

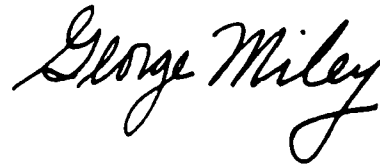


Reviewers have raised several interesting issues about terminology in *Nuclear Technology/Fusion (NT/F)* manuscripts. One is the question of “diverter” versus “divertor.” Based on a dictionary and the view that this device “turns aside” magnetic field lines, “diverter” seems appropriate. However, starting from the first application of this concept to the Model B Stellarator<sup>1</sup> and extending through the most recent U.S. Department of Energy Workshop at the Massachusetts Institute of Technology (Divertor Technology Workshop, April 1981), “divertor” has been in common usage in the fusion community. Consequently we have, somewhat arbitrarily, adopted “divertor” for use in *NT/F*. Parenthetically, I would note the common use of “direct converter” to describe a device designed to directly extract fusion energy for external use.

The second issue involves cyclotron versus synchrotron radiation, terms that have been used somewhat interchangeably in the fusion literature. The most definitive discussion of this topic comes from Ref. 2, *Proceedings of a Conference on Effects of Cyclotron Emission on the Power Balance in Fusion Systems*. Conference attendees concluded that “Synchrotron emission is generally used to describe highly relativistic electron emission such as encountered in astrophysical phenomenon *and* to describe emission from electron storage rings. Cyclotron emission is frequently used in the fusion literature to describe the mildly relativistic electron emission from fusion plasmas.” Indeed they go on to suggest the term cyclo-synchrotron radiation for intermediate energies. At any rate, based on this logic, we have, again somewhat arbitrarily, selected cyclotron radiation for most purposes in *NT/F*.

Most recently, a manuscript introduced the term “isolation” to signify the formation of magnetic islands in a plasma. After some checks I find that isolation is indeed in use in the fusion community but it has yet to make the dictionary! However, as new terminology of this type is defined (in this case, obviously for convenience) and widely accepted by the fusion community, such usage will also be accepted in *NT/F*. However, at the same time, it seems appropriate to enter such terminology into the American Nuclear Society (ANS) document, American National Standard *Glossary of Terms in Nuclear Science and Technology* (Ref. 3). This would seem to be an appropriate task for the ANS Fusion Energy Division. None of the terms noted here appears in the ANS glossary, which I find is very “light” in fusion as opposed to fission terminology. For example, “criticality” is

listed but "ignition" is not. Inclusion of terms and definitions represents the "best judgment" of ANS-9, the ANS Subcommittee for Nuclear Terminology and Units, so this route would eventually eliminate the need for arbitrary decisions by this editor.

A handwritten signature in black ink that reads "George Miley". The signature is written in a cursive, flowing style with a large, prominent 'G' and 'M'.

#### REFERENCES

1. L. SPITZER, "A Proposed Stellarator," NYO-933, Atomic Energy Commission (1951).
2. *Proc. Conf. Effects of Cyclotron Emission on the Power Balance in Fusion Systems*, Palo Alto, California, March 3-4, 1975, EPRI SR-16, Electric Power Research Institute (1975).
3. *Glossary of Terms in Nuclear Science and Technology*, ANS-9/ANSI N1.1-1976, American Nuclear Society (1976).