



Environment, Safety and Health Advisory

Incorrect Units Found in Versions of DOE Regulations

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PURPOSE Department of Energy (DOE) Federal and contractor organizations who obtained electronic versions of Title 10, Code of Federal Regulations (CFR), Part 835 (10 CFR 835), *Occupational Radiation Protection*, from websites other than the DOE Office of Worker Protection Policy and Programs website (<http://www.eh.doe.gov/radiation/rule.html>) are advised to make sure that their copies accurately reflect the correct prefixes for radioactivity units – particularly units that contain Greek letters (such as μ).

BACKGROUND Many DOE organizations use electronic versions of the CFR, such as the ones found on the Government Printing Office (GPO) Access page of the GPO website (<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>), as a source for Federal regulations containing applicable health and safety requirements. A review of the CFRs contained on GPO Access revealed that the Greek letter mu (μ) used in the units of radioactivity in several of the appendices of 10 CFR 835 are incorrect. These errors have occurred in the years since 10 CFR 835 was last amended in November 1998.

Changing the units in the appendices without changing the corresponding values could result in the use of incorrect quantities or concentration values. For example, it was recently discovered that a DOE facility was using values for sealed radioactive source accountability that were incorrect by a factor of 1,000.

Examples of incorrect units being displayed on the GPO Access website include, in lieu of the quantity " μCi " being displayed, the following quantities: $\langle\text{greek-m}\rangle\text{Ci}$, μmCi , $[\mu\text{u}]\text{Ci}$, mCi , and Ci .

The original version of 10 CFR 835 was originally published in the Federal Register on November 4, 1998, and the units were accurately reproduced in the printed and PDF versions of the 1999 CFR. All subsequent versions contain errors. Most of the errors occur in the HTML versions of the regulation.

IMPLICATIONS The correct use of nonstandard symbols, including Greek letters, contained in electronic versions of regulations obtained from non-DOE sources should be validated. This is especially true for the versions that are in HTML format.

ACTIONS If a site has obtained an electronic version of 10 CFR 835 from a source other than the DOE Office of Worker Protection Policy and Programs website, they should verify that their copies accurately reflect the correct prefixes for radioactivity units.

The following modifications have been made to the Office of Worker Protection Policy and Programs webpage containing links to 10 CFR 835:

- A warning has been placed on the radiation protection website of the Office of Worker Protection Policy and Programs
- Links to incorrect versions of 10 CFR 835 have been removed from the webpage.
- DOE has informed GPO of these errors so that corrected versions of 10 CFR 835 can be posted on the GPO Access website.

Questions concerning this issue should be directed to Dr. Joel Rabovsky, Office of Worker Protection Policy and Programs, by telephone at 301-903-2135 or by e-mail at joel.rabovsky@eh.doe.gov.

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