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Nuclear Power in Oregon?

A Fact Sheet on Small Modular Nuclear Reactors

What are Small Modular (Nuclear) Reactors?

- According to the World Nuclear Association: “Small modular reactors (SMRs) are defined as nuclear reactors, generally 300MWe equivalent or less, designed with modular technology using module factory fabrication, pursuing economies of series production and short construction times.” (“Small Nuclear Power Reactors” 1/2019) SMRs can be used to generate electricity, and combined with other SMRs to increase total electrical output.

What is NuScale/Fluor’s Small Modular Nuclear Reactor (SMNR) Design?

- NuScale is a company headquartered in Portland Oregon whose primary investor is Fluor Corporation. It’s website is at: <https://www.nuscalepower.com/>.
- The SMNR design proposed by NuScale originated at Oregon State University and is a modular pressurized light water nuclear reactor using enriched Uranium 235 for fuel.
- In December of 2016, NuScale submitted a SMNR Design Certification Application (DCA) to the Nuclear Regulatory Commission (NRC) for approval. The NRC issued a Final Safety Analysis Report on 8/28/20. (“Application Review Schedule for the NuScale Design” on NRC’s website: <https://www.nrc.gov/>.) On 11/10/20 NuScale announced a 25% power increase in its reactor design and the need for submitting this power uprate to the NRC in 2022 as a part of its DCA.
- A single SMNR module is designated small because of its size. Each module would be approximately 76-feet tall, 15-feet in diameter and is now projected to produce up to 77 MWe. It would be manufactured and assembled in a factory prior to being shipped to a plant site location.
- The SMNRs can be combined with other modules at the plant site and connected to a control room. Projected contracts routinely describe 6, 8 and 12 pack combined units. A 12 unit 924 MWe power station would be equal to approximately 80% of the power output of the decommissioned Trojan Nuclear Power Plant. It is a reasonable assumption that approved SMNRs will be installed in multiple units. These units would be far from “small.”
- Nuscale’s reactor design would produce the same kind of high-level radioactive nuclear waste currently stored at nuclear plant sites across the country. This waste was never intended to be stored indefinitely. All commercial high level nuclear waste, produced since 1957, awaits transport to a federally licensed waste repository that still does not exist.

Current Oregon law regarding nuclear power.

- In 1980, Oregon voters approved Ballot Measure 7, stopping new construction and operation of nuclear power generating plants statewide until the following conditions are met:

ORS 469.595 Condition to site certificate for nuclear-fueled thermal power plant. Before issuing a site certificate for a nuclear-fueled thermal power plant, the Energy Facility Siting Council must find that an adequate repository for the disposal of the high-level radioactive waste produced by the plant has been licensed to operate by the appropriate agency of the federal government. The repository must provide for the terminal disposition of such waste, with or without provision for retrieval for reprocessing. [1981 c.1 §3]

See Reverse Side

ORS 469.597 Election procedure; elector approval required. (1) Notwithstanding the provisions of ORS 469.370, if the Energy Facility Siting Council finds that the requirements of ORS 469.595 have been satisfied and proposes to issue a site certificate for a nuclear-fueled thermal power plant, the proposal shall be submitted to the electors of this state for their approval or rejection at the next available statewide general election. The procedures for submitting a proposal to the electors under this section shall conform, as nearly as possible to those for state measures, including but not limited to procedures for printing related material in the voters' pamphlet.

(2) A site certificate for a nuclear-fueled thermal power plant shall not be issued until the electors of this state have approved the issuance of the certificate at an election held pursuant to subsection (1) of this section.

[1981 c.1 §§4,5]

What are Senate Bill 360 HB 2332 and HB 2692?

- All three bills are sponsored in the 2021 Oregon Legislature. You can obtain copies of these bills by going to: <https://www.oregonlegislature.gov/>.
- **SB 360 and HB 2692** propose to create **exemptions** to Oregon's 1980 law requiring a federally licensed repository and statewide voter approval before a nuclear plant can be built and operated in Oregon. (The law is described above.) **HB 2692 would require Oregon to promote SMNRs.**
- **SB 360** ignores the fact that accidental radiation releases are not restricted by artificial boundaries. Accidents can happen during transport of reactor modules, both before and after the fissioning of nuclear fuel, on routes through cities and counties where voters would not be allowed to vote in the site approval process.
- **HB 2332** would **REPEAL** the 1980 law, allowing the siting of **ANY KIND OF NUCLEAR POWER PLANT** in Oregon.



What will SMRs' cost and why do we need them?

- From the mining and enrichment of uranium, the construction, operation, and decommissioning of nuclear plants, to the transportation and ultimate disposal of large amounts of nuclear waste, the nuclear fuel cycle has been plagued with high costs, hidden subsidies, health and environmental impacts, and unresolved waste disposal problems.
- From the very beginning, the nuclear industry mastered the art of public relations, promoting endless promises of benefits “-power too cheap to meter-,” while leaving taxpayers and the public “holding the bag” with cost overruns and broken promises. Yet, they persist in selling the public on the resurgence of nuclear technology, with its new reactor designs, concerns about climate change, a projected need for base load power backing up renewable energy, combating global poverty, and conducting business as usual. The last thing in their play book is true accountability.
- No one knows what the true costs of SMRs will be, because we have no experience with their actual operation, singly or in tandem. We are being asked to continue the nuclear experiment, put our trust in new public relations, and hope the outcome will justify the promises being made.
- 44 years ago, when the Trojan Nuclear Plant was built in Oregon, one of the first facilities to operate was its Visitors Information Center. At this high tech media operation, the public went on tours with colorful video presentations and fancy brochures about the nuclear fuel cycle, how Trojan would work, and how high level nuclear waste would be disposed of. Today Trojan is gone, prematurely shut down by malfunctioning components, **but its high level nuclear waste remains onsite, awaiting a future waste disposal operation that does not exist.** Even if a high level nuclear waste repository existed, no one knows if it will successfully store this waste for the thousands of years it must be removed from the environment. Future generations, deriving no benefit from the creation of this waste, will be the ones who will know. **The message we send them, by what we leave them, is up to you!**

And the cost of a thing is the amount of what I will call life which is required to be exchanged for it, immediately or in the long run. – Henry David Thoreau