



HEALTH PHYSICS SOCIETY

“Specialists in Radiation Safety”

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Secretary

U.S. Nuclear Regulatory Commission

Washington, DC 20555-001

ATTN: Rulemakings and Adjudications Staff

SUBJECT: HPS Comments on Docket NRC-2008-0272, Limiting the Quantity of Byproduct Material in a Generally Licensed Device.

[Submitted via Regulations.gov and email to Rulemaking.Comments@nrc.gov]

As President of the Health Physics Society (HPS), I am pleased to provide comments on behalf of the HPS on the subject Nuclear Regulatory Commission (NRC) Docket concerning limiting the quantity of byproduct material in a generally licensed device as published in Federal Register (FR) Vol.74, No. 74, Monday, August 3, 2009, 38372.

Question (1) in section II.D of the FR notice asks “Whether the 1/10 of IAEA Category 3 limit is the appropriate threshold level of byproduct material below which general licenses would still apply.”

The HPS position statement “Continued Federal and State Action is Needed for Better Control of Radioactive Sources [PS021-0]”, which is accessible at http://hps.org/documents/sourcecontrol_ps021-0.pdf, **establishes the HPS position that all Category 3 sources and greater should be subject to specific licensing including inclusion in the National Source Tracking System.** Specific licensing of Category 3 sources is inherent in recommendation 6 of the reference position statement and inclusion in the National Source Tracking System is specified in recommendation 11 of the statement.

The basis for the HPS position that Category 3 serves as the “dividing line” for specific licensing and source tracking is because Category 3 and above are “dangerous sources” as defined by the International Atomic Energy Agency (IAEA), that is, a source that, if not under control could “give rise to exposure sufficient to cause severe deterministic effects.” This basis is applicable to single

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sources, which is the basis for the IAEA categorization system. **Although not specifically stated, it can be inferred that the HPS does not consider single sources below Category need to be subject to specific licensing or source tracking controls.**

The HPS position does not address the issue of aggregation of sources, which is a primary consideration in the NRC deliberation in limiting the quantity of byproduct material in a generally licensed source, i.e., sources that are not specifically licensed. Although not specifically addressed in our position statement, the HPS believes that the aggregation of a number of sources that have a total quantity of radioactive materials that exceeds the Category 3 threshold should also be subject to the enhanced controls provided by specific licensing and source tracking. Therefore, **although the HPS position does not directly address imposition of specific licensing control on individual sources below the Category 3 threshold, it does not form a basis for objecting to controls on the aggregation of sources, the total of which may exceed the Category 3 threshold.**

The NRC proposes two actions to control the aggregation of sources that may exceed the Category 3 threshold. One action is to apply the threshold for specific licensing at some level below the Category 3 threshold, which will allow an aggregation of sources but which is not likely to result in an aggregate amount above the threshold. The other proposed action is addressed by question (2) in Section II.D of the FR, which is to apply controls on the aggregation of sources.

The HPS considers that since both actions are designed to control aggregation, that is, setting a threshold for specific licensing below the threshold of concern for radiation safety concerns and establishing a requirement for specific licensing when an aggregation of sources reaches some threshold, **the implementation of both are redundant.**

Setting a specific licensing threshold below the threshold for radiation safety concerns in order to control the issue of aggregation requires assumptions or worse case scenario analysis to justify the specific licensing threshold. However, requiring that general licensees must obtain a specific license when they possess devices whose aggregated amount exceeds some threshold does not require any assumptions. **The later requirement is independent of number or activity of individual sources and is, therefore, the recommended approach allowing the specific licensing threshold for a single source to be set at the Category 3 threshold.**

Question (2) in section II.D of the FR notice asks “Whether there should be additional protection against aggregation of sources by either requiring that if the aggregated amount of byproduct material that a general licensee possesses in

devices exceeds $1/10^{\text{th}}$ of IAEA Category 3, then the general licensee must obtain an SL, or more simply, by using the IAEA Category 4 threshold as the limit for the GL.”

Of the two proposed approaches, the first approach more directly achieves the goal of ensuring controls are placed on a total amount of radioactivity at, or in this case, before it reaches the threshold of radiation safety concern. This approach is independent of the number or activity of individual sources but it puts controls in place before aggregated sources reach the radiation safety threshold of concern. However, as stated above, the HPS takes the position that the Category 3 threshold is the radiation safety threshold of concern, which should apply to the level at which aggregated sources should be required to be specifically licensed.

Question (3) in section II.D of the FR notice asks “Whether an even lower threshold limit for requiring licensees to obtain a SL should be used, such as the registration levels in 10 CFR 31.5(c)(13)(i).”

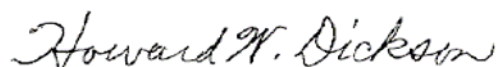
As stated above, the HPS does not recommend a specific licensing threshold any lower than the Category 3 threshold.

Therefore, the HPS recommends that (1) all individual sources at or above Category 3 require a specific license and be included in the National Source Tracking System, and (2) any general licensee be required to obtain a specific license if they possess multiple sources lower than Category 3 that reaches an aggregate amount of radioactivity exceeding the Category 3 threshold.

It should be recognized that the HPS position and comments are based on radiation-safety issues and potential harm to individuals from uncontrolled radioactive sources. The HPS fully understands that there are other important considerations in setting source control requirements, such as reduction of the administrative and economic burden to implement and regulate the source controls by licensees and by regulators. Although these are valid areas of consideration, they are not in the area of expertise of the HPS so they are not factored into our recommendations and comments.

I hope you find these comments helpful as the NRC proceeds with this important initiative.

Sincerely,

A handwritten signature in cursive script that reads "Howard W. Dickson".

Howard W. Dickson, CHP