

Exhibit No.:  
Issue(s): Meramec Retirement; Noranda Rate  
Witness: Matt Michels  
Type of Exhibit: Surrebuttal Testimony  
Sponsoring Party: Union Electric Company  
File No.: ER-2014-0258  
Date Testimony Prepared: February 6, 2015

**MISSOURI PUBLIC SERVICE COMMISSION**

**FILE NO. ER-2014-0258**

**SURREBUTTAL TESTIMONY**

**OF**

**MATT MICHELS**

**ON**

**BEHALF OF**

**UNION ELECTRIC COMPANY  
d/b/a Ameren Missouri**

**St. Louis, Missouri  
February, 2015**

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**OF**

**MATT MICHELS**

**FILE NO. ER-2014-0258**

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**I. INTRODUCTION**

**Q. Please state your name and business address.**

A. Matt Michels, One Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri 63103.

**Q. By whom and in what capacity are you employed?**

A. I am employed by Union Electric Company d/b/a Ameren Missouri (“Ameren Missouri” or “Company”) as Senior Manager of Corporate Analysis.

**Q. Are you the same Matt Michels who filed rebuttal testimony in this proceeding?**

A. Yes, I am.

**Q. What is the purpose of your surrebuttal testimony in this proceeding?**

A. The purpose of my surrebuttal testimony is to 1) respond to the testimony of Office of the Public Counsel (“OPC”) witness Ted Robertson regarding the retirement date for the Meramec Energy Center (“Meramec”), and 2) respond to the testimony of Missouri Public Service Commission Staff (“Staff”) witness Sarah Kliethermes regarding her analysis of the rate proposal put forth by witnesses for Noranda Aluminum, Inc. (“Noranda”).

1           **II.     AMEREN MISSOURI HAS SUFFICIENTLY SUPPORTED ITS**  
2           **REQUESTED RETIREMENT DATE FOR MERAMEC**

3           **Q.     Please summarize Mr. Robertson's testimony regarding Meramec**  
4 **retirement.**

5           A.     Mr. Robertson asserts that the retirement date for Meramec should not be  
6 changed to 2022, as requested by Ameren Missouri. He bases this on his conclusion that  
7 Ameren Missouri has not provided appropriate support for retirement in 2022, arguing  
8 that the retirement date study performed by Ameren Missouri witness Larry Loos, which  
9 is included as a schedule to Mr. Loos' direct testimony, has not been updated since  
10 2009.<sup>1</sup>

11          **Q.     Is Mr. Robertson's contention accurate?**

12          A.     No, it is not. Mr. Loos in fact updated all aspects of the study he  
13 performed in 2009 in File No. ER-2010-0036, *except* for one part of it, that being a  
14 review of the actual history of Ameren Missouri coal plant retirements. The portion of  
15 Mr. Loos' direct testimony cited by Mr. Robertson is from a specific section of Mr. Loos'  
16 testimony concerning historical Ameren Missouri retirements.<sup>2</sup> As Mr. Loos explained  
17 in his direct testimony, since there have been no further retirements since he last looked  
18 at the data, there was no need to "update" this part of his analysis. I would note that Mr.  
19 Loos did update all of the other aspects of his study, including, importantly, coal unit  
20 retirement data since 2008 across the country. Mr. Loos also took into consideration

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<sup>1</sup> Robertson rebuttal, p. 19, lines 21-23.

<sup>2</sup> The section on historical retirements begins at the bottom of page 8 of Mr. Loos' direct testimony.

1 Ameren Missouri's 2014 Integrated Resource Plan ("IRP") analysis.<sup>3</sup> At page 4, lines 16-  
2 18, Mr. Loos specifically states that the Company requested an update to the 2009 study  
3 "to reflect more current information regarding environmental requirements, technology  
4 and reserves than was reflected in the prior study..." Mr. Loos goes on to list the 13  
5 different factors that were considered in reaching the conclusions stated in his updated  
6 study, including his conclusion that the retirement date for Meramec should be 2022.<sup>4</sup>

7 **Q. Has Ameren Missouri announced a decision regarding the retirement**  
8 **of Meramec?**

9 A. Yes. Ameren Missouri announced in July 2014 that the decision to retire  
10 Meramec by the end of 2022 had been made.

