MITSUBISHI HEAVY INDUSTRIES, LTD.
16-5, KONAN 2-CHOME, MINATO-KU
TOKYO, JAPAN

July 18, 2008

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

Attention: Mr. Jefrey A. Ciocco

Docket No. 52-021
MHI Ref: UAP-HF-08124

Subject: MHI's Response to US-APWR DCD RAI No.12

References: 1) "Request for Additional Information No.12 Revision 0, SRP Section: 14.02 – Initial Plant Test Program – Design Certification and New License Applicants, Application Section: 14.2," dated June 18, 2008.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") a document entitled "Response to Request for Additional Information No.12 Revision 0."

Enclosed is the response to Questions 14.02-2 through 14.02-7 that are contained within Reference 1.

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,

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

1. Response to Request for Additional Information No.12 Revision 0

CC: J. A. Ciocco
C. K. Paulson

Contact Information
C. Keith Paulson, Senior Technical Manager
Mitsubishi Nuclear Energy Systems, Inc.
300 Oxford Drive, Suite 301
Monroeville, PA 15146
E-mail: ck_paulson@mnes-us.com
Telephone: (412) 373-6466

D081
NRO

Docket No. 52-021
MHI Ref: UAP-HF-08124

Enclosure 1

UAP-HF-08124
Docket No. 52-021

Response to Request for Additional Information No.12 Rev.0

July 18, 2008

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 12 REVISION 0**
SRP SECTION:	**14.02 – Initial Plant Test Program – Design Certification and New License Applicants**
APPLICATION SECTION:	**14.2**
DATE OF RAI ISSUE:	**6/18/2008**

QUESTION NO.: 14.02-2

RG 1.68, Section C.1, Criteria for Selection of Plant Features To Be Tested, Item (d), notes that structures, systems and components (SSCs) classified as engineered safety features (ESFs) should be tested. US-APWR DCD Section 14.2.1 lists the categories of items to be tested and includes the engineered safety feature actuation system (ESFAS) rather than the full ESF systems. MHI needs to revise Section 14.2.1 to include testing of all systems that comprise ESFs for the US-APWR design.

ANSWER:

MHI will revise the Section 14.2.1 list of categories to be tested to include all systems that comprise ESFs for the US-APWR design.

Impact on DCD

This revision impacts subsection 14.2.1 of the DCD. On page 14.2-1, the fourth item below "Preoperational and startup testing is performed on SSCs that are:" will be modified in substance as follows:

Classified as ~~E~~engineered safety features **(ESF)** ~~actuation systems (ESFAS)~~ or ~~are required~~ **classified as required** to support or ~~as~~**ensure the** operation of ~~ESFAS~~ **engineered safety features** within design limits.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 12 REVISION 0**
SRP SECTION:	**14.02 – Initial Plant Test Program – Design Certification and New License Applicants**
APPLICATION SECTION:	**14.2**
DATE of RAI issue:	**6/18/2008**

QUESTION NO.: 14.02-3

Please add "10 CFR 52.47(b)(1)" to US-APWR DCD Section 14.2.1 since it is applicable to design certification applications.

Please update the reference to 10CFR 52.47(a)(1)(vi) in DCD Section 14.2.1. Since 10 CFR has been recently amended, please confirm that the references to 10 CFR in Section 14.2 of the DCD are current.

Please add RG 1.163, Performance-Based Containment Leak-Test Program, to US-APWR DCD Table 14.2-2.

Table 14.2-2 includes RG 1.9 for "Selection, Design, and Qualification of Diesel-Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants". Please clarify the applicability of this RG to the US-APWR, since the US-APWR uses gas turbines instead of diesel generators.

ANSWER:

MHI will revise the reference to 10CFR 52.47(a)(1)(vi) in Section 14.2.1 to reflect the update to 10 CFR.

All other references to 10 CFR in section 14.2 have been checked and are current.

