Project no.:
608540

Project acronym:
GARPUR

Project full title:
**Generally Accepted Reliability Principle with
Uncertainty modelling and through probabilistic Risk assessment**

Collaborative project

FP7-ENERGY-2013-1

Start date of project: 2013-09-01
Duration: 4 years

Public introduction to
D7.1
Functional description of the quantification platform

Due delivery date: 2015-03-31
Actual delivery date: 2015-06-22

Organisation names of lead beneficiaries for this deliverable:
SINTEF and KU Leuven

Project co-funded by the European Commission within the Seventh Framework Programme (2007-2013)			
Dissemination Level			
PU	Public		
PP	Restricted to other programme participants (including the Commission Services)		
RE	Restricted to a group specified by the consortium (including the Commission Services)		X
CO	Confidential, only for members of the consortium (including the Commission Services)		

Abstract

The objective of this report is to present the functional requirement specifications of the quantification platform, together with its software and hardware architecture. The GARPUR quantification platform will be used to compare the newly developed GARPUR reliability criteria with an existing N-1 approach.

Both an ideal and a prototype platform are discussed in terms of functional requirements. The ideal platform is seen as the generic version of the prototype, having more options and possibilities. The prototype version has two objectives. On the one hand, the platform needs to be able to perform the pilot tests which will be performed in work package 8. This requires a platform able to deal with existing TSO data and operations. On the other hand, the tool should allow to benchmark different reliability management methods and reliability criteria developed elsewhere in the project through the use of various (smaller) test systems in order to gain sufficient confidence in these methods and to study the future requirements of these reliability management methodologies and reliability criteria.

To find a suitable software and hardware platform, knowledge of existing projects is used. A review is made of existing software and projects to be included in the GARPUR quantification platform. The platform is chosen to be a software package rather than distributed software, with modules for each specific task. By working with a modular approach, it is possible to replace an existing module with another one if needed. It also allows that on the one hand existing software can be seamlessly integrated while retaining the openness for potential future developments.

The report also includes roles and responsibilities for the development process, possible bottlenecks and how to tackle them, and possibilities for verification and validation.

This report is considered a working document, updated versions will be sent on M30 and M45 to complete the module descriptions and provide the different APIs.