Public Comment on the Defense Nuclear Facilities Safety Board's (DNFSB) Public Hearing of November 28, 2018, on the Department of Energy's Interface with the DNFSB

Comment on the term "adequate protection of public health and safety"

In the Atomic Energy Act of 1954, as amended, Congress used the term "adequate protection of public health and safety" (or slight variations thereof) in several sections. Congress used the term in sections relevant to licensing decisions made by the Atomic Energy Commission (AEC) and the Nuclear Regulatory Commission[1] (NRC) (Sections 182, 189). Congress also used the term to define when the Defense Nuclear Facilities Safety Board (DNFSB) shall make recommendations to the Department of Energy (DOE) (Section 312).

DOE officials have recently claimed or implied that the term "public health and safety", as used in the Atomic Energy Act, excludes the health and safety of workers at nuclear facilities [1-5]. As a result, the DOE is disputing the DNFSB's authority to write recommendations [1], and perhaps even provide oversight [3], on matters related to worker health and safety at DOE sites (while simultaneously suggesting that nothing has changed). DOE's stance also has implications for DOE's own policies, as well as the NRC. While the current discussion on this topic was precipitated by DOE's issuance of DOE Order 140.1 in 2018, DOE's claims in this regard go back as far as 2014 [5].

DOE's recent stance is a radical departure from how the Atomic Energy Act has generally been understood for decades. In this comment, I attempt to use evidence from all three branches of government to show that "public health and safety", as used in the Atomic Energy Act, does indeed include the health and safety of workers. I believe that the evidence is overwhelming that DOE's position is incorrect.

This comment is divided into several sections:

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-Legislative History (AEC)
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Throughout this comment, bold was added by the author to quotations for emphasis.

Court Decisions

The decision in *Siegel v Atomic Energy Commission* [6] explicitly shows that the term 'public health and safety', as used in the Atomic Energy Act, was understood to include workers. The decision by the United States Court of Appeals for the District of Columbia Circuit states that "In the case of the latter standard of 'the public health and safety,' the Congressional preoccupation was with **industrial accidents**

[1] While Section 182 of the Atomic Energy Act refers to the defunct AEC, the Energy Reorganization Act of 1974 transferred the AEC's "licensing and related regulatory functions" to the NRC.

and the dangers they presented to employees and the neighboring public." The decision also quotes from the AEC's assessment of the legislative history and Congressional intent behind the Atomic Energy Act. The decision states that

> The public health and safety standard, in like fashion, was said to be addressed 'to the overall qualifications of the applicant and the design of the facility **to protect plant employees** and the public against accidents and their consequences.' (internal quotation is of the AEC [7])

The latter quotation also appears in *Public Citizen v Nuclear Regulatory Commission*, a decision of the United States Court of Appeals, Ninth Circuit [8].

While the case in *Siegel* did not specifically revolve around this question of whether the worker was included in the 'public', these quotations show that the AEC and the court understood 'public health and safety' to include both the worker and the general public.

I believe that the language in the court decisions should end the debate over how 'public health and safety' in the Atomic Energy Act should be interpreted. Nevertheless, this comment continues to other lines of evidence.

Legislative History (AEC)

Legislative History from 1954

The text of the Atomic Energy Act of 1954 [9] does not explicitly address the question of whether 'public health and safety' includes workers. That said, I believe that context, and the general usage of 'public health', point to Congressional intent to include workers in 'public' (discussed further below).

I was also unable to find an explicit clarification in the voluminous legislative history from 1954; indeed I found surprisingly little discussion of health and safety at all. In *State of New Hampshire vs Atomic Energy Commission*, the United States Court of Appeals, First Circuit [10] also commented on the lack of discussion of health and safety:

> Very little else on the subject of health and safety can be found in the massive three volume Legislative History; only four unilluminating references to these words are contained in the index. It seems obvious to us that these terms were beyond the purview of the 1954 deliberations and that their meaning had been deemed settled at the time of passage of the Atomic Energy Act of 1946.