MHI concurs that the guidance provided in RG 1.163, Performance-Based Containment Leak-Test Program, is applicable to the Initial Test Program. RG 1.163 will be added to Table 14.2-2.

Initial testing of Class 1E gas turbine generators is described in Subsection 8.3.1.1.3.8. Initial testing is in accordance with RG 1.9 and IEEE 387, which is endorsed by RG 1.9. These descriptions include each requirement of the regulatory position stated in RG 1.9 with the following note. Slow and fast starting tests required in Subsections 2.2.2 and 2.2.3 of RG 1.9 are not discussed in Chapters 8 and 14 since the gas turbine generator does not have two starting modes. The slow start test is performed to minimize stress and wear for diesel generators, however, a slow start is not needed for gas turbine generators.
The test abstracts for the gas turbine generators (i.e. Subsections 14.2.12.1.44 and 14.2.12.1.53)

will be supplemented to clarify how RG 1.9 is applied to the preoperational test of the gas turbine generators.

Impact on DCD

This revision impacts subsections 14.2.1, 14.2.14, 14.2.12.1.44, 14.2.12.1.53 and Tables 14.2-2 and 1.9.1-1 of the DCD as follows:

Revise the fifth paragraph of subsection 14.2.1 on page 14.2-2:

The ITAAC required by 10CFR 52.47~~(a)(1)(vi)~~ **(b)(1)** (Reference 14.2-8) for the US-APWR design are found in the Tier 1 document.

Revise subsection 14.2.14, References, on page 14.2-158:

14.2-8 'Contents of Applications,' "Licenses, Certifications, and Approvals for Nuclear Power Plants", Energy, Title 10, Code of Federal Regulations, Part 52.47~~(a)(1)(vi)~~ **(b)(1)**, U.S. Nuclear Regulatory Commission, Washington, DC.

Revise Table 14.2-2, page 14.2-160 with the following addition:

Table 14.2-2 Regulatory Guides Associated with the ITP

19	**Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," September 1995**

Revise Table 1.9.1-1 (sheet 11 of 15), page 1.9-12:

Reg Guide Number	Title	Status	Corresponding Chapter/Section/ Subsection
163	Performance-Based Containment Leak-Test Program (Rev. 0, September 1995)	Conformance with no exceptions identified	**6.2.6, 14.2**

Revise Clause A and C of Subsection 14.2.12.1.44 as follows in substance:

A. Objective

1. **To** demonstrate the operability of each **Class 1E gas turbine** ~~emergency~~ generator breaker and associated interlocks.

2. **To** demonstrate the operation of **the** air starting system, fuel oil storage and transfer system, lubrication system, combustion air intake and exhaust system **for each Class 1E gas turbine generator.**

3. **To** demonstrate emergency generator reliability by performing 25 consecutive starts with no failures **on each Class 1E** ~~emergency~~ **gas turbine** generator.

4. **To demonstrate that the Class 1E gas turbine generator starts and verify that the required voltage and frequency are attained.**

5. **To demonstrate maximum expected load-carrying capability for an interval of not less than 1 hour by synchronizing each Class 1E gas turbine generator with the offsite power system.**

~~5.~~ **6. To** determine the fuel oil consumption of each Class 1E gas turbine generator while operating under continuous rating load conditions.

7. **To demonstrate proper operation during Class 1E gas turbine generator load shedding, including a test of the loss of the largest single load and of complete loss of load. To verify that the overspeed limit is not exceeded.**

8. **To** demonstrate full load carrying capability **of each Class 1E gas turbine generator** for 24 hours.

9. **To demonstrate functional capability at full load temperature conditions by verifying each Class 1E gas turbine generator starts and to verify the generator voltage and frequency are attained within the required time limits.**

~~4.~~ **10. To** demonstrate the ability of ~~the~~ **each Class 1E gas turbine** ~~emergency~~ generator to synchronize with the offsite power system.

