

Public Comments on AQB 26-57 (P): Yucca Growth Infrastructure, LLC's Air Quality Permit Application

The public comment period for the Air Quality permit for Project Jupiter's power plant is open until October 23, 2026 11:59PM MT. Comments can be submitted [here](#). I have revised my earlier list of pertinent issues regarding the Air Quality permit:

- **No track record.** Yucca Growth Infrastructure proposes using methane fuel cells instead of the methane-fired turbines that were originally planned. The turbines were scrapped because they emit too much NO_x (nitrogen oxides). But the fuel cells from Bloom Energy are new technology without much performance history. Bloom Energy's largest methane fuel cell system -- the largest in the world -- is a 80 MW plant that went on line in December 2025 in South Korea. That plant is 30 times smaller than the proposed YGI power plant. Bloom has not released to the public data on that power plant including emissions of methane, nitrogen oxides (NO_x), carbon monoxide, and VOCs (volatile organic compounds). Nor has Bloom released information about power reliability.
- **Methane.** Methane fuel cells are new technology. Yucca Growth Infrastructure's Air Quality permit claims zero methane emissions. This is absurd. The power plant will consume 100 kg of methane (as natural gas) every second around the clock. Some of that methane will leak from the distribution network or will pass through the fuel cells without reacting. Compared to carbon dioxide, methane is 28 times more potent than carbon dioxide at global warming. If only 1% of the incoming methane leaks or passes unreacted through the power plant, greenhouse gas emissions will increase from 10.1 million tons to 13.0 million tons of CO₂ equivalent. Yucca needs to justify their claim of zero methane emissions.
- **Cooling.** Project Jupiter will generate as much heat as six Hiroshima-scale atomic bombs every day. The equivalent of the heat energy from one atomic bomb every four hours around the clock. Project designers advertise that the power plant and electronics will consume only trivial amounts of water because heat will dissipate using closed loop cooling. But, closed loop cooling inherently ends up as air cooling which is inefficient in hot places like the Las Cruces area that already experienced 54 days this year (2026) of temperatures exceeding 100 F. Lower cooling efficiency requires more electricity to power the coolers which produces more heat that needs more cooling which needs more electricity. YGI has not specified how much additional generating capacity will be needed above the stated 2.45 GW electricity target. Generating more electricity means a linearly proportional increase in air emissions including greenhouse gases, nitrogen oxides, VOC's, etc.
- **Carbon dioxide toxicity to people and agriculture.** YGI's power plant will release 10.1 million tons of carbon dioxide (CO₂) every year. That is 700 lbs every second all

day every day. Yet, YGI does not estimate or model the expected increases in CO₂ concentrations in the vicinity of the power plant. Concentration increases are worrisome. Recent research by multiple independent groups raises concerns about health effects from breathing air containing carbon dioxide concentrations of 1000 parts per million (ppm) or more. Other researchers show that fertilization benefits taper off at concentrations above 1200 ppm. The present CO₂ concentration is 420 ppm, up from 280 ppm before people began burning large amounts of fossil fuels during the industrial revolution. For example, Table I in Bardi et al (<https://doi.org/10.1039/d5va00017c>) includes data about CO₂ effects on human health and fertilization:

CO ₂ concentration (ppm)	Biochemical effects	Notes
600–1200	Limits to CO ₂ plant fertilization	Above these levels the fertilization effect becomes negative
1000	Safe indoor limit	Measurable brain slowdown observed above 600 ppm for short-term exposure
2000	Upper limit for continuous indoor exposure	Short-term exposure symptoms such as headaches, slight cardiac alterations, and higher blood pressure
5000	Upper limit for exposure in workplaces and under special conditions	Inflammation, bone decalcification