

**The CEA scientific and technical offer as a designated ICERR  
(International Center based on Research Reactor) by the IAEA:  
first feedback with the prime Affiliates**

Gilles Bignan<sup>(1)</sup>, Jean-Yves Blanc<sup>(1)</sup>, Pascal Chaix<sup>(2)</sup>

French Atomic and Alternative Energies Commission

(1) Nuclear Energy Division

(2) International Relations Division

Cadarache and Saclay Research Centres

France

Corresponding author: [gilles.bignan@cea.fr](mailto:gilles.bignan@cea.fr)

The IAEA Director General has approved on September 2014 a new initiative, namely the IAEA designated **International Centre based on Research Reactors (ICERR)**, which will help Member States to gain access to international research reactor infrastructures. In fact, for the agency, one of the main goals of this ICERR scheme is to help Member States, mainly without research reactors, to gain timely access to research reactor infrastructure to carry out nuclear research and development and build capacity among their scientists. CEA has decided to be candidate to its designation as an ICERR and consequently has established a candidacy report following criteria given by the IAEA in the Terms of Reference (logistical, technical and sustainability criteria). The CEA offer is covering a broad scope of activities on the 3 following topics:

- Education & Training
- Hands-On Training
- R&D Projects.

The perimeter (facilities and associated scientific and technical skills) proposed by CEA on this ICERR is centered on JHR project; its future international Material Testing Reactor under construction in Cadarache. Ancillary facilities in operation proposed in this offer include:

- ORPHÉE research reactor in Saclay, neutron beams reactor used for science, academic and industrial research, training and education to the use of neutrons scattering,
- ISIS EOLE and MINERVE zero/low power reactors located in Saclay and in Cadarache, dedicated to Core Physic and Education & Training in nuclear engineering,
- LECA-STAR and LECI hot laboratories for fuel and Material Post Irradiated Examination, located in Cadarache and in Saclay.

The designation was the result of a rigorous process, including the review of the application and support documentation, an audit mission performed at the CEA sites, as well as a comprehensive evaluation and recommendation by an international selection committee made up of representatives from the global research reactor community and IAEA staff.

CEA Cadarache and Saclay centers are the first designated ICERR by the agency; this has become official during the last General Conference on the 14<sup>th</sup> September 2015. The Director General of the agency indicated the agency motivations at a ceremony during which he awarded the designation to CEA: *“Such centers will enable researchers from IAEA Member States, especially developing states, to gain access to research reactor capabilities and develop human resources efficiently, effectively, and, probably, at a lower cost. The ICERR scheme will also contribute to enhanced utilization of existing research reactor facilities and, by fostering cooperation, to the development and deployment of innovative nuclear technologies”*.

Following this designation, CEA has established a generic template as an agreement to be signed between CEA and any institutes, organization from Member State wishing to become Affiliate to CEA through this ICERR Scheme (it is question here of a bilateral agreement, the IAEA being only a facilitator). This template indicates rights and duties of both parties willing to collaborate through this ICERR scheme.

The 3 first Affiliates to CEA signed this agreement in September 2016 (JSI from Slovenia, CNSTN from Tunisia and CNESTEN from Morocco) followed by 3 others Affiliates during the first semester of 2017 (BATAN from Indonesia, COMENA from Algeria and JAEC from Jordan).

Some first scientific and technical topics are now going-on giving some concrete examples of collaboration.

The paper will present in detail the CEA offer as an ICERR, the template agreement and it will describes, as examples, some first scientific and technical actions recently launched with the Affiliates.