

October 5, 2021

Chairman Christopher Hanson
Commissioner Jeff Baran
Commissioner David Wright

Dear Chairman Hanson and Commissioners:

A few days ago, I posted a message to Facebook praising the Commission's recent action in rejecting the three hormesis petitions from February 2015, while criticizing past Commissions for their failure to act on them. It read as follows:

Two and a half (!!½) cheers for the Nuclear Regulatory Commission! It did something good the other day, and I say that in all sincerity. The half-star deduction is only because this action could have and should have been taken years ago.

The three Commissioners (there are two vacancies at present), two Democrats and one Republican, voted unanimously to reject three petitions filed in February 2015 that asked the NRC to change its rules to bring them in line with the principles of "radiation hormesis" -- the notion that radiation is good for you.

You can hear all about hormesis from an advocate, and while you are at it, buy "radiant beads" from him: <https://www.radiant-beads.com/testimonials/> And if what you see below seems goofy, you haven't seen the half of it. Hormesis advocates will tell you that major nuclear accidents may benefit public health; that even a dirty bomb can have health benefits; that efforts to reduce household radon will cause thousands of cancers; that if there is ever a nuclear attack, victims should be treated with **additional** radiation; etc., etc.

Anyway, the lead petitioner was arguing that instead of the current split standards for radiation workers and members of the public -- radiation workers can receive no more than 5000 millirems per year, whereas ordinary members of the public can receive no more than 100 millirems -- the limit should be equal for all. Specifically, the petition proposed:

"Public doses should be raised to worker doses, as these low

doses may be hormetic. Why deprive the public of the benefits of low dose radiation? End differential doses to pregnant women, embryos and fetuses, and children under 18 years of age.”

To mainstream science, the idea that a fetus in the womb -- the human being at the most radiation-sensitive phase of its life -- should be allowed to receive as much radiation as a worker in a nuclear facility seems nuts.

So the next month, I wrote to the NRC Chairman, Stephen G. Burns, and his fellow Commissioners, urging them to publish the petitions for public comment as soon as possible.

I had an ulterior motive. As some of you know, I have been trying for years to explain that the NRC made a grave mistake, with terrible consequences for patients and their loved ones, when in 1997 it changed the rules on the release of patients treated with radioactive iodine 131. That change was made in response to an earlier petition from the same lead petitioner. I thought it might give the Commissioners and the public some perspective on the patient release issue if they heard what the scientific community thought of this individual's latest proposal. I hoped the Commissioners would ask themselves, "**This** is the mindset that brought about the current Patient Release Rule?"

The petitions were promptly published, public comment was received, the NRC's Advisory Committee on the Medical Uses of Isotopes weighed in against the petitions, all within calendar year 2015. The matter could have been disposed of there and then. Instead it sat, and sat, and sat, as the years rolled past.

No law dictates how long an agency can take to act on a petition; Eliot Brenner, then head of NRC's Office of Public Affairs, will remember the occasion on which the NRC got around to denying a petition 32 years after it was filed. Sometimes agencies decide they have nothing to gain by issuing a decision: somebody will be aggrieved, the event may be newsworthy enough to make the papers, somebody in Congress may get riled up, etc. Indefinite cold storage may, from the agency's point of view, be the ideal option, and there is nothing the petitioner can do to force its hand. If it's really lucky, the petitioner loses interest or dies.

In January 2019, the NRC Staff, in a memo from its admirable Executive Director for Operations, Margaret Doane, sent the NRC Commissioners a memorandum recommending that the petitions be rejected. By then, Commissioner Kristine Svinicki had succeeded Burns as Chairman. For the two years remaining in her tenure, the memorandum remained waiting to be acted on.

Finally, in July 2021, 2½ years after Ms. Doane's document was sent to the Commissioners for a decision, the Commission accepted the recommendation. By then, both Svinicki and Burns had resigned from the Commission. There was a new Chairman, Christopher Hanson, and another new Commissioner, David Wright, a Democrat and a Republican. They, and their colleague Jeff Baran, were prepared to act, where their predecessors had held off.

I didn't agree with one iota of the petition, but I thought the petitioner had a right to a decision and was being robbed of it. I hope that the Commission's recent decision heralds a new day at the NRC, one with less fine-sounding rhetoric about the "NRC Principles of Good Regulation" and a greater focus on actually **practicing** good regulation.

Now that the Commission has officially recognized that the pseudoscientific fantasies of the radiation hormesis advocates (to save time, I'll refer to them as hormesians) are no basis for the regulations that stand between Americans and the hazards of ionizing radiation, it needs to confront a painful truth: namely, that what is probably the most safety-significant of all its regulations, in terms of the actual effects on real people, is founded on quackery. That is the Patient Release Rule, the provisions of which were adopted on the advice of a hormesian doctor who believed that radioactive iodine 131 (I-131) was not a carcinogen, and that the release of I-131 patients could be determined without regard to internal doses of that isotope. On both these points, the rest of the world, including the Third World, knows better. (So did the NRC, as it explained cogently in a 1986 rulemaking, only to flip-flop a few years later, without explaining what was wrong with its earlier analysis.)

