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MEMORANDUM February 5, 2010

SUBJECT: State constraints on construction and operation of nuclear power facilities and on transportation, disposal, and storage of nuclear wastes (HB 305 -- Work Order No. 26-LS1223\R)

TO: Representative Pete Petersen

FROM: Brian Kane BJK
Legislative Counsel
and
Jack Chenoweth
Assistant Revisor

This is by way of response to a set of recent questions submitted by David Dunsmore.

1. Is it possible to legally construct a nuclear power plant in Alaska?
State law does not now affirmatively prohibit nuclear power plant construction in the state.

2. Is it possible to legally transport nuclear waste within or through Alaska or to store nuclear waste in the state?
State law purports to prevent transportation of nuclear waste within the state except for the purpose of disposal outside the state. The applicable statute is AS 18.45.027[1] and its prohibition is expressed in terms of one involving the transport of "high level nuclear waste material."[2]

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[1] The text of AS 18.45.027(a) provides

(a) The transportation of high level nuclear waste material, except for purposes of disposal outside the state, is prohibited.

[2] The definition of this phrase reads, in relevant part:

(b) For purposes of this section, "high level nuclear waste material"

(1) means

(A) used nuclear reactor fuel;

(B) waste produced during the reprocessing of used nuclear reactor fuel; and

State statutes are silent on the permissibility of in-state storage of nuclear waste (that is, of used nuclear reactor fuel or of waste associated with the reprocessing of that fuel). Nonetheless, by implication arising out of the reading of AS 18.45.027(a) ("except for purposes of disposal outside the state"), the better argument is that state statutes permit transportation only to final storage outside Alaska -- that any transportation for the purpose of storage within the state is not authorized.

3. If construction of a nuclear power plant is permitted, what permitting or other requirements must be met to legally build the plant?

State statutes set out two principal permitting requirements that appear to be applicable to new nuclear power plant construction.[3] The first, AS 18.45.020,[4] requires the party intending to construct the nuclear power plant to first obtain a license or permit from the appropriate federal regulatory agency, the Nuclear Regulatory Commission. The second, AS 18.45.025,[5] imposes specific facility siting permit requirements.

(C) elements having an atomic number greater than 92 and containing 10 or more nanocuries per gram; . . . .

[3] The threshold question as to whether these two statutes apply at all turns on the definition of "nuclear power plant," the specific term that you used in your inquiry. It is likely, though by no means certain, a "nuclear power plant" would fall within the parameters of the definition of a "nuclear utilization facility," defined, for purposes of AS 18.45 as

> . . . [a place containing] an apparatus, device, or equipment in which nuclear fission is sustained in a self-supporting and controlled chain reaction; the term does not include an apparatus, device, or equipment used exclusively for educational, medical, or research purposes;

AS 18.45.900(4). If a "nuclear power plant" fits the terms of this definition, the licensing, permitting, and siting requirements mentioned in the two statutes apply.

[4] This section reads, in relevant part:

> **United States licenses or permits required.** A person may not . . . construct . . . a . . . utilization facility, or act as an operator of a . . . utilization facility wholly within the state without first obtaining a license or permit for the activity in which the person proposes to engage from the Nuclear Regulatory Commission if the commission requires a license or permit to be obtained by persons proposing to engage in the activities.

[5] The text of this section reads, in relevant part:

There are, of course, other considerations, apart from the standards of AS 18.45.025, that apply.

4. Must there be in place a plan to dispose of and store the nuclear waste that a nuclear power plant generates before the plant can be built or operate?

State statutes do not now specifically so require.

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That said, let me add the following so as to reduce (if not eliminate) any confusion on the major point of regulating nuclear activity.

This state's initiatives touching upon nuclear power regulation may not be as effective in practice as they may appear as set out in the set of statutes.

In the nuclear energy field, the federal Atomic Energy Act of 1954, 42 U.S.C. 2011 et seq., and its amendments are the particular statutory enactments as to which general preemption rules must be applied. The 1954 Act was passed to encourage private sector involvement in the nuclear energy production field. A 1959 amendment to the Act, commonly referred to as the "cooperation with the states" amendment, set out procedures by which the principal federal regulator of that day, the Atomic Energy Commission,

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> **Facilities siting permit required.** (a) A person may not construct a . . . utilization facility . . . in the state without first obtaining a permit from the Department of Environmental Conservation to construct the facility on land designated by the legislature under (b) of this section.
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> (b) The legislature shall designate by law the land in the state on which a . . . nuclear utilization . . . may be located. In designating the land in the state on which a . . . nuclear utilization . . . may be located, the legislature shall act to protect the public health and safety.
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> (c) The Department of Environmental Conservation shall adopt regulations governing the issuance of permits required by (a) of this section. However, a permit may not be issued until
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> (1) -- *repealed* --
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> (2) the municipality with jurisdiction over the proposed facility site has approved the permit; and
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> (3) -- *repealed* --
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> (4) the governor has approved the permit.

