

To Regulator XX

Subject: Request for information on Small Modular Reactors

Dear Sir or Madam,

We are an association of environmental groups across Europe focusing on the issue of nuclear energy. The so-called SMR are on top of the industry's agenda and we would like to research some facts regarding the preparedness of this "new" technology.

For the purpose of our research we defined SMR as reactors up to 300 MWe, differentiating only between either LWR or some other not commonly applied type, e. g. molten salt or HTR. When answering the following questions, we would kindly ask you to answer for LWR and other less commonly used reactor technologies respectively, if differences arise. Of course, it would be very helpful if you could make references to documents with which we can continue our research with.

SMR specific questions

Can you imagine that the SMR concepts can develop seriously different organizational models compared to larger units?

Would you take SMR reactor designs running on plutonium as fuel into consideration in your country?

Do you have already defined specific safety issues regarding the multi-unit sites for SMR?

Do you see a specific SMR reactor type as particularly fit for Finland?

Licensing

As far as we are informed, no specific international safety standards for SMR have been developed yet.

1. Do you have national licensing regulations for SMR already in place?
2. Do you consider developing specific SMR licensing rules necessary? 2 A If so, until when do you think they might be available and applicable in your country?
3. Which new issues do you expect the SMR licensing process might involve compared to the conventional larger reactors?
4. Do you expect that the SMR would be licensable with reduced regulatory approaches, is some kind of simplified approach possible which may lead to significantly lower licensing efforts and faster licensing procedures?
5. Do you expect non-LWR SMR concepts to become licensable in the near future of several years, and if so, based on which assessments (please make available to us) and experiences?
6. Are the testing and approval methods ready for those non-LWR technologies which completely lack operational and permitting experiences? 6. A Do you

have research and development activities ongoing to prepare testing and approval methods for those non-LWR SMR designs?

7. Some designs are supposed to reduce the design complexity, e. g. having designs without reactor containments. 7 A Has your nuclear regulatory agency already examined the option of SMR with lower safety redundancies than currently required for conventional LWR? 7 B Has your agency already started reviewing those designs? 7 C How long do you expect such a review and preparation of regulatory rules to last, taking into account your current number of staff?
8. Another possible major design difference might be fuel without the barriers the fuel rods represent for LWR have? 8 A This would apply for the molten salt reactors, are new rules already in place or under preparation and when do expect to have them ready?

Internal and external events and accidents

9. Do you expect that the range of internal or external events and accidents might significantly differ from those usually applied for licensing conventional reactors? 9 A On top of obviously similar events such as SBO (Station Black Out), internal fires, loss of pumps, containment integrity as foreseen in international safety guides (WENRA, IAEA etc.), do you expect that external issues such as earthquakes, flooding, acts of terrorism and sabotage could be treated differently for SMR? Could possible SMR sites differ from large LWR sites by having to prove e. g. only “relaxed” rules for seismic hazards or external events?

Emergencies

10. Are you aware of any serious assessment showing that reduced emergency planning zones or no emergency zones at all are possible for SMR and could Small Modular Reactors serve as a flexible solution which could be build “anywhere” – called “plug and play” concept?

If possible we ask you to provide us with any reports, investigations or other documents the government or its agencies or any other government authorities have conducted on SMR so far or which you base your answers on our letter on.

Thank you in advance for your response to our request.

Sincerely yours,

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for the Joint Project – Nuclear Risk & Public Control