While I have not completed a review of the record from 1946, I have found that the legislative history from 1959 does address the question at hand.

Legislative History from 1959

In 1959, Congress amended the Atomic Energy Act to add Section 274, *Cooperation with States*. Section 274 allows for states to take over some of the AEC's (now NRC's) regulatory authority, in what is now known as the Agreement State Program.

Congress defined conditions for the AEC (now NRC) to enter into such an agreement with a state. In the original Section 274 [11], the conditions included:

> (1) The Governor of that State certifies that the State has a program for the control of radiation hazards adequate to protect the public health and safety with respect to materials within the State covered by the proposed agreement…
>
> (2) the Commission finds that the State program is compatible with the Commission's program for the regulation of such materials, and that the State program is adequate to protect the public health and safety with respect to the materials covered by the proposed agreement.

As seen in the quotation, Section 274 is another instance where Congress called for the adequate protection of 'public health and safety'. Section 274 does not explicitly mention the worker. Yet, the activities of the Congressional Joint Committee on Atomic Energy (Joint Committee) in preparation for the creation of Section 274 show that Congress was very much focused on worker safety.

The Joint Committee's report from September 1959 [12] on the bill to add Section 274 describes the steps taken by that committee as part of preparing this legislation[2]. In February 1959, a subcommittee of the Joint Committee created a compilation of information, titled "Selected Materials on Employee Radiation Hazards and Workmen's Compensation" [13]. In March, that subcommittee held hearings [14] titled "Employee Radiation Hazards and Workmen's Compensation." As can be gathered from the titles, the compilation and hearings were focused on worker safety with respect to radiation hazards. To inform the states, the Joint Committee sent copies of the compilation to the governor of every state. With this information on employee safety as background, the Joint Committee went on to have hearings on federal-state cooperation in May and August, 1959. Thus, despite not explicitly mentioning the worker in Section 274, the Joint Committee clearly showed that they were concerned with the states' ability to provide for adequate protection of the worker.

While the totality of the Joint Committee's actions show they understood the 'public health' to include the worker, I will highlight one specific quotation from the hearings on federal-state cooperation [15]. A representative of the AEC clearly demonstrated that the adequate protection concept applied to workers:

> Now for a word about onsite radiation hazard control: The Commission's control of radiation hazards in its own operations follows a pattern, developed over a period of more than 15 years, to provide in the most effective and economical manner adequate protection both to radiation workers and to the general public.

Note that the AEC was providing adequate protection to the workers, despite the text of the Atomic Energy Act not explicitly mentioning the worker in its adequate protection clauses.

The American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) was opposed to the 1959 bill [15-16]. Their stance is also instructive. The AFL-CIO stated concerns for the safety of both the general public and the worker. However, in their list of specific concerns with the bill, and subsequent suggestions for amending the law, they did not call for the explicit inclusion of the worker in the adequate protection clauses. This suggests that they also understood 'public health' as including the worker.

Incidentally, the legislative history from 1959 demonstrates the differences between Congress and DOE's recent stance in another way. Congress did not authorize the states to assume regulatory responsibility for all facilities and activities. As described by the Joint Committee [12], the states would be assuming

[2] The bill was actually drafted by the AEC, with the Joint Committee making some amendments.

responsibility for activities "whose hazard is local and limited". Despite the "local and limited" nature of the hazard, Congress still insisted on the states certifying, and the AEC affirming, that they could provide adequate protection of public health and safety. Meanwhile, in the current day, DOE divides its facilities into hazard categories [17]. Hazard Category 3 facilities pose "only local significant consequences." In contrast to Congress's approach, DOE has stated [2] that "these facilities do not by definition pose a risk to public health and safety", apparently on the grounds that the hazard is limited to the on-site worker. Regardless of what modern-day DOE hazard categories could have been assigned to the types of facilities being considered in 1959, this comparison illustrates the difference in perspective on who is included in 'public health.'

