/20/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 535-4287 REVISION 2**
SRP SECTION:	**11.03 – Gaseous Waste Management System**
APPLICATION SECTION:	**11.3**
DATE OF RAI ISSUE:	**3/2/2010**

QUESTION NO. : 11.03-17

RAI 11.3-3 Supp 1 (eRAI 4287, Question 16422) (Related to eRAI 2007, Question 7888)

The staff asked the applicant in Request for Additional Information, RAI188-2007, Question 11.3-3 to provide additional information in the DCD to confirm compliance with SRP Section 11.3, SRP Acceptance Criteria 6. Additionally, the staff asked the applicant to specify in the DCD which components and piping are designed to withstand a hydrogen explosion. The applicant replied to Question 11.3-3 in its response to RAI 188-2007, Revision 0, dated March 10, 2009. The staff reviewed the response and found that it did not sufficiently address the guidance contained in SRP Section 11.3, SRP Acceptance Criteria 6. The supplemental RAI below specifies the additional information needed to ensure compliance with this specific SRP acceptance criteria.

1) In its response, the applicant stated, "These components are designed to comply with SRP Section 11.3, including SRP Acceptance Criteria 6... The design provides initial alarm at high concentration setpoint for operator action, and at the 'high-high alarm' setpoint, the sources of the gas to the charcoal beds are automatically isolated by valves in the closed position... The malfunction of the hydrogen analyzer is already considered for the row 'oxygen/hydrogen analyzer skid; oxygen analyzer skid,' as the hydrogen analyzer is part of the oxygen/hydrogen analyzer skid."

- The reference to the removal of the "Hydrogen gas analyzer" from Table 11.3-3, "Equipment Malfunction Analysis," Sheet 2 of 2, the malfunction of the "Hydrogen gas analyzer" is described as when the hydrogen gas concentration exceeds the explosive limit, and the malfunction of the "Oxygen/hydrogen analyzer skids; oxygen analyzer skid" is described as when these skids fail to monitor hydrogen or oxygen concentration. Clarify how the malfunction of the hydrogen analyzer is already considered in Table 11.3-3.

- The "Result" of a malfunction of the "Oxygen/hydrogen analyzer skids; oxygen analyzer skid" in Table 11.3-3, "Equipment Malfunction Analysis," Sheet 1 of 2, states, "Even when both analyzers are out of service, manual sampling can support the automatic function." Provide in the DCD additional discussion explaining how manual sampling can support an automatic function, or justify why the current "Result" is acceptable.

2) The applicant proposed to revise the FSAR to include at the end of Section 11.3.2.1.4 the text, "In the unlikely case that the oxygen concentration does reach 4%, automatic control features are

initiated at this 'high-high alarm' setting. When the high-high alarm occurs, the sources of the gas to the charcoal bed are isolated by closing the valves." SRP Acceptance Criteria 6.C of SRP 11.3 states, "The process gas stream should be analyzed for potentially explosive mixtures and annunciated both locally and in the control room."

- Provide in the DCD indication that monitoring of potentially explosive mixtures is annunciated both locally and in the control room, or justify why annunciation locally and in the control room is unnecessary.

3) Address the following items related to SRP Acceptance Criteria 6.D of SRP 11.3:

- SRP Acceptance Criteria 6.D of SRP 11.3 states, "For systems not designed to withstand a hydrogen explosion, dual gas analyzers (with dual being defined as two independent gas analyzers continuously operating and providing two independent measurements verifying that hydrogen and/or oxygen are not present in potentially explosive concentrations) with automatic control functions are required to preclude the formation or buildup of explosive hydrogen/oxygen mixtures. Gas analyzers should annunciate alarms both locally and in the control room." The applicant's response to RAI 11.03-3 stated, "The oxygen analyzer described in Section 11.3.2.1.3 is a dual analyzer, which conforms to the definition in SRP Acceptance Criteria 6.D." Provide in the DCD discussion of the provisions of SRP Acceptance Criteria 6.D of SRP 11.3, or justify why these provisions are not discussed in the DCD.