~~6.~~ **11. To** verify that **specified** ~~all~~ automatic **Class 1E gas turbine** ~~emergency~~ generator trips are automatically bypassed with ~~a safety injection~~ **an emergency core cooling system (ECCS) actuation signal.**

~~7.~~ **12. To** verify that, with ~~the~~ **each Class 1E gas turbine** ~~emergency~~ generator operating in the test mode connected to its bus, a simulated ~~safety injection~~ **ECCS actuation** signal overrides the test mode by returning the **Class 1E gas turbine** ~~emergency~~ generator to standby operation.

13. **To demonstrate that by starting and running (unloaded) redundant Class 1E gas turbine generator units simultaneously, common failure modes that may be undetected with a single Class 1E gas turbine generator test do not occur.**

C. Test Method

1. Fuel oil is transferred from the fuel oil storage tank to the fuel oil day tanks by means of the transfer pumps. The appropriate flow parameters are recorded.

2. The control logic of the **Class 1E gas turbine** ~~emergency~~ generator breakers, **Class 1E gas turbine** ~~emergency~~ generator circuit, and support pumps and valves are verified.

3. The operability of the starting system is verified.

4. A demonstration of 25 consecutive starts of each **Class 1E gas turbine** ~~emergency~~ generator is performed.

~~5. Each emergency generator is started, voltage and frequency control demonstrated, phase rotation verified, and the emergency generator synchronized to offsite power and loads.~~

5. The Class 1E gas turbine generator is started and attaining required voltage and frequency is verified.

6. The Class 1E gas turbine generator is operated with maximum expected load-carrying capability for an interval of not less than 1 hour by synchronizing the Class 1E gas turbine generator with the offsite power system.

~~6.~~ **7.** During the testing, fuel oil consumption is monitored with ~~the~~ **each Class 1E gas turbine** ~~emergency~~ generator operating at the continuous load rating.

8. The largest single load and complete load are shed and no tripping on overspeed is verified.

9. Demonstrate full load carrying capability for 24 hours, of which 22 hours are at a load equivalent to the continuous rating of the Class 1E gas turbine generator and 2 hours at a load equivalent to the two hour rating of the emergency generator.

10. Demonstrate functional capability at full load temperature conditions by verifying each Class 1E gas turbine generator starts upon receipt of a manual or auto-start signal, and the generator voltage and frequency are attained within the required time limits.

11. Demonstrate the ability to:

- **Synchronize the Class 1E gas turbine generator unit with the offsite system while the unit is connected to the emergency load.**
- **Transfer the emergency load to the offsite system.**
- **Restore the Class 1E GTG to standby status.**

~~7. With a simulated LOOP signal, the proper emergency generator trips and bypasses are verified.~~

12. Demonstrate that the specified automatic trip signals for the Class 1E gas turbine generator are bypassed automatically as designed.

~~8.~~ **13.** With each **Class 1E gas turbine** ~~emergency~~ generator **operating in the test mode** connected to its bus, a simulated ECCS actuation signal **is initiated to override the test mode and return the Class 1E gas turbine generator** to standby operation.

14. Demonstrate that by starting and running (unloaded) redundant units simultaneously, common failure modes that may be undetected with a single Class 1E gas turbine generator testing do not occur.

D. Acceptance Criteria

1. The controls, alarms, interlocks, and operation of the emergency generator breakers and support systems are as designed (see Subsection 8.3.1.1.3).

2. Each **Class 1E gas turbine** ~~emergency~~ generator completes 25 consecutive starts within the required time without a failure.

3. Each Class 1E gas turbine generator attains the required voltage and frequency upon starting.

~~3.~~ **4.** Each **Class 1E gas turbine** ~~emergency~~ generator is capable of being synchronized with offsite power **and supplies the maximum expected load-carrying capability for an interval of not less than 1 hour.**

~~4. Upon the receipt of ESF signals, the emergency generators operate as designed.~~

5. The ~~emergency generator~~ fuel oil consumption **of each Class 1E gas turbine generator while operating under continuous rating load conditions** does not exceed the design requirements.