I do not propose to review here the history of how the NRC got to this point. I did so in detail in the comments on the rulemaking petitions that I submitted in 2015. As anyone who reads those comments will see, I have consistently, for some thirty years, advocated mainstream scientific positions on I-131, while the NRC pursued a radical, hormesis-tinged deviation from international and national standards. It is telling that today, Bangladesh, Saudi Arabia, the Republic of Macedonia, South Africa, and countless other countries are more responsible when it comes to protecting children from I-131 than we are.

It may be asked why I continue to care about this issue. Part of the answer is that I regularly hear from and about thyroid cancer patients whose lives are being affected adversely by the Patient Release Rule. Take for example the young woman, in Texas, who wrote to the thyroid cancer patients' Facebook group in December 2020:

I'm having RAI [radioactive iodine] soon and I've seen so many different isolation times. I've been told I will get a very high dose. But possibly 3 days, yet I see others who have to do 3-4 weeks. I have an 11 month old and 14 year old with compromised immune systems. Can y'all tell me how long y'all were in isolation? Tips? Kids? Side effects? Thank you. I'm so nervous

[15 hours later]

I just left the radiology oncologist who will be administering my dose of 100. He said it was an extremely low dose and low risk. He said there would be no risks at all of secondary cancer or even side effects will not be a thing. Then he sat there and just looked at me. Told me to be isolated for 3 days only!! And in those 3 days my kids could come within 3 feet of me with no issues. They could even hug me just not for long periods of time.

This just seems like so different from everything I've seen here. I feel it's unrealistic honestly. Can y'all give me advice? Especially on isolation and secondary side effects that he says "never happen."

Unless you are a hormesian, and can persuade yourself that the infant's health can only benefit from the radiation received from its mother, this should be deeply troubling. I won't try to list all the ways in which this guidance is defective.

Let me offer another data point. Most of the world believes that members of the public should receive no more than 100 millirems of radiation per year from licensed sources. But by the NRC's own calculations, a person on public transportation who is standing close to a thyroid cancer patient with 100 millicuries of I-131 (the same dose proposed for the young woman from Texas just quoted) in his or her system can receive a radiation dose of 100 millirems in just 42 minutes.

Is there anyone at the NRC prepared to say, "It doesn't bother me if my pregnant wife, or daughter, or granddaughter, or niece, etc., gets a substantial dose of radiation from a newly released patient"? And if it's not good enough for **your** loved one, then it's not good enough

for anyone else's loved one, either. Bear in mind, too, that a single patient may have more radioactivity in his or her system than a nuclear power plant gives off in a year.

To make clear, I am emphatically **not** asking the Commission to change its rules on patient release at this time. The middle of a pandemic, with hospitals and their staffs overwhelmed, is no time to be altering the status quo. What I am asking, rather, is that the Commission hold a public meeting, or series of meetings, to explore the patient release issue, gather information, and help develop an understanding of the issue. Holding such a meeting would not commit the Commission to anything; it would simply be a matter of fact-gathering. It might create a basis, however, for action at some point in the future, once covid is behind us.

In such a meeting or meetings, it is not enough to hear from the NRC medical staff, or the Advisory Committee on the Medical Uses of Isotopes, or the various professional organizations, and have them reassure you, as they invariably do, that the status quo is perfect, the public is wonderfully protected, and the rule needs no changes whatsoever. What the Commission lacks, and I believe needs to obtain, is an understanding of the patients' point of view: their actual experience under the current rule. Many patients should be heard from; one or two is too few to form a representative sample. Zoom would make such a meeting easy, and if takes two or three hours to hear from the witnesses, so be it. After three decades in which the patients' side of the story went almost entirely unheard by the NRC, this does not seem like too much to ask.

Respectfully submitted,

/s/

Peter Crane, NRC Counsel for Special Projects (retired)
Seattle

McCloskey, Bridin

Attachments: 2021.October.NRCCCommissioners.pdf

From: Peter Crane <peter46crane@gmail.com>

Sent: Tuesday, October 05, 2021 11:49 PM

To: Vietti-Cook, Annette <Annette.Vietti-Cook@nrc.gov>

Subject: [External_Sender] Letter to the Commissioners

Hi Annette --

would you be so kind as to forward the attached letter to the Chairman and Commissioners, with copies to the usual suspects? Thanks.

Hope you and yours are keeping well and safe. All the best, Peter