

**Responses to Questions
Senator Dean Heller
Letter Dated June 19, 2017**

1. When did you first become aware of the proposed Yucca Mountain repository?

I do not recall the precise instance when I first learned of Yucca Mountain as a proposed candidate-repository site but my best recollection is that it was identified during discussion of nuclear waste topics in the course of my nuclear engineering studies at the University of Michigan.

2. Do you believe that Yucca Mountain is a viable, safe option for the long-term storage of our nation's nuclear fuel and high-level radioactive waste?

As part of the Yucca Mountain licensing process, the State of Nevada and several other groups have filed adjudicatory challenges, called contentions, on the construction authorization application before the agency. The Commission has a quasi-judicial role in this licensing proceeding to resolve these contentions. Accordingly, I must remain impartial, as would any judge, and I cannot comment further on these issues at this time given the pendency of the adjudication.

3. Are you familiar with my legislation, the Nuclear Waste Informed Consent Act?

Yes, I am aware that S.95, the "Nuclear Waste Informed Consent Act," has been introduced, but the Commission has not formulated any views or taken a position on the bill.

4. If passed by Congress, do you believe the requirement of consent should apply to all 50 states?

If passed by Congress, the NRC will implement any part of the legislation that falls within its jurisdiction.

5. You recently testified before the Senate Energy and Water Appropriations Subcommittee justifying the President's budget request to restart the licensing process at Yucca Mountain. What is your understanding of the cost of licensing of Yucca Mountain? What is your understanding of the total life cycle costs of constructing, operating, and closing a Yucca Mountain repository?

As I testified in the June 7 hearing before the Senate Energy and Water Appropriations Subcommittee, NRC is requesting \$30 million for FY 2018 from the Nuclear Waste Fund to support activities related to NRC review of the proposed Yucca Mountain deep geologic repository site. This would include resources to support continuation of licensing activities. The NRC staff has estimated that it will take between three and five years to complete the construction authorization licensing process. Separate from this would be any decisions related to receipt and possession of waste, permanent closure of the facility, and termination of the license. In August 2014, the NRC estimated that the resources needed to complete NRC actions associated with the Yucca Mountain construction authorization licensing review would be \$330 million. However, to my knowledge, the agency does not have an estimate of total life cycle costs for constructing, operating, and closing a repository at Yucca Mountain.

6. Do you agree with the Nuclear Regulatory Commission (NRC) staff's Safety Evaluation Report that was released in 2015 even though the reports do not respond to almost 300 safety and environmental concerns that have been raised through admitted contentions in the licensing proceeding? Would you agree that these contentions require a resolution before the NRC could determine the safety of the proposed repository and issue a construction authorization?

The NRC staff's development of the safety evaluation report memorializing its safety review represents one step in the overall licensing process for the construction authorization application. Before a final decision approving or disapproving a construction authorization may be reached, not only must the staff complete its safety and environmental reviews, but a formal hearing must be conducted on the admitted contentions. All contentions admitted for hearing will be resolved before the NRC makes a final determination on the application.

7. Are you aware that Yucca Mountain is located in a fractured geologic environment, above an aquifer, and is in an area of moderate to high seismic activity and potential future volcanic activity?

A number of contentions have been admitted into the administrative adjudication on the subjects of volcanology, seismology, and flow of water through the proposed project area (including such issues as infiltration and flow modeling). If the adjudication is resumed, the Commission will address these issues and give due consideration to applicable law. Given the pendency of the adjudication, however, I cannot comment further on these issues at this time.

8. Are you aware that the surface facilities at Yucca Mountain would be at risk of military aircraft crashes, requiring restrictions on military airspace and overflights to meet the NRC's licensing conditions?

A number of contentions have been admitted into the adjudication regarding aircraft crashes. Given the pendency of the adjudication, however, I cannot comment further on this issue at this time.