6. Upon the loss of the largest single load and complete loss of load, each Class 1E gas turbine generator continues to operate without exceeding the overspeed limit.

~~6.~~ **7.** Each ~~emergency~~ **Class 1E gas turbine** generator satisfactorily completes the full-load test for 24 hours with 22 hours at a load equivalent to the continuous rating of the Class 1E gas turbine generator and 2 hours at a load equivalent to the 2 hour rating of the **Class 1E gas turbine** ~~emergency~~ generator.

8. Each Class 1E gas turbine generator starts and attains required voltage and frequency within the required time limits at full load temperature.

9. Each Class 1E gas turbine generator is synchronized with offsite power and restored to standby status.

10. On an ECCS actuation signal, specified automatic Class 1E gas turbine generator trips are automatically bypassed.

11. On a simulated ECCS actuation signal, with each Class 1E gas turbine generator operating in the test mode connected to its bus, the test mode is overridden and the Class 1E gas turbine generator returns to standby operation.

~~9.~~ **12.** Each electrical division operates independently of other divisions.

Add the following items to the Objectives, Test Method and Acceptance Criteria sections of Subsection 14.2.12.1.53:

A. Objectives

3. To demonstrate that the starting of Class 1E gas turbine generator by an ECCS actuation signal.

~~3.~~4. To demonstrate proper automatic alignment and operation of ESF and other safety components upon an ECCS actuation signal using Class 1E gas turbine generators with the maximum and minimum design voltage. (LOOP sequence with ECCS actuation signal.)

~~4.~~ **(Note)** The ECCS actuation of the isolation valves and non-safety components and system valves in the SIS is verified in the ECCS Actuation and Containment Isolation Logic Preoperational Test (Subsection 14.2.12.1.55) and the Main Steam Isolation Valve (MSIV) and Main Feedwater Isolation Valve (MFIV) System Preoperational Test (Subsection 14.2.12.1.23).

C. Test Method

3. Initiate an ECCS actuation signal and verify each Class 1E gas turbine generator starts, attains the required voltage and frequency within acceptable limits and time, and operates on standby.

~~3.~~4. Following an ESF actuation signal coincident with a simulated LOOP, Class 1E gas turbine generator loading is checked to assure that the Class 1E gas turbine generator continuous operation ratings are not exceeded.

D. Acceptance Criteria

2. Each Class 1E gas turbine generator starts and operates on standby in response to an ECCS actuation signal.

~~2.~~3. The ESF and other safety components actuate in the proper sequence and automatically align in the proper manner (Subsections 7.3 and 8.3.1 and Table 8.3.1-4).

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 12 REVISION 0**
SRP SECTION:	**14.02 – Initial Plant Test Program – Design Certification and New License Applicants**
APPLICATION SECTION:	**14.2**
DATE of RAI issue:	**6/18/2008**

QUESTION NO.: 14.02-4

RG 1.68, Item C.4 and App. C, Item 1.f, Acceptance Criteria, note that the test acceptance criteria should account for measurement errors and uncertainties used in the transient and accident analyses. US-APWR DCD Section 14.2.3.5 does not specifically address this provision. Please indicate how test acceptance criteria will account for measurement errors and uncertainties used in the transient and accident analyses in DCD Section 14.2.3.5.

ANSWER:

The safety analysis accounts for measurement errors and uncertainty in the determination of setpoints as described in Chapter 7, subsection 7.2.3.2 for the Reactor Trip System and subsection 7.3.3.2 for Engineered Safety Features, using the methods described in subsections 7.2.2.7 and 7.3.2.7.

Preoperational test 14.2.12.1.18, Reactor Trip System and ESF System Logic Preoperational Test includes demonstration that the Reactor Trip and ESF System functions occur at design setpoints. Design setpoints include the allowances for measurement uncertainties developed in Chapter 7.

