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Addressing the Climate Challenge
With Bold Solutions

Public Comment on Air Quality Construction Permit Application 10883
Yucca Growth Infrastructure LLC Microgrid (YGI Microgrid)

Submitted to: New Mexico Environment Department on July 6th, 2026

We submit this comment in opposition to Air Quality Construction Permit Application 10883 proposed by Yucca Growth Infrastructure (YGI) in southern Doña Ana County. As described below, this application is based on technology that has never been deployed at the scale proposed, includes projected pollution totals based on inadequate emissions testing procedures that cannot be relied on for factual results, and proposes a design that does not provide avenues for verifiable and accurate emissions testing and enforcement.

Most importantly, approval of the applicant's permit to emit more than 10 million metric tons of CO_2 annually violates the New Mexico Environment Department (NMED)'s mission to "to protect and restore the environment and to foster a healthy and prosperous New Mexico for present and future generations." NMED is the department responsible for maintaining, developing, and enforcing New Mexico's air quality management regulations and if the NMED issues a New Source Review permit to YGI it will harm the health of all New Mexicans, particularly those living in proximity to the planned YGI Microgrid.

The New Mexico Environment Department (NMED) must reject this application and require the Applicant (YGI) to submit a permit based on reliable and robust independent testing results and a plant that allows for verifiable emissions testing and enforcement.

1. Bloom Solid Oxide Fuel Cells have never been deployed at the scale proposed and the company's track record and inadequate pollution testing protocol make all estimates provided in the application suspect. To grant a permit based on, essentially, wishful thinking, is grossly irresponsible.

Though several large projects have been announced with much fanfare, it appears the largest existing Bloom Energy Solid Oxide Fuel Cell (SOFC) installation actually in operation is a 40-megawatt (MW) deployment in South Korea.[1] That is sixty times smaller than what is being proposed for Project Jupiter. While SOFC's can demonstrate

[1] https://www.ajupress.com/view/20260422092470138

notable chemical efficiency in controlled environments, translating this technology to mega-utility or industrial-scale applications remains an unproven prospect.

Bloom Energy's emissions estimates and public claims cannot be trusted, as evidenced by:

- In 2021 a Delaware judge ruled that Bloom stockholders had a "credible basis" to inspect the company's books over potentially misleading Bloom Energy server degradation and emissions claims.
- Also in 2021 the company was fined $1.16 million by the EPA for failure to properly dispose of hazardous waste from operation of its SOFC "Energy Servers."
- In 2020, Bloom admitted to a massive accounting error that forced them to restate nearly four years of earnings (2016–2019), reducing previously reported revenue by nearly 10%. In 2024 the company settled a related federal securities fraud case (*Roberts v. Bloom Energy Corp.*) for $3 million, in which it was alleged that Bloom made false and misleading statements regarding its financial health.
- In early June 2026, Bloom Energy's stock dropped by 10% after a 1.8GW data center contract in Wyoming fell through, with news sources reporting "investors have begun reassessing Bloom Energy's ability to fulfill its order backlog."
- Bloom Energy operates at approximately 1 GW of annual production capacity today. The company has committed $100 million to double that figure to 2 GW by the end of 2026. Utility Dive.[2]
- Bloom Energy's expansion to 2 GW annual capacity by the end of 2026 is insufficient given Project Jupiter's power needs.
- According to a June 2026, Rystad Energy report, "Bloom Energy's SOFC technology depends on scandium, a critical metal used in its electrolyte chemistry. At full utilization of its planned 2 GW manufacturing expansion, Bloom's theoretical scandium requirement would approach the size of the entire global market, currently estimated to be around 60 tonnes per year. This potential bottleneck is compounded by the fact that China heavily controls the global scandium supply chain."
- Bloom Energy's expansion is unlikely given its lack of experience with projects of this size, ability to scale production to meet Project Jupiter's electricity needs, and its ability to obtain the raw materials needed to produce the fuel cells.

[2] "Bloom Energy Says It's on Track for 2 GW Annual Production Capacity." Utility Dive, 2025. https://www.utilitydive.com/news/bloom-energy-says-its-on-track-for-2-gw-annual-production-capacity/804291/

- The Department shall deny any application for a permit if it appears that the construction of the new source will not be completed within a reasonable time. 20.2.7.208.G NMAC.

Construction must not be allowed to proceed on the basis of this unproven energy generation solution, the claims of this untrustworthy company, and the accompanying lack of rigorous empirical emissions testing data described below.

2. The proposed design - 2275 individual fuel cells, each with its own stack and no integrated controls for regulated pollutants - does not provide a realistic mechanism to verify compliance or facilitate enforcement of pollution standards.

