

ATOMICS INTERNATIONAL

A Division of North American Aviation, Inc.

June 25, 1959

In reply refer – 59AT-4811

Mr. Harold L. Price, Director Division of Licensing and Regulation U. S. Atomic Energy Commission Washington 25, D. C.

Dear Mr. Price:

In response to your invitation of May 26, 1959, we are submitting our comments concerning the notice of Proposed Rule Making which is being considered as a basis for an amendment to the Commission's regulations for nuclear power and test reactor site criteria.

The entire concept of nuclear energy and its application is in an early stage and is naturally subject to close scrutiny and criticism from all fronts, both by those educated in the field and those whose concept of nuclear energy is restricted merely to atomic and hydrogen bombs and the much publicized "fallout". Additionally, the industry has grown up under a veil of strict security control and fairly stringent regulations in contrast to other industries. For example, in other industries the regulation of potentially dangerous activities has traditionally been initiated by the occurrence of accidents. The demand for immediate regulations concerning nuclear reactor sites does not stem from a history of accidents but more from a derived fear of radioactivity based on nuclear weapons. This approach places the nuclear industry at an extreme disadvantage in the formation of sensible, workable legislation for public safety.

While it is recognized that some type of legislation could greatly simplify the work of nuclear power plant and testing reactor owners, operators, constructors, designers and appropriate regulating agencies, it would be disastrous to the future of nuclear energy to establish regulations at an early date which would unnecessarily hinder proper growth.

The whole problem of power plant location, both conventional and nuclear, is one of growing complexity. It involves problems of proving

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Mr. H. L. Price AEC, Washington

- 2 -

June 25, 1959 59AT-4811

to load centers, availability of cooling water and public hazard, among others. It is important that the growth of the power industry, accelerated as it is, be carefully planned; the proper location of nuclear plants must be included in the over-all development of such plans and not treated on a piecemeal, special considerations basis.

During the period in which these plans and the corollary regulations are being developed, we recommend that the present system of evaluating each nuclear reactor case on its own merits be continued; this evaluation to be conducted by highly qualified groups such as the presently functioning Advisory Committee on Reactor Safeguards. Efforts must be made to insure that the responsible authorities are not overburdened or understaffed in performing this function. The support of the Reactor Hazards Evaluation Board in this capacity is most important.

The present technical state of the art does not permit quantitative type regulations such as those contained in the exclusion distance and population density sections of the proposed rule. Regulations which automatically prohibit the construction of a reactor at any site should be avoided.

It is important that site criteria not be considered separately from the specific reactor design and its operation. For example, the proposed rule states: "Operating approvals depend on detailed review of design, construction and operating procedures at the final construction stages." This sentence would seem in essence to separate site criteria from the reactor itself and operation of the reactor. This is something which cannot be done. The intrinsic hazard of a reactor plant is known to vary with the type of reactor, its design, its use, its power level, and with the means provided for preventing or containing accidents. At this time we are not aware of an equation for such things as exclusion radius which would begin to satisfactorily combine these variables. If self-enforcing type regulations were to be enacted, the safest reactor types would be restricted to sites which were equally acceptable for the most potentially hazardous reactor types.

In principle, it must be recognized that practically any reactor can be made safe on any given site. The cost of achieving this safety may be prohibitive for certain types of reactors located on certain sites, but this is an economic problem which is capable of solution.

The impact of arbitrary population criteria would undoubtedly have a great effect upon the European market for the sale of U. S. made reactors because of the extremely high population densities of the majority of the

Mr. H. L. Price AEC, Washington

- 3 -

June 25, 1959 59AT-4811

western European nations, and the fact that in view of the relatively advanced state of U. S. technology, criteria used here will be seriously considered for guidance in Europe.

One must also consider the statement made in the section of the notice dealing with population densities that: "nearness of the reactor to air fields, arterial highways and factories is discouraged." Although such a rule might feasibly be enforced at the present time, the future growth of our country and of the nuclear industry could well be stifled by this or similar type regulations. Factories, for example, may some day be powered by their own nuclear energy systems.

In summary, we feel that to proceed with the hurried enactment of regulations such as the proposed rule could effectively smother the infant nuclear industry. We recommend that a comprehensive study of all the problems associated with future power plant location be initiated, leading to a set of workable regulations consistent with public safety. The nuclear hazards portion of this plan should carefully take into account both the specific reactor design and its proposed site; arbitrary exclusion radii and population density criteria applicable in any and all cases should be avoided. Until such time as a logical, long-term power plant site plan is developed which does not hinder the industry's growth, the pattern of reviewing and evaluating each proposed reactor and its site on an individual basis should be continued.

We trust these comments will be of interest to the Commission in the formulation of any legislation which is deemed necessary.

Sincerely yours,

NORTH AMERICAN AVIATION, INC.

C. Starr Vice President