MHI will revise subsection 14.2.3.5.f, Acceptance Criteria, to clarify how test acceptance criteria will account for measurement errors and uncertainties, including those used in the transient and accident analyses.

Impact on DCD

This revision impacts subsection 14.2.3.5.f, Acceptance Criteria, page 14.2-10 of the DCD in substance as follows:

The acceptance criteria section identifies the criteria that must be met to verify that the system performance is acceptable. Numerical values and tolerances are specified for quantitative criteria. Some acceptance criteria may be qualitative in nature.

Quantitative acceptance criteria are consistent with the setpoints and accuracies derived

from uncertainty analysis and setpoint determinations as described in Chapter 7, Instrumentation and Controls, and the acceptance criteria included in the Technical Specifications surveillance requirements. Acceptance criteria that are demonstrated using portable measuring and test equipment are adjusted conservatively to account for instrument uncertainty.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 12 REVISION 0**
SRP SECTION:	**14.02 – Initial Plant Test Program – Design Certification and New License Applicants**
APPLICATION SECTION:	**14.2**
DATE of RAI issue:	**6/18/2008**

QUESTION NO.: 14.02-5

RG 1.68, Section C.4, Procedures, states that "Approved test procedures for satisfying FSAR testing commitments should be made available to the NRC approximately 60 days prior to their intended use." This is noted in DCD Section 14.2.3. DCD Section 14.3, COL item 14.2(7), notes that the COL applicant provides a schedule for development of procedures that assures procedures are available for testing. Please modify COL item 14.2(7) to indicate that approved test procedures for satisfying FSAR testing commitments will be made available to the NRC approximately 60 days prior to their intended use.

ANSWER:

The requirement to provide test procedures to the NRC at least 60 days prior to test performance is included in the DCD sections 14.2.3, 14.2.11, and 14.2.12.1, consistent with RG 1.68 Section C.4 and RG 1.206 sections C.I.14.2.3 and C.I.14.2.11. Accordingly, this requirement does not need to be added in a COL Application document which incorporates the DCD by reference, so no change or additional COL item is required.

COL Action 14.2(7) is included to ensure compliance with RG 1.206, section C.I.14.2.9, Trial Use of Plant Operating and Emergency Procedures, which states that the COL applicant should provide a schedule for development of plant procedures as well as a description of how, and to what extent, the plant operating, emergency, and surveillance procedures will be use-tested during the initial test program. A schedule for development of plant procedures is facility-specific and therefore not included in the DCD.

As stated in 14.2.9, "Preoperational and startup test procedures utilize plant operating, surveillance, emergency, and abnormal procedures either by reference or verbatim incorporation in the performance of tests." Therefore, either by reference or verbatim incorporation, these plant procedures effectively become a part of the preoperational or startup test and are required for the preparation and review of those test procedures.
MHI will clarify subsection 14.2.9 to indicate that the schedule for plant operating, surveillance, emergency and abnormal procedures that are utilized in preoperational and startup test procedures (either by reference or verbatim incorporation) should ensure that the procedures are available during the preparation and review of test procedures.

Impact on DCD

This revision impacts subsections 14.2.9, 14.2.13 and Table 1.8-2 of the DCD as follows:

Revise the second paragraph of subsection 14.2.9 on page 14.2-17:

The COL applicant provides a schedule for the development of plant procedures that assures that required procedures are available for use during **the preparation, review and performance of** preoperational and startup testing.