On page 147 of the application YGI states "Bloom Energy Server System (SOFC) uses no add-on controls for regulated pollutants." (p 147 Emissions Summary) The estimated emissions, based on inadequate in-house testing, cannot be verified in any practical way, making enforcement impossible.

A permit issued under 20.2.72.210 NMAC must include monitoring, recordkeeping, and reporting requirements that ensure compliance and enable enforcement. Without continuous, long-term monitoring protocols capable of measuring localized particulate matter, volatile organic compounds (VOCs), and shifting CO_2 intensity per unit of energy under peak loads, any pollution mitigation claims represent theoretical best-case scenarios rather than dependable empirical projections.

It is unclear how appropriate monitoring can be conducted on 2275 individual units that do not include any control mechanisms. Without this information YGI's Application is incomplete on its face.

3. Air pollutant testing provided as part of the application was inadequate and cannot be relied upon for factual results.

The air pollutant estimates provided in Bloom Energy's applications are highly suspect due to a systemic lack of rigorous, real-world testing protocols for large-scale deployments. The estimated pollution from each Bloom Energy Server reported in the application are based on inadequate testing conducted on a single 65kw unit[3] in four tests of four hours each under ideal conditions. That unit generates 37,876 times less than the total capacity they are proposing. These estimates were further adjusted upward using a 15% "safety margin," an adjustment that would not be made if a company was

[3] Bloom Energy 'Santa Cruz' Model #ES-6.5 with rated output of 65kw. (Application page 161)

confident in their test results.[4] A single unit tested over a short time period and under ideal conditions does not offer credible, let alone conclusive, evidence of actual pollutant emissions.

With 2275 individual stacks, even small variations in performance could mean wildly variable actual emissions. This variability will be exacerbated when units are operated under real-world conditions, with variable feed-gas inputs, widely fluctuating temperatures that could exceed the maximum 113º F operating temperature, and rapid degradation as a result of continuous operation.

Without reliable emissions data, neither the Department nor the public can meaningfully evaluate whether the proposed facility will comply with applicable air quality standards or whether the permit will protect public health and the environment. **An application supported by emissions estimates derived from four-hour tests of a single 65-kW unit—extrapolated to a 2,275-stack, utility-scale facility nearly 38,000 times larger—does not constitute substantial evidence of actual emissions under real-world operating conditions, making any permit issued in response arbitrary and capricious.** See *Albuquerque CAB Co. v. N.M. Pub. Regulation Comm'n*, "An agency's action is arbitrary and capricious if it provides no rational connection between the facts found and the choices made, or entirely omits consideration of relevant factors or important aspects of the problem at hand."[5] In 2019 the NM Supreme Court wrote "In reviewing challenges to the factual findings of the Commission, we will affirm the Commission's order if it is "supported by substantial evidence," which is "evidence that is credible in light of the whole record and that is sufficient for a reasonable mind to accept as adequate to support the conclusion reached by the agency." (*N.M. Indus. Energy Consumers v. N.M. Pub. Regulation Comm'n*, 2019-NMSC-015, ¶ 8, 450 P. 3d 393). And in 2022 they found "We review the [air quality bureau's] determinations to decide whether they are arbitrary and capricious, not supported by substantial evidence, outside the scope of the agency's authority or otherwise inconsistent with law, with the burden on the appellant to make this showing." (*Citizens for Fair Rates and the Env't v. N.M. Pub. Regulation Comm'n,* 2022-NMSC-010, ¶12.)

The absence of representative testing, combined with the lack of any meaningful mechanism to verify emissions after construction, leaves critical gaps in the record that

[4] While Bloom Energy does not customarily recommend the use of safety factors for similar projects in other jurisdictions, a 15% safety factor was added to all hourly and annual emissions to account for potential variability in operating conditions and to ensure a conservative assessment of source impacts, consistent with local practice. (Application pg145)

[5] *Albuquerque CAB Co. v. N.M. Pub. Regulation Comm'n,* 2017-NMSC-028.

cannot be cured through speculation or assumptions. **Without accurate, representative emissions data demonstrating the project's actual pollution profile under reasonably foreseeable operating conditions, YGI's Application is incomplete on its face and should be denied unless and until that information is provided.**

4. Solid Oxide Fuel Cells emit hazardous air pollutants, extreme heat and hazardous waste streams that applicants fail to account for.

