**Minutes of the Meeting**

Subject: Discussion on the Recurrent Crashing of the PDMS

Date: February 1, 2022

Time: 13:30 hours

Mode: Virtual (google meet)

At the outset, the PDMS focal of the Department of Hydro-Power and Power Systems (DHPS) welcomed the officials from the ICT-MoEA and the M/s Sparkle Technology (Consultant), to the meeting. DHPS informed that the meeting has been called on immediately upon receipt of security related report pertaining to the PDMS from the Ministry of Information and Communication (MoIC) on February 1, 2022, and said that there could be a possibility of security threat to the system and the data. DHPS apprised that the system failure rendering the website off-line has been a recurrent issue the Department has been facing even after the enhancement of the PDMS, and elucidated that it could be attributable to three possible issues: database, server, and the application itself. The ICT-MoEA explained that the server is constantly being monitored, and there is no issue with the server. The ICT-MoEA also said that there is no indication of any issue pertaining to the database, and pointed out to the application as the possible cause of the website off-line issue. The ICT-MoEA added that the Department has been recommended to develop the PDMS to suit java version 8 in spring framework with bootstrap4 or the latest version at the time of the assignment, and apprised that the PDMS is developed in the struts framework. It was further elucidated that the security issues arising may be due to development of the system in the open-source code, which requires frequent upgrade (days/weeks/months). It was then transpired that the PDMS was developed in the open-source code, not in the spring framework as specified in the Terms of Reference (ToR).

The Consultant admitted that the PDMS was developed in struts framework, which is an open-source code. Consultant added that the current system is upgraded to struts framework 2 from earlier struts framework 1. Consultant provided various reasons such as time constraint and acceptance by the Department of Information Technology and Telecom (DITT) amongst others for development of the PDMS in struts framework 2. DHPS explained that the system should be developed as per the requirement stipulated in the ToR as the whole purpose of the system upgrade is to ensure all-time upkeep of the system, website should not crash/go off-line under any circumstances, and the system functionality and the security should not be compromised. Referring to the ToR, DHPS clarified that the current PDMS developed in the struts framework, which is under the annual maintenance contract (AMC) period of one year, shall be upgraded, and be delivered to the procuring agency (DHPS) by the Consultant as per the ToR. DHPS explicitly specified that the re-development, commissioning, and handing over of the PDMS in the spring framework shall be entirely based on the provisions stipulated in the ToR. The meeting also discussed on the PDMS mobile app. Consultant submitted that the mobile app development is complete (android base application); however, for IOS mobile application, not able to push the app in the apple store due to lack of developers account (procuring agency) for which, the ICT-MoEA has been requested to consult the previous PDMS focal from the ICT division.

The meeting deliberated at length, decided, and agreed on the PDMS re-development as follows:

1. Consultant will re-develop the PDMS in compliance with the ToR agreed by both the parties (Procuring Agency and the Consultant) for development of the PDMS, which is in effect till the end of one-year AMC period;
2. With regard to the timeline, the consultant will deliver the re-developed PDMS in the month of May 2022 in all respects including the mobile app;
3. Two-weeks (14 days) user access testing for testing of the functionality of the re-developed PDMS in all respects. Issue(s) if any, (such as functionality, presence of bugs, etc.) on the re-developed PDMS shall be shared to the Consultant by the Procuring Agency on the third week after the delivery of the system by the Consultant; and
4. The PDMS shall be commissioned (schedule to be agreed at a later stage) after resolving the issue(s) by the Consultant in entirety, and subject to meeting the requirement(s) specified in the ToR by the Consultant.
5. Consultant will ensure the current system developed in struts framework is kept on-line for use by the Procuring Agency, and that the re-development of the PDMS in spring framework shall not affect the use of the existing system under any circumstance.

**Procuring Agency Consultant**

1. **Sonam Gyeltshen 1. Santosh Gurung**

**(Executive Engineer) ()**

1. **Sangay Thinley 2. Deepak**

**(Dy. Executive Engineer) ()**

1. **Sonam Tshering**

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1. **Choki Nima**

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