Statements by the AEC

Beyond the quotations from the AEC above, this section contains a selection of statements from the AEC that explicitly demonstrate that they understood the 'public' in the Atomic Energy Act to include the worker:

- (1956) A major objective of the Commission's regulatory program is the protection of the health, safety and property of the **public, both those who are operating the facility and those who live in the environs**, against the potential hazard resulting from the escape of radioactive materials from a nuclear energy facility. [18]

- (1961) The basic purpose of the licensing requirement is to provide reasonable assurance, before the licensee embarks on an activity, that he will conduct the proposed activity in compliance with the Commission's regulations and in such a manner as to **protect public health and safety, including the health and safety of employees**. [19]

- (1967) ..that the proposed reactor can be constructed and operated at the selected site without endangering **the health and safety of the public, including plant employees**. [20]

These statements quoted in this section appear in the publications of the Joint Committee (hearings, committee reports, committee staff reports). The Joint Committee would have been well aware of the AEC's understanding in this fundamental topic of who is included in the 'public'. When considering whether the AEC was correctly interpreting the Atomic Energy Act in a different matter (unrelated to the question at hand here), the Supreme Court decision in *Power Reactor Development Co v Electricians* stated the following:

> And finally, and perhaps demanding particular weight, this construction has time and again been brought to the attention of the Joint Committee of Congress on Atomic Energy, which, under § 202 of the Act, 42 U.S.C. § 2252, has a special duty during each session of Congress "to conduct hearings in either open or executive session for the purpose of receiving information concerning the development, growth, and state of the atomic energy industry," and to oversee the operations of the AEC…No change in this procedure has ever been suggested by the Committee…It may often be shaky business to attribute significance to the inaction of Congress, but, under these circumstances and considering especially the peculiar responsibility and place of the Joint Committee on Atomic Energy in the statutory

scheme, we think it fair to read this history as a *de facto* acquiescence in and ratification of the Commission's licensing procedure by Congress.

General Usage of the Term 'Public Health'

Aside from the legislative history of the Atomic Energy Act, one can examine the general usage of the term 'public health'.

The American Public Health Association describes 'public health' in terms that includes occupational health. On their website, they write that "public health promotes and protects the **health of people** and the communities where they live, learn, **work** and play." [21]

The history of the Public Health Service demonstrates how the term 'public health' has been understood in the government. In 1912, Congress authorized the Public Health Service with a broad scope, to "study and investigate the diseases of man and conditions influencing the propagation and spread thereof…" Soon thereafter, the Public Health Service formed an office to study industrial hygiene (later renamed occupational health) [22-23]. For example, the Public Health Service studied the radiation exposure of uranium miners, starting around 1950. A representative of the Public Health Service testified about that study before a subcommittee of the Joint Committee on Atomic Energy in 1959, as part of hearings titled "Employee Radiation Hazards and Workmen's Compensation." This abbreviated history shows that during the 1950s, members of the legislative and executive branches would have understood the term 'public health' as including the employees at their workplaces. Thus, when Congress wrote the Atomic Energy Act of 1954, it is quite natural to think that they considered the term 'public health' to include the on-site worker.

NRC Practice

While it would be preferable for the NRC to speak for itself, I believe that a study of NRC practices shows that the NRC continues to include the worker as part of 'public health and safety'.

The backfit rule (10 CFR 50.109) provides just one example. Through this rule, the NRC sometimes explicitly shows what it considers to involve "adequate protection to the health and safety of the public". In this manner, the NRC has shown that occupational radiation protection aspects of 10 CFR 20 are needed for adequate protection of the public. For example, the NRC found that a revision to the (occupational) skin dose limit involved adequate protection to the health and safety of the public [24].