Applicants admit that pollutants of concern, including Carbon Monoxide (CO) at 161.2 tons per year and Volatile Organic Compounds (VOCs) at 124 tons per year will be emitted, constituting a major source of pollution under Title V and significantly impacting air quality and public health in a community that already experiences the cumulative impacts of nearby EPA non-attainment zones and significant deterioration of air quality related to oil and gas infrastructure.[6]

In addition to these regulated health hazards, the project will generate extreme heat, particularly for adjacent neighborhoods that could feel the "heat island" effect, increasing temperatures by up to 3.6º Fahrenheit downwind of Project Jupiter.[7] Data centers already generate significant waste heat as a result of their cooling mechanisms. **The Bloom Solid Oxide Fuel Cell plant will exacerbate that heat island effect. Bloom Solid Oxide Fuel Cells operate at extremely high temperatures - up to 800ºF - and emit waste heat at greater than 350ºF.[8]**

An analysis of the project prepared by Robert Davies, Ph.D from the Utah State University Department of Physics, attached and incorporated as Exhibit A, calculates that the YGI Microgrid will cause a thermal flux density of approximately: 4.1×10^9 W $\div 5.66 \times 10^6$ m² ≈ 725 W/m², explaining "This is a massive single-site thermal load — equivalent to something like 10,000 Walmart Supercenters. Roughly speaking, think of a rectangular footprint on the ground of 250 Supercenters stacked 50 deep." Exhibit B, attached and incorporated is Professor Davies' Curriculum Vitae.

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[6] https://www.env.nm.gov/wp-content/uploads/sites/2/2024/02/Air-Quality-Issues-in-Dona-Ana-County_14Feb2024.pdf

[7] "While it should be emphasized that these are initial observations, the measured elevation of air temperature by as much as 2.2 °C at 100–500 m downwind is physically consistent with the extraordinary heat flux densities involved.." p.4. Data Center Waste Heat as an Emerging Urban Thermal Hazard: First Field Measurements of Neighborhood-Scale Air Temperature Impacts. ASME Journal of Engineering for Sustainable Buildings and Cities MAY 2026, Vol. 7.

[8] The Energy Server produces clean energy at one of the highest efficiencies in the market today. Its internal operating temperature is above 800 °C, and the resulting exhaust is available at above 350 °C. https://www.bloomenergy.com/wp-content/uploads/energy-server-with-heat-capture-brochure-2024.pdf

Extreme heat is one of the most deadly health hazards for infants, outdoor workers and vulnerable aging adults who cannot regulate their body temperatures.[9] Homes in these adjacent neighborhoods could also see their energy costs rise as they struggle to cool their homes in an already sweltering desert climate, a climate only growing hotter as a direct result of fossil fueled energy generation like the proposed plant. The plant could potentially generate a thermal plume powerful enough to create air turbulence and impact flight traffic above the facility.[10]

Finally, Bloom Energy Solid Oxide Fuel Cells generate a hazardous waste stream from sulfur and other contaminants filtered out of the methane feed-stock before its use. These contaminants accumulate, concentrating a toxic mix of aluminum oxide, copper oxide, manganese dioxide, benzene and others.[11] Though the permit application does not detail hazardous waste disposal, engineers verbally disclosed to community members that the proposed YGI microgrid would, for the first time, implement a collective cleaning mechanism for the feedstock, which will result in a significant concentration of hazardous waste with no clear plan for disposal. Bloom Energy's track record on hazardous waste handling is terrible. The company was fined $1.16 MM for improper hazardous waste disposal by the EPA, including for canisters containing benzene that ended up in New Mexico landfills.

5. Carbon dioxide overload is a significant and growing public health hazard. The addition of 10 million metric tons of CO_2 emissions annually will have significant health impacts for local communities and for all living things.

[9] "Temperatures above long-term averages during summer months and discrete heat extremes (eg, heatwaves) are associated with excess mortality. In high-income countries, heat is one of the largest weather-related causes of death. In addition to mortality, hot weather and heat extremes are associated with increased emergency room visits and hospital admittance, increased deaths from cardiorespiratory and other diseases, mental health issues, adverse pregnancy and birth outcomes, and increased health-care costs. Most heat-related morbidity and mortality should be preventable with improved preparedness and avoidance of exposure. Studies consistently show that adults older than 65 years, people with cardiopulmonary and other chronic diseases, and very young children are particularly vulnerable to the effects of heat, irrespective of income level or geographical region." Ebi K, Capon A, Berry P et al., *Hot weather and heat extremes: health risks*, The Lancet, 398, 698-708, https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)01208-3/fulltext

[10] https://www.faa.gov/documentLibrary/media/Advisory_Circular/150_5190_4b_Land_Use_Compatibility.pdf

[11] https://www.bloomenergy.com/wp-content/uploads/bloom-energy-hazardous-materials-business-plan-may-2024.pdf

