



New Energy Times

January 5, 2019

Roger Jaspers (Eindhoven University), Chairman, FuseNet Board of Governors

Piero Martin (Università di Padova), FuseNet Board of Governors

Jan Mlynar (Institute for Plasma Physics Prague), Secretary, FuseNet Board of Governors

Robert Geisser (Areva), FuseNet Board of Governors

Evgenia Benova (Sofia University), FuseNet Board of Governors

Roddy Vann (University of York), FuseNet Board of Governors

Ulrich Stroth (Max Planck Institute for Plasma Physics), FuseNet Board of Governors

Carlos Hidalgo (CIEMAT), FuseNet Board of Governors

Peter Beyer (Aix-Marseille University), Pending, FuseNet Board of Governors

cc: Marian-Jean Marinescu, Member of the European Parliament, (Horizon Europe)

bcc: FuseNet University Members

Dear FuseNet Board of Governors,

FuseNet, among other fusion-related organizations, is misleading students, journalists, and the general public. I am again attempting to encourage FuseNet to communicate fusion claims more accurately.

In Roger Jaspers' recent e-mail to me, he wrote, "We have adapted the Fusenet website accordingly to your suggestions. Of course the points you made are correct, and we are not denying these."

In fact, the FuseNet organization has not corrected its two most significant false and misleading claims. They are in this sentence on the FuseNet Web page [Node #39](#):

The fusion reactor itself has been designed to produce 500 MW of thermal output power for 50 MW of net input power, or ten times the amount of power put in.

If FuseNet wants to publish a claim that — for a public audience — is accurate, transparent, and consistent with the design and mission of ITER, this is how to do it:

The fusion reactor has been designed to produce a plasma with 500 MW of thermal output power from 50 MW of injected thermal power, a plasma power amplification factor of ten ($Q=10$).

I first explained this problem to Dr. Jaspers on June 17, 2018. I now want to make sure that each member of the FuseNet board understands the problem. I want you to know that most journalists that I speak with think that ITER is designed, as a reactor system, to produce 500 MW of net thermal output power and that it is designed to produce ten times the power it consumes.

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I explain to them that, on the contrary, as the [JT60 team](#) has best explained, the ITER reactor system "is about equivalent to a zero (net) power reactor."

I explain that the 500 MW output value, as shown on your Web site, does not account for or subtract the 300 MW of electrical power that goes into the reactor. I explain that the 50 MW input value is only a subset of the 300 MW value. I explain that the 500 MW output value applies only to the gross output.

Nevertheless, they don't understand how they could have been under the wrong impression for so long. I tell them that the fusion community has been inaccurate with its public claims for a long time. I explain that fusion representatives used the phrase "fusion power" with two different meanings:

- 1) A general term to indicate hoped-for net power produced by a fusion reactor
- 2) The gross power value of the fusion-produced particles that does not account for or deduct the reactor's required overall electrical input power.

I tell them that fusion organizations have not clearly explained or defined the lesser-known meaning of the phrase "fusion power" on their Web sites or in their online glossaries.

Eventually, the journalists see that the misunderstanding is not their fault. However, they still find it difficult to believe that people — like you — at high levels in prominent fusion organizations would perpetuate or even allow false understandings to continue year after year. Here are two examples:

- *Nature*, May 26, 2016: "[ITER] is predicted to produce about 500 megawatts of electricity."
- *New York Times*, March 27, 2017: "ITER will benefit from its larger size and will produce about 10 times more power than it consumes."

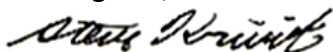
The journalists I speak with do not believe that representatives of major fusion organizations would intentionally create these widespread falsehoods or even allow them to exist. Yet look at FuseNet.

For six months, I have exchanged letters with you, explaining the problem and offering a suggested correction. And yet you continue to knowingly create the false and misleading impression that the overall ITER reactor will produce 10 times the power it is expected to consume, that the overall reactor is designed to produce 500 MW of net thermal output power.

Furthermore, FuseNet is intentionally publishing a primary goal for ITER that is factually inconsistent with the project's actual primary design and mission, which is plasma power amplification, not overall reactor power amplification. To make matters worse, FuseNet specifically targets a student audience.

I would like to ask each of you to think carefully about your role and responsibility in this matter. If the actions thus far communicated to me by Dr. Jaspers do not reflect the present intention of the board or do not reflect the intention of the FuseNet membership, please let me know by February 1.

Kind regards,



Steven Krivit

Publisher and Senior Editor, *New Energy Times*

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