11 **Q. Why is the Company retiring Meramec by then?**

12 A. There are several contributing factors to the decision. First, Meramec,  
13 which was opened in 1953, will be nearing 70 years of operation by 2022. It is currently  
14 the oldest and least efficient coal-fired energy center in Ameren Missouri's fleet.  
15 Second, as a coal-fired power plant, Meramec is subject to a number of environmental  
16 regulations which are likely to require the addition of expensive environmental controls.  
17 Third, risks associated with proposed and potential regulation of greenhouse gas  
18 emissions ("GHG") may necessitate the retirement of Meramec regardless of the  
19 economics of the plant. In fact, the current proposed EPA regulation for GHG emissions,  
20 known as the Clean Power Plan ("CPP"), would likely necessitate the retirement of  
21 Meramec before 2022 if it is adopted as proposed.

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<sup>3</sup> At the time he filed his study, Mr. Loos had examined a draft of relevant IRP documentation. The final IRP did not change in any material way pertinent to this issue.

<sup>4</sup> Loos direct, page 5, line 3 through page 6, line 8.

1           **Q.     Has Ameren Missouri presented its case for retiring Meramec in its**  
2 **recently filed IRP?**

3           A.     Yes. In Chapter 9 of our IRP, we presented our analysis of several options  
4 for Meramec – 1) retirement in 2015, 2) retirement in 2022, and 3) conversion of Units 1  
5 and 2 to natural gas operation in 2016 with retirement of all four units in 2022. The  
6 results showed that option 3, with conversion of Units 1 and 2 to natural gas and  
7 retirement of all units in 2022, resulted in the lowest cost to customers. That means that  
8 continued operation of all four units on coal would not be cost effective.

9           **Q.     How did the Company consider the possibility for operation beyond**  
10 **2022?**

11          A.     We considered the potential for operations beyond 2022 and the costs and  
12 risks associated with the age and condition of Meramec and the risk of significant  
13 investment or closure associated with environmental and climate regulations.

14          **Q.     Please explain.**

15          A.     Our IRP assumptions for environmental compliance included the need for  
16 a flue gas desulfurization unit (an "FGD" or, as it is commonly known, a scrubber) at  
17 Meramec by 2023, as well as a host of other investments to comply with air, water and  
18 coal ash regulations. Our IRP assumptions also included consideration of climate policy  
19 implications for our coal fleet. Those assumptions reflect an expectation that some form  
20 of climate regulation is likely, either through 1) the implementation of an explicit price  
21 on CO<sub>2</sub> emissions or 2) through mandates that restrict CO<sub>2</sub> emissions and/or require the  
22 expansion of low or no carbon resources like wind and nuclear. Because of the high  
23 probability of some form of regulation of CO<sub>2</sub> emissions, and because compliance with

1 other environmental regulations would necessitate the investment of hundreds of millions  
2 of dollars for pollution control equipment that would not be economic if the plant were  
3 shut down due to CO<sub>2</sub> regulation, the likelihood of economic operation of Meramec on  
4 coal beyond 2022 is virtually zero. Put another way, Meramec's age and its economics  
5 would never support installation of scrubbers and other significant investment so that the  
6 plant could continue to operate beyond 2022. Consequently, it became clear that the  
7 plant would have to be retired by 2022, and management made the decision to do so.

8 **Q. Would operation of Units 3 and 4 on gas be possible?**

9 A. Not without significant conversion investment in the units, expansion of  
10 the gas supply infrastructure, and upgrades to the transmission system.