In cases where a proposed backfit does not involve adequate protection, NRC can require a backfit if "there is a substantial increase in the overall protection of the public health and safety or the common defense and security to be derived from the backfit…" Note that the worker is not explicitly mentioned in this sentence. However, the rule goes on to define factors that can be considered when determining whether a proposed backfit would involve a substantial increase in the overall protection of the public health and safety. One factor is the "potential impact on radiological exposure of facility employees." Thus, this is another example of how 'public health and safety' is understood to include the worker.

Legislative History (DNFSB)

The DNFSB was created by a 1988 amendment to the Atomic Energy Act of 1954, as amended. As an aide for this section, a summarized timeline of the legislative history is provided below:

- April 23, 1987: Senator Glenn introduces bill, S. 1085
- June 16-17, 1987: Hearings by Senate Committee on Governmental Affairs
- Sept 24, 1987: Report by Senate Committee on Governmental Affairs
- Oct and Nov, 1987: Hearings by a subcommittee of the Senate Committee on Armed Services
- Nov 20, 1987: Report by Senate Committee on Armed Services
- July 14, 1988: Congress passes National Defense Authorization Act (NDAA) for fiscal year 1989, including language on DNFSB
- Aug 3, 1988: President vetoes NDAA for unrelated reasons
- Sept 28, 1988: Congress passes revised NDAA, still including language on DNFSB
- Sept 29, 1988: Signed by President

The report by the Senate Committee on Governmental Affairs [25] shows a clear intent for the DNFSB's responsibilities to include the safety of the worker. In the section explaining the purpose of Title I of the bill, to establish "an independent Nuclear Safety Board", the report states "The Board would recommend to the Department of Energy changes in operating procedures or health and safety standards to improve the safety of its facilities **or reduce the radiation exposure of workers** or the public…". In explaining the need for Title I, the report states that the "operation of nuclear reactors and other nuclear facilities entails great potential risks to the **health and safety of workers** and the general public."

The Senate Committee on Armed Services amended the bill to add the language on "adequate protection of public health and safety." A review of the committee report and hearings [26] shows no motivation or intention for this language to override the previous committee and limit the scope of the Board to the offsite public. Rather, the Committee on Armed Services thought that the bill as reported by the previous committee had too low a threshold for the issuance of Board recommendations. They felt the Board would have been able to write recommendations for very minor improvements to safety, or "make recommendations to establish standards of safety that are potentially more stringent than those applied by the NRC and approved by the courts". "Even if the Board does not choose to interpret its mission in these terms…third parties may well seek to enforce their interpretation of the Board's mandate and duty through litigation." Without a threshold or standard for recommendations, a DOE official stated that the Board's recommendations would lead to expensive backfitting of DOE facilities even when the operations "pose no undue risk to workers or the public." The DOE official stated that the bill, in its form at the time, "doesn't distinguish between accidents and risks which pose little or no damage to public and worker health and safety." These exchanges show that DOE understood that worker safety would be part of the new Board's mission; they simply desired a threshold for the Board's recommendations. In choosing a threshold, the committee decided to use the concept already being used by the NRC, of "adequate protection of public health and safety". As shown above, that concept had long been understood to include the worker.

Further, the report of the Committee on Armed Services included the views of Senator Glenn, where he disputed some portions of the Committee's report. If anybody had expected that the bill would be excluding the worker by using the language 'public health and safety', it is reasonable to expect that Senator Glenn would have expressed regret at this change. He did not.

I have only been able to locate one instance of a person who questioned whether the Board would have oversight over the worker. In the record of the hearings before the first committee, a union representative

actually did wonder if the Board would have oversight over the worker, since Title II of the bill extended OSHA's jurisdiction to cover DOE sites. In that version of the bill, this was a reasonable question to ask. However, the subsequent report by that committee made it clear that the Board would have oversight over the worker, and in any case, Title II never came into effect. One can speculate how the Board and OSHA would have divided their duties; a division as described by the MOU between NRC and OSHA could have been reached.

In implementation, the DNFSB stated in its first annual report that "Congress generally intended the phrase "public health and safety" to be construed broadly. For example, both Congress and the Board have interpreted the public to include workers at defense nuclear facilities."