- SRP Acceptance Criteria 6.D of SRP 11.3 states, "Control features to reduce the potential for explosion should be automatically initiated at the 'high-high alarm' setting." In its response the applicant proposed to revise the FSAR to state, "In the unlikely case that the oxygen concentration does reach 4%, automatic control features are initiated at this 'high-high alarm' setting. When the high-high alarm occurs, the sources of the gas to the charcoal bed are isolated by closing the valves." Provide in the DCD discussion of each of the applicable automatic control features that are discussed in SRP Acceptance Criteria 6.D of SRP 11.3, or justify why these provisions are not discussed in the DCD. In other words, specify which automatic control features are initiated at the 'high-high alarm' setting. Additionally, clarify in the DCD whether the valves isolating the sources of the gas to the charcoal bed fail in the closed position.

- SRP Acceptance Criteria 6.D of SRP 11.3 states, "Gas analyzers should have daily sensor checks, monthly functional checks, and quarterly calibrations...All gas analyzer instrumentation systems shall be nonsparking" Provide in the DCD discussion of gas analyzer daily sensor checks, monthly functional checks, quarterly calibrations, and instrumentation, or justify why these checks, calibrations, and nonsparking provisions may not be needed.

ANSWER:

1) The US-APWR gaseous waste management system is designed with one oxygen analyzer skid and two waste gas analyzers (oxygen/hydrogen) skids. The oxygen analyzer skid contains dual oxygen gas analyzers; both are continuously operating and provide two independent measurements verifying that oxygen is not present in potentially explosive concentrations. However, the two channels are designed to be completely separate and independent from each other. The design is such that operation, calibration, stop, maintenance, inspection, and repair of one channel do not have any effect on the operation of the other channel; and failure of any one channel will have notification locally and in the MCR for operator actions. The two waste gas analyzers analyze both hydrogen and oxygen. During normal operation, only one of the two waste gas analyzers is in service to measure the oxygen and hydrogen concentrations on a periodic/intermittent basis and the second

waste gas analyzers is used as a backup. This design provides compliance with the guidance contained in SRP Section 11.3, SRP Acceptance Criteria 6 of NUREG-0800 and ANSI/ANS-55.4. This design approach also provides sufficient backup capability. Manual sampling is used to verify the accuracies of the waste gas analyzers and is not used to support automatic function due to the timeliness of the analysis results. DCD will be revised to remove this inconsistency. Refer to "Impact on DCD" section below for the revision.

The continuously operating oxygen analyzer and one of the intermittently operating waste gas analyzer have automatic control functions to isolate the waste gas feed to the charcoal adsorbers in accordance with SRP Acceptance Criteria 6.D. This design approach precludes the formation or buildup of explosive hydrogen/oxygen mixtures. Hence the GWMS is not required to be designed to withstand a hydrogen explosion.

Table 11.3-3 will be revised to clarify the above design approach.

2) The DCD Subsection 11.3.2.1.4, Hydrogen/Oxygen Analyzers, last paragraph, will be revised to indicate that monitoring of potentially explosives mixture is annunciated both locally and in the MCR.

3)

- DCD Section 11.3.2.1.3 will be revised to include that the oxygen gas analyzer skid will have automatic control features to automatically isolate the feed to the charcoal adsorbers by closing the valves to the waste gas dryer and annunciate alarms both locally and in the MCR for operator actions.
- DCD Section 11.3.2.1.4, last paragraph, will be revised to include that the waste gas analyzer skids will have automatic control features to automatically isolate the feed to the charcoal adsorbers by closing the feed valves to the waste gas dryer located upstream of the charcoal adsorber and annunciate alarms both locally and in the MCR for operator actions. These feed valves to the waste gas dryer are designed to fail close.
- DCD Chapter 16, Section 5.5, Programs and Manuals, subsection 5.5.12, Explosive Gas and Storage Tank Radioactivity Monitoring Program, includes a surveillance program to ensure the hydrogen and oxygen concentration limits in the GWMS are maintained. The program will include daily sensor checks, monthly functional checks, and quarterly calibrations for the oxygen analyzer and the waste gas analyzers. All gas analyzers shall be non-sparking type.

