

**Economics Legislation Committee**  
**ANSWERS TO QUESTIONS ON NOTICE**  
Industry, Innovation and Science Portfolio  
2016 - 2017 Additional Estimates  
2 March 2017

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**AGENCY:** AUSTRALIAN NUCLEAR SCIENCE AND TECHNOLOGY ORGANISATION

**TOPIC:** National Research Infrastructure Roadmap

**REFERENCE:** Question on Notice (Hansard, 2 March 2017, page 54)

**QUESTION No.:** AI-4

Senator KIM CARR: Yes, he has. In regard to the National Research Infrastructure Roadmap, what has been your contribution in regard to the development of that road map?

Dr Paterson: I was appointed as a member of the expert working group and I attended a number of the consultations that took place around the country. I have also been involved in the discussions that took place between the members of the expert working group and in reviewing drafts of the first document, which was issued in December, and then, subsequently, reviewing the responses and assisting with the further development of drafts from the road map process.

Senator KIM CARR: The reactor was built 10 years ago. Has there been some discussion about the need for a neutron beam guide hall for the facility at Lucas Heights?

Dr Paterson: Yes.

Senator KIM CARR: Where does that stand in regard to the road map?

Dr Paterson: In the published road map in December, it does identify the second beam hall as one of the research priorities for the future for infrastructure. The detailed timing of that is not indicative in the document but it is identified for that investment.

Senator KIM CARR: You say it is vital. Is that a bid you are engaging with government on?

Dr Paterson: The second neutron beam hall should really in my mind be built during the second decade of operation of the reactor. That is the optimal timing. We still have room for a small number of instruments in the current beam hall, but there are important developments in neutron optics and this is a moving field which develops internationally and also we have some very strong local capabilities. To expand the services to Australian, regional and international scientists in the course of the next decade would be really important and we have indicated that the planning phase needs to be kicked off in the next couple of years.

Senator KIM CARR: What sort of money are we talking about?

Dr Paterson: I will take that on notice because there are indicative amounts in a number of areas and I would like to be sure that we give you a number that is right up to date.

**ANSWER**

There is capacity for approximately five more neutron beam instruments in the current guide hall. ANSTO estimates that the construction of these instruments would cost around \$10 million per instrument - a total of \$50 million.

As mentioned by Dr Paterson, OPAL also has capacity to supply neutrons to a second guide hall. The project to establish a second neutron guide hall would include the construction of the building, relocation of existing infrastructure in the building footprint, installation of a second cold neutron source, provision of a neutron transport system and construction of an additional suite of neutron beam instruments. The total capital cost of this project would be approximately \$200 million over six years, based on indicative estimates.