For reasons discussed in the remaining text of this memo, the involvement of the legislature in the siting decision made under subsection (a) and the standards on which the legislature may base its decision, as set out in (b), are questionable.

could transfer its regulatory authority over certain types of nuclear material to the states. The Commission was prohibited, however, from ceding its authority over especially hazardous activities and materials. The 1959 amendment's operative sections do not focus on the subjects preempted by federal law. Instead, the amendment details the regulatory duties which the Commission may or may not wholly surrender to the states. As a result, the preemptive intent of Congress was not expressly set out but, instead, it is to be implied.[6]

In matters related to nuclear facility siting, two significant decisions predominate.

In *Northern States Power Co. v. Minnesota*, 447 F.2d 1143 (8th Cir. 1971), aff'd mem. 405 U.S. 1035 (1972),[7] the Eighth Circuit Court of Appeals held that state regulations setting strict limits on the release of radioactive effluents from nuclear power plants were preempted by the Atomic Energy Act. The court implied preemption on the grounds that the federal government had exclusive authority to regulate radiation hazards under the 1959 amendment noted above.[8]

Northern States remained the leading decision on the scope of federal preemption in the area of radiation hazards until 1983 when the United States Supreme Court delivered its opinion in *Pacific Gas & Elec. Co. v. State Energy Resources. Conservation & Dev. Comm'n*, 461 U.S. 190, 75 L.Ed.2d 752, 103 S. Ct. 1713 (1983). The *Pacific Gas* decision involved a challenge to a California Act that imposed a moratorium on the certification of new nuclear power plants in the state. That moratorium was to last until the Nuclear Regulatory Commission finally approved and adopted a permanent disposal technique for the high level nuclear waste generated by the plants. The statute's purpose, according to its legislative history, was to regulate the economics of nuclear power, not its safety aspects. Without assurance of technology for disposing of the waste, the state maintained that the plants would have to shut down when their interim on-site storage

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[6] To complete the history: In 1974, Congress passed the Energy Reorganization Act, 88 Stat. 1233, 42 U.S.C. §§ 5801 et seq., which abolished the Atomic Energy Commission and transferred its regulatory and licensing authority to the Nuclear Regulatory Commission. 42 U.S.C. § 5841(f). The 1974 Act also expanded the number and range of safety responsibilities under the Nuclear Regulatory Commission's charge.

[7] The United States Supreme Court's affirmance of the Court of Appeals decision reads in full: "Affirmed on appeal from C.A. 8th Cir. . . . MR. JUSTICE DOUGLAS and MR. JUSTICE STEWART dissent from affirmance."

[8] A set of 1977 amendments to the federal Clean Air Act, Pub. L. No. 95-95, 91 Stat. 685 (1977) (codified in scattered sections of 42 U.S.C. (1982)), has had the effect of statutorily overruling the *Northern States* decision. These amendments have brought all radioactive effluents within the definition of "air pollutant" under the Clean Air Act. 42 U.S.C. § 7602(g). Thus, 42 U.S.C. § 7416 now allows states to regulate effluent emissions more strictly than does the Nuclear Regulatory Commission.

capacity was filled. As a result, plant construction constituted an economic risk since the cost and timing of the permanent disposal technique could not be reasonably estimated in advance.

The utilities affected by the California Act brought the challenge on the ground that the Atomic Energy Act preempted the state imposed moratorium, even if the state law was enacted for economic motives. However, the Supreme Court unanimously held the state law valid. "In doing so," one commentator has written

> . . . the Court purported to explore and define the preemptive scope of the Atomic Energy Act. The Court found that "the federal government maintains complete control of the safety and 'nuclear' aspects of energy generation . . ." while the states retained authority in non-nuclear areas. In reaching its decision, the Court concluded that, ***though a moratorium imposed because of safety concerns would have been struck down, the economic purpose of the California ban saved it from preemption.*** The Court confined its examination of the statute to whether any non-safety rationale existed for the California law. . . . Finally, the Court emphasized the consistency of its holding with its summary affirmation of *Northern States*. The Court distinguished *Northern States* by noting that then a state had attempted to directly legislate in the preempted field of nuclear safety. Similar state efforts, according to the Court, would be preempted under its holding in *Pacific Gas*.

"Note and comment: Federal preemption of the state regulation of nuclear power," 60 Chicago-Kent. L. Rev. 989, 1000-1001 (emphasis added).

