RulemakingComments Resource

From: Scott, Bobby <BScott@lrri.org>
Sent: Sunday, August 02, 2015 10:18 AM
To: RulemakingComments Resource
Subject: [External_Sender] Comments on Docket ID NRC–2015–0057
Attachments: Comments for Docket ID NRC–2015–0057.docx

To Whom It May Concern,

The attached word file contains comments related to 10 CFR Part 20, Docket ID NRC–2015–0057, “Linear No-Threshold Model and Standards for Protection Against Radiation.”

Sincerely,
Bobby R. Scott, Ph.D.
Scientist Emeritus
Lovelace Respiratory Research Institute
2425 Ridgecrest Drive SE
Albuquerque, NM 87108, USA
Phone: 505-348-9470
Fax: 505-348-8567
bscott@LRRI.org | www.LRRI.org

****

Subject: Docket ID NRC–2015–0057, Linear No-Threshold Model and Standards for Protecting Against Radiation

Questions that should be addressed in order for a new system of radiation protection to be established based on hormetic and/or other models:

1. What mathematical equation (dose-response model) adequately describes hormetic dose-response relationships for radiation-induced cancers?

2. How are the hormetic dose-response model parameters influenced by the type of cancer, age, gender, population at risk (e.g., Japanese, Europeans, Americans, etc.), and type of radiation (e.g., alpha, beta, gamma, neutrons, heavy ions, etc.)?

3. How will dose-rate effects be accounted for?

4. How will combined radiation exposures (e.g., alpha + beta + gamma) be addressed given that the singly-weighted equivalent dose (e.g., in sieverts) and doubly-weighted effective dose (e.g., in sieverts) cannot be justifiably used for nonlinear dose-response relationships?

5. What will be done if the majority of the dose-response relationships of interest are of the threshold type rather than being hormetic?

6. How will genetic effects and lifespan alterations be accounted for?

7. Will the NRC alone or in combination with other government agencies (e.g., DOE Office of Science) support research directed at addressing the above and possibly many other questions related to establishing a new system of radiation protection not based on the LNT hypothesis (e.g., a system based on regulatory thresholds for excess risk that accounts for threshold uncertainty)?