11 **Q. Please explain.**

12 A. While Units 1 and 2 were designed with the ability to operate at full load  
13 on natural gas, Units 3 and 4 were not. We estimated that over \$40 million in capital  
14 investment would be needed to convert Units 3 and 4 to allow them to operate on natural  
15 gas. That would not, however, address the need for additional gas pipeline infrastructure  
16 that would be necessary to ensure the ability to operate all four units on natural gas. Such  
17 costs, which would be significant, would be incurred by the gas pipeline company(ies)  
18 and charged to Ameren Missouri. Even while such upgrades would be necessary to  
19 ensure that all four units could reliably operate on natural gas, the lower efficiency of the  
20 units combined with the prices for natural gas (even assuming low gas prices driven by  
21 shale gas production continue) would result in infrequent operation of the units. This  
22 infrequent operation would likely necessitate upgrades to the transmission system to  
23 ensure voltage support and reliable operation of the grid. Considering all these factors, as

1 well as the age and condition of the units, leads us to conclude that conversion of Units 3  
2 and 4 to natural gas operation is not commercially feasible, just as making huge  
3 environmental investments to keep the plant running on coal beyond 2022 is not  
4 commercially feasible.

5 **Q. Is it certain that the units will be able to operate until 2022?**

6 A. No, for a couple of reasons at least. First, the units are currently 54-62  
7 years old and are subject to the potential for equipment failures. They are also subject to  
8 a number of environmental regulations, as I mentioned previously. Depending on the  
9 nature of investments needed to continue operating a particular unit, it may be more  
10 economic to retire a unit earlier rather than make the investment to operate that unit for  
11 just a few more years. Second, GHG regulations may simply necessitate the retirement  
12 of units, even if they could otherwise continue to operate economically.

13 **Q. Did the Company consider the impacts of the EPA's proposed CPP as**  
14 **part of its IRP analysis?**

15 A. Yes. While the majority of our analysis was completed prior to the  
16 publication of EPA's proposed rule, we did evaluate the potential impacts on our  
17 preferred resource plan due to compliance with the proposed rule. That analysis reflected  
18 the need to retire Meramec three years earlier, at the end of 2019, if the CPP became law  
19 as it was proposed and on the timetable that was proposed by EPA.

20 **Q. Could Ameren Missouri wait to see how the final regulations turn out**  
21 **before deciding to retire Meramec?**

22 A. While that may sound plausible on the surface, the reality is that doing so  
23 would expose Ameren Missouri and its customers to greater risk and higher costs.



1 Upgrades to the transmission system would be necessary upon retirement of the units to  
2 ensure grid reliability, as is mentioned in our IRP. These upgrades are expected to take  
3 years to plan and construct, and this work cannot begin unless and until Ameren Missouri  
4 officially notifies the Midcontinent Independent System Operator, Inc. ("MISO") of its  
5 intent to retire Meramec. If Ameren Missouri delays its notification to MISO regarding  
6 retirement, these projects may not be completed in time to retire Meramec in 2022, and  
7 the plant may be required to continue operating until the projects are completed.  
8 Meramec would still be subject to the applicable environmental regulations, which could  
9 result in the need to add the expensive environmental controls that the Company seeks to  
10 avoid by retiring the plant in 2022. It is also possible that continued operation to support  
11 grid reliability may necessitate other investments in plant equipment that could otherwise  
12 be avoided.

13 **Q. Mr. Robertson points to what appears to be a boilerplate disclaimer in**  
14 **Mr. Loos' report, where Black & Veatch states that Ameren Missouri has "not**  
15 **made any final definitive decisions" on retirement. Is that statement true?**

16 A. As earlier noted, it is not, but I would note that Mr. Loos completed his  
17 report in May of 2014, before Ameren Missouri management had made a definitive  
18 decision to retire Meramec by 2022. That decision was made at an Ameren Missouri  
19 board of directors meeting on June 26, 2014. The minutes for that meeting are attached  
20 hereto as Schedule MRM-S2. The Black & Veatch disclaimer was accurate when it was  
21 written, but it is no longer applicable.