Another commentary considering the effect of the *Pacific Gas* decision drew this conclusion as it relates to the continuing role of the states:

> [A s]tate statute [the California statute that was challenged in the *Pacific Gas* decision] imposing moratorium on certification of new nuclear plants until state energy commission finds that there exists demonstrated technology or means for disposal of high-level nuclear waste is not pre-empted by Atomic Energy Act of 1954 (42 USCS §§ 2011 et seq.); [the Atomic Energy] Act does not expressly require states to construct or authorize nuclear power plants or prohibit states from deciding, as absolute or conditional matter[,] not to permit construction of any further reactors; under Act, Federal Government maintains complete control of safety and nuclear aspects of energy generation and state's exercise their traditional authority over need for additional generating capacity, type of generating facilities to be licensed, land use, ratemaking, and like; state cannot completely prohibit new construction of nuclear power plants until its safety concerns are satisfied by Federal Government, since state safety regulation is not pre-empted only when it conflicts with

> federal law, but rather, Federal Government has occupied entire field of nuclear safety concerns, except limited powers expressly ceded to states.

One other decision warrants mention. In *United States v. Kentucky*, 252 F.3d 816 (6th Cir. 2001), cert. den. 534 U.S. 973, 122 S. Ct. 396, 151 L. Ed.2d 300 (2001), the United States Department of Energy successfully challenged Kentucky's imposition of permit conditions imposed by the state environmental agency relating to the disposal of radioactive waste in a landfill operated by the federal department:

> The [Kentucky Natural Resources and Environmental Protection] Cabinet's arguments are not well-taken. As the Supreme Court unequivocally stated in *Pacific Gas & Electric*, "the federal government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the states." 461 U.S. at 212. ***Accordingly, the A[tomic] E[nergy] A[ct] preempts any state attempt to regulate materials covered by the Act for safety purposes.*** See *id.* Here, the challenged permit conditions specifically limit the amount of "radioactivity" and "radionuclides" that [the United States Department of Energy] may place in its landfill. The sources of such "radioactivity" and "radionuclides" are materials covered by the AEA, i.e., source, special nuclear, and byproduct materials. The Cabinet seeks to impose these conditions to protect human health and the environment. The permit conditions therefore represent an attempt by the Cabinet to regulate materials covered by the AEA based on the Cabinet's safety and health concerns, and are thus preempted.
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> . . . .
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> . . . [In addition,] the Cabinet's assertion that it has the "right under state law" to prohibit any radioactive materials from being placed in the landfill is incorrect. The Supreme Court rejected a similar argument in *Pacific Gas & Electric*:
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> > Respondents . . . argue . . . that although safety regulation of nuclear plants by states is forbidden, a state may completely prohibit new construction until its safety concerns are satisfied by the federal government. We reject this line of reasoning. State safety regulation is not preempted only when it conflicts with federal law. Rather, the federal government has occupied the entire field of nuclear safety concerns . . . .
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> [*Pacific Gas & Electric*,] 461 U.S. at 212.

252 F.3d at 823 - 824 (emphasis added).

The decision in *Pacific Gas* also endorses the Nuclear Regulatory Commission's preeminent role in matters relating to health: the opinion refers back to an earlier decision, *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 55 L.Ed.2d 460, 98 S. Ct. 1197 (1978), to reiterate this critical distinction:

> There is little doubt that under the Atomic Energy Act of 1954, state public utility commissions or similar bodies are empowered to make the initial decision regarding the need for power. 42 U.S.C. § 2021(k). The Commission's prime area of concern in the licensing context, on the other hand, is national security, public health, and safety. [42 U.S.C.] §§ 2132, 2133, 2201.

435 U.S. at 550. Arguably, while recognizing in *Pacific Gas* that one of the primary purposes of the Atomic Energy Act is, and always has been, to promote the development of nuclear power, the Court concluded that this promotion was not to proceed at all costs. Specifically, the Court found that a state could halt the development of nuclear power if it did so for economic reasons (or presumably for any non-safety or non-public health-related based purpose), thereby narrowing the earlier *Northern States* holding.

These decisions are relevant to atomic energy facility regulation under the laws of Alaska. Under AS 18.45.025(b), cited earlier, the legislature retains to itself authority to "designat[e] the land in the state on which a nuclear fuel production, nuclear utilization, nuclear reprocessing, or nuclear waste disposal facility may be located. . . ." In doing so, however, the last part of subsection (b) recites that "the legislature shall act to protect the public health and safety." However, state regulation, including imposition of a moratorium on development and operation of new facilities, for purposes relating to safety considerations is preempted under the Atomic Energy Act, as the Eighth Circuit concluded in the *Northern States* decision and as the Sixth Circuit has related in its more recent Kentucky decision. The same objection may also apply to public health considerations under a reading of *Vermont Yankee*. In other words, if the legislature is planning to rely on AS 18.45.025(b), it may want, first, to revisit the statute and to reformulate the standard set out in the subsection's last sentence in order to ensure compliance with federal preemption considerations.

The point of this analysis is simply to underscore the need for caution in considering state authority with respect to nuclear power facilities and the transportation, disposal, and storage of nuclear wastes. The current state statutes are "dated" -- they largely pre-date the decision in *Pacific Gas* and, by application of that key decision, in some circumstances, they may have been made obsolete by the intervening court decisions concerning preemption -- and ought not to be relied upon as providing accurate guidance on what a state may or may not now do.

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