DOE Examples

The DOE itself uses language like "adequate protection of workers, the public, and the environment" in its regulations and policies [27, 17].

In 2011, DOE issued a report that includes an explanation of how DOE derived this phrase [28]. That report excerpts passages from the Atomic Energy Act, the Energy Reorganization Act, and the Department of Energy Organization Act. None of the passages in these statutes that use the phrase 'adequate protection' explicitly mention the worker. In fact, DOE wrote that their "adequate protection" phrase is "consistent with the term utilized in the Atomic Energy Act for the duty of the Defense Nuclear Facilities Board." Thus, as recently as 2011, DOE appeared to accept that the term "adequate protection of public health and safety" included workers.

It is becoming harder to understand whether DOE still believes that they need to provide for adequate protection of the workforce on DOE sites. On one hand, in August 2018, DOE proposed a revision to 10 CFR 830; this proposed revision continues to refer to "adequate protection of workers, the public, and the environment". On the other hand, in a recent letter [4], DOE appeared to carefully avoid stating that it needed to provide adequate protection to the worker:

> DOE is dedicated to providing adequate protection of the public health and safety, protecting the health and safety of its workers, and is determined to accept full responsibility for any and all outcomes of its efforts…

Of course, there is a linkage: if DOE states that it needs to provide adequate protection to both the general public and the workforce, it would be difficult to also argue that the DNFSB's authority does not extend to the workforce.

DOE's Basis, and the Importance of Context

To my knowledge, DOE has not provided a clearly documented basis for its claim that 'public health', as used in the Atomic Energy Act, excludes the health of workers. In a recent letter, DOE stated the following:

> DOE Order 140.1 is consistent with the AEA [Atomic Energy Act], the legislative history of its enactment, and regulations and policies dating back to 1960 that differentiate

between radiation exposures to “members of the public” and occupational exposures to “workers”.

DOE’s letter provides no further evidence for this assertion. As shown above, DOE’s stance is contradicted by explicit statements from its ancestor agency, the AEC. As shown above, the evidence shows that ‘public health and safety’, as used in the Atomic Energy Act, includes the health and safety of the worker.

Without more clarity on DOE’s basis, it is difficult to understand how DOE came to its opinion. However, extrapolating somewhat from the recent statements of DOE officials, it appears that DOE may simply be failing to read different documents in context.

It is absolutely true that some documents, including those of the DOE, DNFSB and NRC, will sometimes use the word ‘public’ to exclude the worker. However, that clearly does not mean that all documents, such as the Atomic Energy Act, use the word ‘public’ to exclude the worker. One must read any given document in context to understand whether the word ‘public’ is used to include the worker, or if it is meant as shorthand for ‘general public’, excluding the worker. In some cases, a careful reading is required, especially when the same document uses the word ‘public’ in both ways in the same paragraph, or even in the same sentence. Still, the intended meaning is usually quite clear from the context.

If a document refers to the ‘public’ and ‘worker’ as distinct populations in the same sentence, or if a contrast is being drawn between the two populations, that is a good indication that ‘public’ is being used to exclude the worker. At this point, it is instructive to examine word choice in the Atomic Energy Act of 1954 (9). The word ‘worker’ does not appear. The word ‘occupational’ does not appear. The word ‘employee’ does appear, but in instances that are wholly irrelevant to the discussion here. These simple facts, along with the general usage of the term ‘public health’, provide contextual clues that the Atomic Energy Act uses the word ‘public’ in a broad sense, to include the worker. Of course, the other evidence discussed in previous sections of this comment is needed to build that conclusion with confidence.

Conclusion

The evidence from all three branches of government shows that the term ‘public health and safety’, as used in the Atomic Energy Act, includes the health and safety of the worker.

Given that DOE’s Order 140.1 appears to be inconsistent with the Atomic Energy Act of 1954 as amended, I believe that DOE should retract the Order.

