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MILANO 1863

**DIPARTIMENTO DI
ENERGIA**

Milano, 21st September 2015

The Energy Technologies Institute,
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For the attention of
Mike MIDDLETON
Strategy Manager for Nuclear

**Independent Peer Review prepared by Politecnico di Milano – Final
Peer Review Outcome Letter (D6)**

The independent review of the Report “System Requirements for Alternative Nuclear Technologies” (ANT Project Report) made by Politecnico di Milano (POLIMI) Peer Review Team has concluded that the ANT Full Report and Summary Report (final version, rev.E, Aug 2015) contain valuable information for assessing different scenarios of Small Modular Reactors (SMR) implementation.

This is the third time that POLIMI Team has reviewed the ANT Project Reports: March 2015 for phase 1, July 2015 for the final reports including scope from phases 1 and 2, and September 2015 for the same final reports incorporating any amendments or clarifications in response to peer review.

The breadth of the POLIMI Peer Review Team is such that the whole of the ANT project reports are within the scope of these peer reviews. The peer review has been undertaken by:

- Marco E. Ricotti
- Oscar A. Mignone
- Sara Boarin
- Alberto Berizzi
- Jan Sadlek

In the Peer Review Team opinion, the ANT Project Reports are comprehensive documents covering a wide spectrum of SMR topics, namely:

- Technology and Specification Requirements,
- Implementation Schedule,
- Operability and flexibility for producing power and heat, feeding district heating networks,
- Siting criteria and requirements,



- Infrastructure conditions,
- Energy market and financial considerations,
- Evaluation of capital expenditures and economic analysis.

The independent review has confirmed that the ANT Report's Author adopted conservative assumptions in relation to the overall status of the SMR technology development, and this can be understood since some of the different technologies still need further elaborations to prove the SMR feasibility in technology, infrastructure and economic terms.

In line with guidance from the ETI our comments have been categorised as:

- Category 1: comments, questions, observations which may undermine the conclusions of the project report,
- Category 2: comments, questions, observations which do not undermine the validity of the conclusions of the project, but which may challenge some parts,
- Category 3: comments, questions, observations which do not undermine the validity of the conclusions of the project and which require no amendment or clarification.

The independent review of the ANT Report made by POLIMI Team concluded with no Category 1 comments, while five Category 2 comments and twenty-three Category 3 comments were observed. The Category 2 and 3 comments are detailed in Appendices A and B respectively.

The Final Peer Review Outcome Letter is delivered under contract to the ETI for the purposes of establishing confidence in the ANT project conclusions and supporting the dissemination of the knowledge gained. No other person or organisation should rely on the content of this letter for any other purpose.

On behalf of the Peer Review Team:

Marco E. Ricotti

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Politecnico di Milano, Dept. of Energy, Deputy Head
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Enclosures:

Appendix A – Listing And Detail Of Category 2 Peer Review Comments
Appendix B – Listing And Detail Of Category 3 Peer Review Comments
Appendix C – Final Peer Review Outcome Letter: Detailed Analysis