1           **Q. Mr. Robertson goes so far as to say that there "appears to be no**  
2 **current change in circumstance on which the parties can reasonably rely to support**  
3 **changing this recent decision." Please respond.**

4           A. If by "changing this recent decision" he means the Commission's now  
5 nearly five-year old decision to use a 2027 retirement date for depreciating Meramec, I  
6 would point out that the decision is not all that recent. In fact, the depreciation data used  
7 in that case was through the end of 2008, now more than six years ago. Moreover, the  
8 assertion that there "appears to be no current change in circumstance" completely ignores  
9 the fundamental shift that has taken place in natural gas markets and environmental  
10 regulations that have now become much clearer. Since 2009, the EPA has finalized and  
11 implemented the Cross State Air Pollution Rule ("CSAPR") and the Mercury and Air  
12 Toxics Standards ("MATS") and has promulgated other rules for regulation of water use  
13 and waste. The EPA has also moved forward with more stringent standards for SO<sub>2</sub>,  
14 ozone, and particulate emissions under the National Ambient Air Quality Standards  
15 ("NAAQS") provisions of the Clean Air Act. These regulations are expected to drive the  
16 need for scrubbers and other expensive environmental equipment at Meramec to keep it  
17 running past 2022. His assertion also ignores EPA's proposed CPP regulation of CO<sub>2</sub>  
18 emissions. And finally, it ignores that Ameren Missouri's management and Board of  
19 Directors has actually and affirmatively made the decision to retire Meramec by 2022.  
20 The Staff, who actually conducted a depreciation study in this case, had no difficulty in  
21 reasonably relying on the information available now in recommending depreciation  
22 expense that reflects a 12/31/2022 retirement of Meramec.

1           **Q.     Please summarize your conclusions with respect to Mr. Robertson’s**  
2 **assertions regarding the retirement of Meramec.**

3           A.     Mr. Robertson’s assertions regarding the retirement of Meramec are  
4 completely without merit. He has based his conclusions on an erroneous reading of Mr.  
5 Loos’ report and testimony and has ignored the specific decision made by Ameren  
6 Missouri to retire Meramec by 2022, as well as the extensive assessment and analysis  
7 supporting that decision. The Commission should therefore disregard his assertions.

8           **III.   STAFF’S HISTORICAL ANALYSIS OF THE MARKET COSTS TO**  
9 **SERVE NORANDA DOES NOT SUPPORT NORANDA’S RATE REQUEST**

10          **Q.     Have you reviewed the rebuttal testimony of Staff witness Sarah**  
11 **Kliethermes regarding the rate request made by Noranda in this case?**

12          A.     Yes, I have.

13          **Q.     Does Ms. Kliethermes state any conclusions with respect to the**  
14 **reasonableness of Noranda’s rate request?**

15          A.     No, her testimony does not.

16          **Q.     Does Ms. Kliethermes provide analysis of the costs that could be**  
17 **avoided if Ameren Missouri did not serve Noranda’s load?**

18          A.     Yes. In Table 4 on page 10 of her rebuttal testimony, Ms. Kliethermes  
19 summarizes the results of her analysis of such costs under three different sets of  
20 assumptions.

21          **Q.     What is your understanding of the nature of the cost estimates shown**  
22 **in Table 4?**

1           A.     The costs shown in Table 4 are based on historical market prices for  
2 power as well as current or recent prices, but not future estimates, of costs for capacity,  
3 ancillary services and transmission.

4           **Q.     Does Ms. Kliethermes suggest that these cost estimates are**  
5 **appropriate for use in assessing the reasonableness of Noranda's seven-year rate**  
6 **proposal?**

7           A.     Her testimony is silent on this issue. In response to Ameren Missouri data  
8 request 0556, Ms. Kliethermes acknowledges that her analysis did not consider cost  
9 comparisons for any future period. This data request response is attached hereto as  
10 Schedule MRM-S3.

11          **Q.     Could these estimates be used to draw a conclusion regarding the**  
12 **reasonableness of Noranda's rate request?**

13          A.     Not at all. As I explained in my rebuttal testimony, it is not appropriate to  
14 assess the reasonableness of a forward-looking, seven-year fixed-price (with the known  
15 1% escalation) contract based solely on analysis of historical information.