I also believe that DOE should re-affirm to the workforce at DOE sites that DOE is indeed committed to providing adequate protection to them.

Comment submitted by: Sanjoy Sircar

I am submitting this comment purely as a private individual.

Also note that I am not a lawyer, I performed this research in a few hours of my spare time, and have only had time to examine a fraction of the documents I would have liked to examine. A lawyer would surely be able to build a more comprehensive and compelling case.

References

[1] Department of Energy, statements made at DNFSB Public Hearing on August 28, 2018.

[2] Department of Energy, statements made at DNFSB Public Hearing on November 28, 2018.

[3] Department of Energy, Order 140.1, *Interface with the Defense Nuclear Facilities Safety Board*, 2018.

[4] Department of Energy, letter to DNFSB regarding Order 140.1, December 13, 2018.

[5] Defense Nuclear Facilities Safety Board, Proposed Rule: "Procedures for Safety Investigations", 79 FR 46720, 2014. See Comment 14 from DOE.

[6] United States Court of Appeals, District of Columbia Circuit, Siegel vs Atomic Energy Commission, 400 F.2d 778, 1968.

[7] Atomic Energy Commission, Memorandum and Order "In the Matter of Florida Power & Light Company (Turkey Point Nuclear Generating Units No. 3 and No. 4", available in "Opinions and Decisions of the Atomic Energy Commission with Selected Orders", Volume 4, 1973.

[8] United States Court of Appeals, Ninth Circuit, Public Citizen vs Nuclear Regulatory Commission, 2009.

[9] Atomic Energy Act of 1954, Public Law 83-703, 1954.

[10] United States Court of Appeals, First Circuit, State of New Hampshire vs Atomic Energy Commission, 1969.

[11] Public Law 86-373.

[12] Joint Committee on Atomic Energy, "Amendments to the Atomic Energy Act of 1954, as Amended, with Respect to Cooperation with States", Report 870, 1959.

[13] Joint Committee on Atomic Energy, "Selected Materials on Employee Radiation Hazards and Workmen's Compensation", 1959.

[14] Joint Committee on Atomic Energy, Hearings, "Employee Radiation Hazards and Workmen's Compensation", 1959.

[15] Joint Committee on Atomic Energy, Hearings, "Federal-State Relationships in the Atomic Energy Field", 1959.

[16] Joint Committee on Atomic Energy, Hearings, "Radiation Protection Criteria and Standards: Their Basis and Use", 1960.

[17] Department of Energy, "Nuclear Safety Management", 10 CFR 830.

[18] Joint Committee on Atomic Energy, staff report, "A Study on AEC Procedures and Organization in the Licensing of Reactor Facilities", 1957.

[19] Joint Committee on Atomic Energy, Hearings, "Radiation Safety and Regulation", 1961.

[20] Joint Committee on Atomic Energy, Hearings, "Licensing and Regulation of Nuclear Reactors", 1967.

[21] https://www.apha.org/what-is-public-health

[22] Department of Health and Human Services, “One Hundred Years of Federal Mining Safety and Health Research”, 2010.

[23] Advisory Committee on Human Radiation Experiments, Final Report.

[24] Nuclear Regulatory Commission, Final Rule, “Revision of the Skin Dose Limit”, 67 FR 16298, 2002.

[25] Committee on Governmental Affairs, United States Senate, Report on Nuclear Protections and Safety Act of 1987, Report 100-173, 1987.

[26] Subcommittee on Strategic Forces and Nuclear Deterrence of the Committee on Armed Services, United States Senate, Hearings on Safety Oversight for Department of Energy Nuclear Facilities, Senate Hearing 100-560, 1987.

[27] Department of Energy, “Department of Energy Nuclear Safety Policy”, DOE Policy 420.1, 2011.

[28] Department of Energy, “Technical Basis for U.S. Department of Energy Nuclear Safety Policy, DOE Policy 420.1”, DOE/HS-0006, 2011.