

Economics Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Industry, Innovation and Science Portfolio
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DEPARTMENT: DEPARTMENT OF INDUSTRY, INNOVATION AND SCIENCE

TOPIC: SKA Budget

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QUESTION No.: AI-33

Senator KIM CARR: All right. Has the overall budget changed? Is it still 650 million euros?

Ms Kelly: It has been indexed so that the target budget for construction is 674 million euros. Delays in the project recently have been around the fact that the design has been coming in at significantly above that amount. I am pleased to say that, over the last three or four months, there has been a very serious—and looking quite successful—cost reduction exercise. We are having a board meeting in Perth at the end of this month to consider the revised, cost reduced project, and it is looking very likely that we will have a construction budget under 700 million euros. So we are feeling much more confident.

Senator KIM CARR: Under 700 million. So we have gone from 650 million euros to 700 million, even with a cost reduction exercise.

Ms Kelly: As I said, under 700 million euros. We are hopeful of bringing it in for the 674 million euros, and we are feeling much more confident about that because of recent work which has been quite effective in cost-reduction strategies.

Senator KIM CARR: What is Australia's role in that program?

Ms Kelly: We have been leading the work on the cost-reduction strategy for the low-frequency telescope, the one to be built at the MRO—the Murchison Radio-astronomy Observatory.

Senator KIM CARR: Exactly how much do you need to cut from the budget to get it down to the estimated 674 million euros?

Ms Kelly: I do not have the precise figure in my head, but the budget was well over 800 million euros—

Senator KIM CARR: Eight hundred!

Ms Kelly: when the board charged the office and a range of other people with, as I said, a serious cost-reduction strategy.

Senator KIM CARR: Eight hundred! How did it get anywhere near 800?

Ms Kelly: As you know, design is a very distributed exercise. There are international consortia, each of them developing work packages that together make up the design. In that process various costs have blown out. We were concerned that we were designing a telescope that we could not afford to build, so we have taken the necessary action to bring it within the cost target.

Senator KIM CARR: There are a couple of issues there. The original budget was 650 million euros. You are saying that with indexation it has reached 674 million euros. But the other partners are proposing 800 million euros and the Australian representatives have said they are not going to have that, that we are going to bring that back to—

Ms Kelly: No, sorry, not the other partners. The SKA organisation, headquartered in Manchester, was coordinating the design. The design they brought to the board was of the order of well over 800 million—

Senator KIM CARR: So the British proposed an 800-million-euro budget?

Ms Kelly: It is an international organisation. Basically, the board said, 'No, we can't afford to build this and we need to reduce the cost.'

Senator KIM CARR: Absolutely!

Ms Kelly: As I said, we are having significant success in that exercise.

Senator KIM CARR: Can you explain to me what the 800-million-euro proposal involved? Where were the escalations?

Ms Kelly: I would have to take the detail of that on notice.

ANSWER

The Square Kilometre Array (SKA) Organisation, an international organisation hosted at the Jodrell Bank Observatory in the UK, is coordinating the design of the SKA Phase 1 telescope.

The design is a coordinated activity requiring input from many science and technology partners. Nine international consortia, comprising research agencies, universities and firms, are each designing a specific element (or work-package) of the overall SKA Phase 1 system.

As the engineering process develops, the project achieves a more mature understanding of the system requirements and their associated costs.

The SKA Organisation is working to a baseline 'reference design' which was adopted in early 2015. It was defined using what was then known of the system requirements and it was estimated that it could be built for €650m, the cost cap imposed by the SKA Organisation Board. The cost is currently estimated by the SKA Organisation to be €829m. In percentage terms, the design is over budget fairly consistently across the nine work-packages.

Based on the SKA Organisation Board decision that the cost cap (indexed to €674m) remains in place, the SKA Organisation Board has initiated a process to investigate potential cost reductions which also minimise the impact on the project's science goals. The SKA Organisation Board will meet again in May 2017 to discuss progress on this activity and to review the project schedule.

Such cost reduction strategies are not unusual for a major radio telescope, particularly one of this type which has a large number of design parameters that can be adjusted and traded off against each other, either to reduce cost or increase function in particular areas. The current SKA Phase 1 cost review is expected to deliver a design cost in line with the cost cap without unduly impacting the overall functionality of the telescope.