16          **Q.     Has Ms. Kliethermes provided any analysis of the expected future**  
17 **costs that could be avoided if Noranda were no longer served by Ameren Missouri?**

18          A.     No. The only such analysis provided in this case is that included in my  
19 rebuttal testimony.

20          **Q.     Has Ms. Kliethermes' analysis caused you to reconsider the**  
21 **conclusions you stated regarding Noranda's rate request?**

22          A.     No. Noranda is seeking a seven-year, fixed-price rate structure for its  
23 electric service. The impact and reasonableness of such a structure must be judged

1 against future expectations for market prices for power and related services. When that  
2 analysis is done, it demonstrates that Noranda's proposal is worse for Ameren Missouri  
3 customers than if Noranda didn't take any retail service from the Company. The analysis  
4 presented in my rebuttal testimony shows that the rate structure proposed by Noranda  
5 would result in \$272 million less revenue than if the same power were sold into the  
6 market. For these reasons, I stand by the conclusions stated in my rebuttal testimony  
7 regarding Noranda's rate request, conclusions which demonstrate that the Noranda  
8 proposal is unreasonable and should be rejected by the Commission.

9 **Q. Does this conclude your surrebuttal testimony?**

10 A. Yes, it does.

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of Union Electric Company )  
d/b/a Ameren Missouri's Tariffs to ) File No. ER-2014-0258  
Increase Its Revenues for Electric Service. )

**AFFIDAVIT OF MATT MICHELS**

**STATE OF MISSOURI** )  
 ) ss  
**CITY OF ST. LOUIS** )

Matt Michels, being first duly sworn on his oath, states:

1. My name is Matt Michels. I work in the City of St. Louis, Missouri, and I am employed by Union Electric Company d/b/a Ameren Missouri as Senior Manager, Corporate Analyst.

2. Attached hereto and made a part hereof for all purposes is my Surrebuttal Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of 11 pages, and Schedule(s) MRM-S2 and MRM-S3, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.



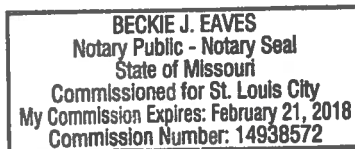
\_\_\_\_\_  
Matt Michels

Subscribed and sworn to before me this 6<sup>th</sup> day of February, 2015.



\_\_\_\_\_  
Notary Public

My commission expires: 2-21-18



**Meeting of the  
Board of Directors of  
Union Electric Company  
June 26, 2014**

Minutes of the meeting of the Board of Directors of Union Electric Company held pursuant to due notice on Thursday, June 26, 2014, at 8:00 a.m., in Conference Room 5-B at the General Office Building, 1901 Chouteau Avenue, St. Louis, Missouri.

Present: Chairman Moehn and Directors  
Cole,  
Lyons (via teleconference),  
Naslund and  
Nelson,

constituting the entire Board.

Also present were Kevin DeGraw, Vice President, Power Operations, Lynn M. Barnes, Vice President, Business Planning and Controller, Laura M. Moore, Regulatory Accounting Manager, Thomas M. Byrne, Director and Assistant General Counsel, and Ronald S. Gieseke, Assistant Secretary, of the Company.

Mr. Moehn, Chairman, President and Chief Executive Officer of the Company, presided, and Mr. Gieseke, Assistant Secretary of the Company, kept the minutes of the meeting.

Chairman Moehn asked Mr. DeGraw to provide a business review, which review included a management proposal to retire the Company's Meramec Energy Center (MEC) coal fired units by December 31, 2022. The proposal included several considerations, including: (a) an independent engineering analysis indicating the plant to be safe until 2022; (b) an analysis completed by Corporate Planning concluding that MEC's closure in 2022 provides the best value to the Company's customers; and (c) additional compliance costs if MEC is operated beyond 2022. Mr. DeGraw noted that management's proposal does not include retirement of

transmission, distribution or combustion turbine generators at the MEC site. Following discussion, on motion duly made, seconded and unanimously adopted, it was:

RESOLVED, that the Chairman, the President or any Vice President of the Company (collectively, the "Authorized Officers") are hereby authorized and directed to take all such actions as they deem necessary, desirable or appropriate that will result in the shutdown and retirement of Unit Nos. 1-4 of the Company's Meramec Energy Center no later than December 31, 2022, subject to such terms and conditions as shall be approved by an Authorized Officer (such approval to be conclusively, but not exclusively, evidenced by the execution and delivery of such agreements, instruments, documents and papers or the taking of such action).