Impact on DCD

1) In DCD Tier 2, Table 11.3-3 (Sheets 1 of 2) delete the Equipment Item for the "Oxygen/ hydrogen analyzer skids; oxygen analyzer skid as follows;

Equipment Item	Malfunction	Result(s)	Alternate Actions
~~Oxygen / hydrogen Analyzer skids; oxygen analyzer skid~~	~~Oxygen / hydrogen analyzer skid and /or oxygen analyzer skid fails to monitor hydrogen or oxygen concentration.~~	~~Eventually, the gas mixture would become combustible. The redundant oxygen/hydrogen analyzer skid and oxygen analyzer skid would detect an explosive mixture. Even when both analyzers are out of service, manual sampling can support the automatic function.~~	~~Either the oxygen/hydrogen analyzer skid or the oxygen analyzer would detect an explosive mixture or a manual sample can be taken to verify gas concentrations.~~

and replace with the following:

Equipment Item	Malfunction	Result(s)	Alternate Actions
Oxygen Analyzer with dual independent channels measuring oxygen concentrations	**One channel failure**	**Operation may continue as the other channel can determine oxygen concentration to support continuous operation. MCR operator is notified for channel failure.**	**Waste gas analyzers data can be used.**
Two separate waste gas analyzers analyzing hydrogen and oxygen concentrations	**One waste gas analyzer failure**	**Operation may continue as the other waste gas analyzer can determine oxygen and hydrogen concentrations to support continual operation. MCR operator is notified for one analyzer failure; standby analyzer automatically kicks in for analysis.**	**Oxygen analyzer data can be used.**

2) DCD Section 11.3.2.1.4 Hydrogen/Oxygen Analyzers, last paragraph, will be revised to include the following:

"In the unlikely case that the oxygen concentration reach**es** 4%, automatic control features are initiated at this "high-high alarm" setting. When the high-high alarm occurs, the sources of the gas to the charcoal bed are isolated by closing the valves. **These valves fail close. Under these conditions the gas analyzers will annunciate alarms both locally and in the main control room."**

3) DCD Section 11.3.2.1.3 will be revised to include the following;

"One **non-sparking** oxygen analyzer unit containing dual analyzers and monitors is provided downstream of the waste gas dryer to continuously monitor the concentration of oxygen upstream of the charcoal beds. The oxygen content of the waste stream is controlled to preclude the formation of a flammable mixture. **The oxygen gas analyzer skid will have automatic control features to automatically isolate the feed to the charcoal adsorbers by closing the valves to the waste gas dryer and annunciate alarms both locally and in the MCR for operator actions."**

Revise DCD Section 11.3.2.1.4 first and last paragraph to include the following;

First Paragraph;

"Two **non-sparking** hydrogen and oxygen gas analyzers monitor the concentrations of hydrogen and oxygen in GWMS components. During normal operation, one is in service to measure the oxygen and hydrogen concentration on a periodic basis and the second one is used as a backup. The second gas analyzer provides compliance with the redundancy guidance of NUREG-0800 (Ref. 11.3-12), and ANSI/ANS-55.4, Section 4.7 (Ref. 11.3-6). The hydrogen and oxygen analyzers do not operate continuously as does the oxygen analyzer. These instruments are used intermittently, mainly during the discharge mode of operation."

Last Paragraph;

"In the unlikely case that the oxygen concentration reach**es** 4%, automatic control features are initiated at this "high-high alarm" setting. When the high-high alarm occurs, the sources of the gas to the charcoal bed are isolated by closing the valves. **The waste gas analyzer skids will have automatic control features to automatically isolate the feed to the charcoal adsorbers by closing the feed valves to the waste gas dryer located upstream of charcoal adsorber, and annunciate alarms both locally and in the MCR for operator actions."**

Impact on COLA

There are no impacts on the COLA.

Impact on PRA

There is no impact on the PRA.

This completes MHI's response to the NRC's question.