## QUESTIONS FOR PEER REVIEWERS TO CONSIDER

Reviewers of this *Roadmap* will address the five questions below:

1. Is the hazard identification and discussion of health effects for asbestos and mineral fibers a reasonable reflection of the current understanding of the evidence in the scientific literature?
2. Is the discussion of the current understanding of the analytical issues and the research needs for analysis of asbestos and mineral fibers appropriate and relevant?
3. Is the discussion of the current understanding of the epidemiological issues and the research needs for understanding the health effects of asbestos and mineral fibers appropriate and relevant?
4. Is the discussion of the current understanding of the toxicological issues and the research needs for understanding the health effects of asbestos and mineral fibers appropriate and relevant?
5. Is the discussion of the path forward appropriate and relevant and is the ultimate vision a reasonable outcome for the proposed research strategy for asbestos and mineral fibers?

After reviewing the comments submitted to the docket, NIOSH has identified more specific questions for the peer reviewers to consider:

6. Is the terminology for minerals and fibers clear and precise enough to define the research? If not, what steps should NIOSH take to clarify the terminology?
7. Are the key issues identified that warrant further research and or synthesis? Has the literature been adequately cited to support the need for further investigation of these issues?
8. Are the needs for epidemiological and toxicological studies balanced appropriately? If not, how should they be adjusted?
9. Are there other available or promising exposure assessment and analytical methods available that should be mentioned? What research objectives should be added to further develop and validate any promising methods you suggest?
10. Should surface characteristics be specifically identified as a potentially important factor to be investigated for their contribution to fiber toxicity? Are there other fiber characteristics (in addition to dose, dimension, and durability/biopersistence) which should be specifically identified?
11. What different approaches can be used to minimize the use of animals in experimental studies? Are human 3D models sufficiently developed and validated to predict lung deposition and potential toxicity from exposure to mineral fibers and other elongated-mineral particles?
12. Does the research agenda appropriately address the types of research needed to support public health decisions concerning worker health risks from cleavage fragment exposure? If not, how should it be revised?

13. Are you aware of any available procedures or techniques that can be used to generate sufficient quantities of biologically relevant sized cleavage fragments for use in research?
14. Would the results of the research needs and research approaches identified in the draft Roadmap appropriately inform the development of more effective worker protection policies for asbestos and other mineral fibers? Would the proposed research strategy for asbestos and mineral fibers contribute to understanding whether there are specific characteristics (e.g., physical, chemical) that could be applied to mineral fibers and other elongated-mineral particles in developing worker protection policies?