Mr. Moehn then asked Mr. Byrne to present a regulatory review, which review included updates on: (a) the Company's preparation of an electric service rate case to be filed with the Missouri Public Service Commission ("MoPSC") on or around July 3, 2014; (b) the Noranda rate shift case which case the MoPSC heard on June 16-17, 2014; and (c) the Noranda over-earnings case which is to be heard by the MoPSC during the week of July 28, 2014.

Mr. Byrne asked Ms. Moore to provide a report to the Board on the plant assets review project. Ms. Moore noted that the project began in 2013 and included the review of plant records at all of the Company's energy centers and fifty substations. The Plant Accounting team is training employees regarding retirements, removal costs, salvage and other plant related topics. A discussion ensued.

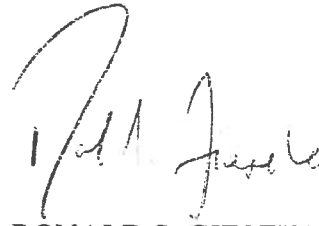
Ms. Barnes was then asked by Chairman Moehn to provide a financial review for the Board. The Board discussed the materials presented, specifically, the Company's year to date May 2014 and forecasted income statement, operations and maintenance expenses and capital expenditures, copies of which were provided to the Board in advance of the meeting. A discussion followed.

The Board then discussed its schedule of regular meeting dates. Following discussion, on motion duly made, seconded and unanimously adopted, it was:



RESOLVED, that pursuant to Section 3 of Article II of the By-Laws of the Company, regular meetings of the Board of Directors of the Company shall be held, effective immediately and until further action of the Board, on the Thursday preceding the second Friday of February, August and October, fourth Tuesday of April (immediately following the annual meeting of shareholders), and at any time as determined by the Chairman of the Board.

There being no further matters before the Board, the meeting was adjourned  
at 8:45 a.m.

A handwritten signature in black ink, appearing to read "Ronald S. Gieseke". The signature is written in a cursive style with a large initial "R".

RONALD S. GIESEKE  
Assistant Secretary

## Missouri Public Service Commission

### Respond Data Request

<b>Data Request No.</b>	0556
<b>Company Name</b>	MO PSC Staff-(All)
<b>Case/Tracking No.</b>	ER-2014-0258
<b>Date Requested</b>	1/26/2015
<b>Issue</b>	Other - Other
<b>Requested From</b>	Kevin Thompson
<b>Requested By</b>	Cheryl L Lobb
<b>Brief Description</b>	Rebuttal Testimony of Sarah Kliethermes
<b>Description</b>	Part a - Referring to the rebuttal testimony of Sarah Kliethermes, Table 4 on page 10 presents dollar values and per MWh rates at Noranda's meter. Please confirm that these values are based on historical day-ahead prices for power. Part b - Again referring to Table 4, please confirm that these values are not intended as a measure of the reasonableness of a 7-year fixed price contract.
<b>Response</b>	Response: Part a. The values in table 4 are based on historical Day Ahead LMP values, as identified in the table. Part b. The values are not intended to reflect any changes to the cost of delivering energy to Noranda's meter going forward for any period of time. Response by Sarah Kliethermes (sarah.kliethermes@psc.mo.gov)
<b>Objections</b>	NA

The attached information provided to **Missouri Public Service Commission** Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the **Missouri Public Service Commission** if, during the pendency of Case No. **ER-2014-0258** before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information. If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the **MO PSC Staff-(All)** office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies or data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control or within your knowledge. The pronoun "you" or "your" refers to **MO PSC Staff-(All)** and its employees, contractors, agents or others employed by or acting in its behalf.

<b>Security :</b>	Public
<b>Rationale :</b>	NA

**Schedule MRM-S3**