

### A) General Information



**Acronym:** EMC-PV-M - 20120131-18

**Title of the User-Project:** ElectroMagnetic Compatibility of PV inverters and electronic Meters

**TA Call:**

**Host Research Infrastructure:** Fraunhofer IWES

**Starting Date:** 16/07/2012

**End Date:** 20/07/2012

**Lead User :** Vasileios Rogkakos,

**Organization:** Public Power Corporation, Greece

**Additional Users:** Panos Kotsampopoulos, ICCS-NTUA, Greece

### B) Summary of the User-Project

Electronic-smart meters are increasingly being installed in European electricity networks. However, due to a gap in standardization of both, immunity and emissions (range 2-150kHz), EMC problems have been reported. Specifically, the malfunction of electronic meters when used in combination with PV inverters has been observed in different countries. Therefore, in-order to prevent these problems from enlarging, limits need to be defined on immunity and emissions, as well as laboratory set-ups to perform suitable tests.

### C) Expected Results

The advantages of electronic meters and smart meters (in the smart-grid concept) compared to electromechanical, led the European union in strongly promoting their use. More and more electronic-smart meters are installed across Europe. However a gap in standardization has contributed to the malfunction of meters when used with PV inverters and some other devices in several countries. This situation is expected to become worse as more electronic meters are installed and in addition PV and DER penetration increases. If these issues aren't solved on time the large-scale use of electronic-smart meters could face problems.

Therefore this work will aid in avoiding similar EMC problems in Greece in the future. Currently few suitable laboratory set-ups exist world-wide. The development of the planned immunity set-up in Greece can provide useful experience to European Standardization bodies. Sharing experience with the host-institute will promote the cooperation in European level and contribute to the solution of this important and urgent task.

### D) Dissemination of the Results (Planned)

The results will be published in the website/newsletter of PPC or Greek journals. After the development of an immunity set-up in Greece, the experience gained could be provided to standardization bodies.

### E) Use of the Resources

**Nr. of Users involved:** 2

**Access Days:** 5

**Stay Days:** 5