1 Preface

In the year 2010, the IPPLM Euratom Association continued its activities in accordance with the new organizational structure and rules of financing, which were introduced in Euratom fusion programme in the previous years. This new structure and the financial principles are based on the priorities agreed by CCE-FU and EFDA and also using methods like: Call for participation, Task agreements, Task forces and Topical groups.

Wroclaw University of Technology (WrUT) has been continuing the contract related to Review of complex cryolines – support to India DA. WrUT had also taken up a new task connected with Risk Analysis of ITER Cryogenic System. AGH University of Science and Technology received grants from F4E in relation with Nuclear Data studies/experiments in support of TBM activities, in which the following tasks are included: the first - Developing innovative ^{3}H measurement procedure directly in LiPb and the second - Conceptual design of a direct TPR measurement system without Tritium escape or with Tritium escape control.

As far as JET is concerned, we participate in the Gas Electron Multiplier Detector for X-ray Crystal Spectrometry development under JET Order. We also take part in JET Task agreements. Our tasks are as follow: Assessment of efficiency of laser removal of fuel-inventory for mixed material samples using LIBS, Assessment of the suitability of neutron and gamma detectors in the future experiment at JET for the validation of shutdown dose rate prediction and Gamma ray cameras: neutron attenuators – GRC. It is worth emphasizing that involvement in the JET programme provides a very important platform for integration of the Polish fusion community.

Polish Association has answered EFDA Call for participation (CFP) regarding Plasma-wall interaction, which was launched in 2010. There were five tasks – three carried out by IPPLM and two by WUT in areas of dust, fuel removal, chemical erosion and transport, as well as PWI in a full-W device. WUT continued participation in Fusion materials Topical group activities related to W/steel joints and ODS ferritic steels. AGH was involved with Application of Mösbauer spectroscopy to Fe alloys characterization.

In the field of EFDA Diagnostics Task Force we are involved in the development of: 1) Activation technique in a cross-check experiment for high resolution neutron spectrometry, 2) Diamond detectors to detect escaping fast alpha particles, 3) High-temperature Hall sensor for future applications in measurements of magnetic field in fusion reactors, and 4) Development of gas detectors for 2.5 and 14 MeV neutron measurements utilizing activation method.

Refering to Task Force on ITM (Integrated Tokamak Modelling), Association IPPLM is involved in developing module for impurities for the European Transport Solver. Szczecin University of Technology carries out its task, which is Global stability analyses of Alfvén and Energetic Particle Modes, in cooperation with Chalmers University in Goeteborg and IPP Greifswald. Opole University was doing its task (Stochastic techniques to the study of phenomena relevant to the physics of fusion) in cooperation with CNRS, Centre de Physique Theorique, Marseille. PSNS is supporting the workflow orchestration system for fusion modeling.

Polish contribution in Wendelstein 7-X programme is considered to play a very important role in the integration of all Polish parties that form our Association. Polish involvement in W7-X programme is quite extended, ranging from cooperation on device assembly and development of NBI system through development of several diagnostics (X-ray PHA, C/O monitor, neutron and microwave diagnostics) to structural mechanical calculations and neutron MCNP calculations.

Regarding accompanying programme, Soltan Insitute for Nuclear Studies and Poznan Politechnic are engaged in experimental research on TS, ISTOK and COMPASS tokamaks (Cerenkov detectors, Solid State Nuclear Track Detectors). The Association continued its involvement in the IFE keep-in-touch activity.

With reference to Public Information, we continue a wide range of activities. The most important is an educational project for secondary school students and teachers called 'Fusion at school and in society'. Articles and brochures on fusion for the general public are translated into Polish language and posted on the website. We continue our cooperation with small, professional theatre GO.

The IPPLM Association is persuing two sociological tasks within EFDA SERF activities: Sociological investigation of ITER project as 'socio-material network' and ITER social field and discourse analysis.

It became a tradition of Polish Association to organise Summer Plasma Physics and Technology School in Kudowa Zdroj. In 2010, it was for the ninth time. Besides the Association, there is also International Centre for Dense Magnetised Plasma (ICDMP) that provides its financial support for the school. Each year, about thirty PhD students and young scientists from all Europe had opportunity to consolidate and widen their knowledge in fusion.

Finally, I would like to thank all those who contributed to the Polish Association Work programme and helped the Association to find its place in the European and worldwide fusion programme.

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