Revise COL Action item 14.2(7) on page 14.2-157 and Table 1.8-2 entry for COL 14.2(7) on page 1.8-43 as follows:

COL 14.2(7) *The COL applicant provides a schedule for the development of plant procedures that assures required procedures are available for use during* ***the preparation, review and performance of*** *preoperational and startup testing. [14.2.9]*

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 12 REVISION 0**
SRP SECTION:	**14.02 – Initial Plant Test Program – Design Certification and New License Applicants**
APPLICATION SECTION:	**14.2**
DATE of RAI issue:	**6/18/2008**

QUESTION NO.: 14.02-6

US-APWR DCD Chapter 14.2.12, Individual Test Descriptions, provides a listing of tests and a brief summary of each test. DCD Section 14.2.1 notes that the preparation of test procedures is the responsibility of the COL applicant. DCD Section 14.2.13 documents COL items related to the initial test program. COL 14.2(3) requires the COL applicant to provide the process used to develop test specifications and test procedures. MHI needs to clarify the objective of this COL information item and specify whether the COL applicant will be responsible for preparing the test specifications and test procedures.

ANSWER:

COL Applicant action item 14.2(3) is derived from the similar statement in section 14.2.3 of the DCD. This section itself does not fully satisfy the intent of RG 1.206 section C.I.14.2.3, Test Procedures, which requires a description of the

> "process used to develop, review, and approve individual test procedures, including the organizational units or personnel that are involved in performing these activities and their respective responsibilities."

COL Applicant action item 14.2(2) specifies in part that the COL Applicant provides a description of the organization(s) responsible for all phases of the ITP. COL Applicant action item 14.2(4) specifies that the COL applicant develops a description of the administrative controls that govern the conduct of test program. These controls include requirements that govern the activities of the startup organization and their interface with other organizations.

The COL Application should include the site-specific description of the organization and the conduct of test program in order to satisfy COL actions 14.2(2), 14.2(3) and 14.2(4). The conduct of test program includes the process used to prepare, review and approve test specifications and test procedures.

As stated in 14.2.1, preparation of test procedures is the responsibility of the COL licensee; test procedures are not required to be included in the COL application. However, the COL application must describe the organizations and the administrative programs that control the preparation, review and approval of test specifications and procedures in order to satisfy the intent of RG 1.206

section C.I.14.2.3.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 12 REVISION 0**
SRP SECTION:	**14.02 – Initial Plant Test Program – Design Certification and New License Applicants**
APPLICATION SECTION:	**14.2**
DATE of RAI issue:	**6/18/2008**

QUESTION NO.: 14.02-7

RG 1.68, Section C.3, Scope, Conditions and Length of Testing, states "The testing of SSCs should include, to the extent practical, simulation of the effects of control system and equipment failures or malfunctions that could reasonably be expected to occur during the plant's lifetime." US-APWR DCD Section 14.2.1.2.2 mentions failures and malfunctions, but does not include the scope of "reasonably be expected to occur during the plant's lifetime".
Please expand the scope of Section 14.2.1.2.2 of the DCD to address how the testing of SSCs will include, to the extent practical, simulation of the effects of control system and equipment failures or malfunctions that could reasonably be expected to occur during the plant's lifetime.

ANSWER:

MHI will expand the scope of Section 14.2.1.2.2 of the DCD to address how the testing of SSCs will include, to the extent practical, simulation of the effects of control system and equipment failures or malfunctions that could reasonably be expected to occur during the plant's lifetime, consistent with RG 1.68, Section C.3, Scope, Conditions and Length of Testing.

Impact on DCD

This revision impacts subsection 14.2.1.2.2, Preoperational Tests, page 14.2-4 of the DCD at the fourth major objective, in substance as follows:

- To validate, to the extent practical, plant response to transients, failures or malfunctions **that could reasonably be expected to occur during the plant's lifetime, by simulation of the effects of control systems and equipment failures or malfunctions. These failures or malfunctions are well understood through historical operating experience and include, but are not limited to, pump trips, instrument failures or malfunctions, valve failures or malfunctions, and loss of power events. Testing is limited to methods which do not degrade equipment performance or reliability, i.e., nondestructive testing.**

Impact on COLA

There is no impact on COLA.

Impact on PRA

There is no impact on PRA.