The YGI Microgrid application estimates that 2275 methane fueled Solid Oxide Fuel Cells will emit 10,144,115 metric tons of CO_2 annually, an amount that exceeds the annual emissions of Albuquerque, Santa Fe and Las Cruces combined; but this giga-size industrial project is concentrated in approximately 275 acres. **The extremely concentrated, continuous stream of CO_2 proposed will inevitably add to the steadily rising ambient CO_2 in the earth's atmosphere (currently 431ppm[12]), affecting neighboring communities in particular, a prospect with direct health implications that cannot be ignored.**

NMED's mission is to protect and restore the environment and to foster a healthy and prosperous New Mexico for present and future generations, and the mission of NMED's Air Quality Bureau is to protect the inhabitants and natural beauty of New Mexico by preventing the deterioration of air quality. **These mission critical objectives cannot be achieved without consideration of the growing body of research documenting the health impacts of increasing levels of carbon dioxide in the atmosphere.**

A study published in 2026 in Air Quality, Atmosphere & Health[13] reports that "As the atmospheric CO_2 levels rise, already at 431ppm, the increasing levels of bicarbonate, and decreasing levels of calcium and phosphorus in our blood represent permanent and growing changes in human blood chemistry." They report that elevated CO_2 can lead to significant health complications, including changes in heart rate, kidney calcification, neural damage, inflammation, and oxidative stress, which plays a major role in various clinical conditions including malignant diseases, diabetes, atherosclerosis, chronic inflammation and neurological disorders such as Parkinson's and Alzheimer's diseases. In particular, oxidative damage to cellular DNA can lead to the initiation and progression of cancer.

Another study published in 2025[14] reports that "Recent studies have shown that short-term exposures to values in the range of 1000–2000 ppm and even lower have measurable negative effects on human cognitive performance." Researchers have also found that increased exposure to CO_2 has the potential to detrimentally impact mental health in humans. It is known to cause anxiety and panic attacks, activating what is one of the most basic and general alarm/avoidance systems within the realm of biology. The authors write, "While panic and anxiety attacks generally occur at high levels of CO_2, the distribution of liability to CO_2 sensitivity is continuous and normally distributed in

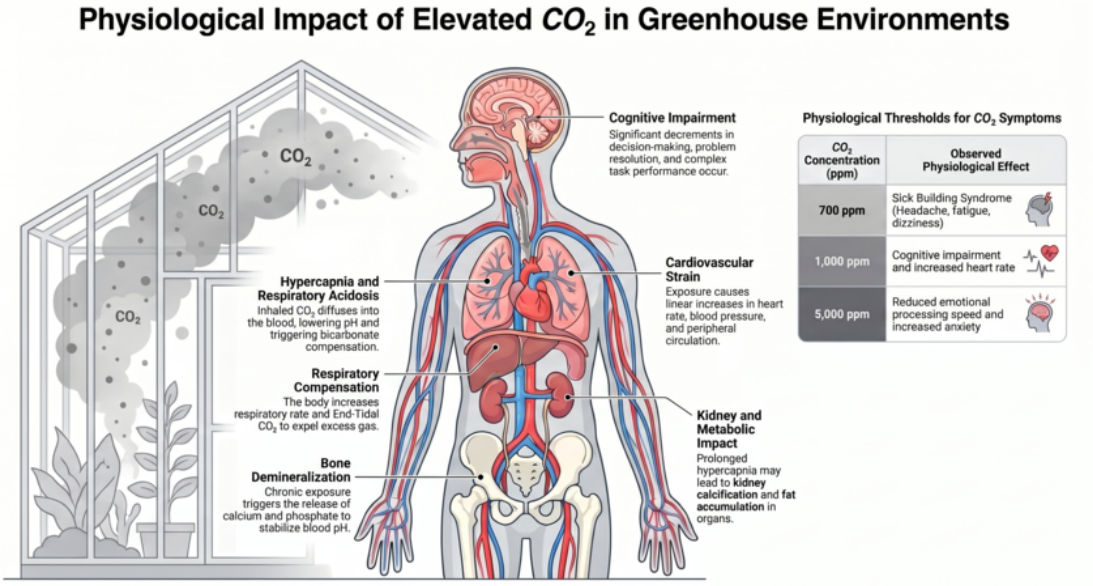
[12] https://www.CO2.earth/daily-CO2

[13] https://www.researchgate.net/publication/401260507_Carbon_dioxide_overload_detected_in_human_blood_suggests_a_potentially_toxic_atmosphere_within_50_years

[14] https://pubs.rsc.org/en/content/articlelanding/2025/va/d5va00017c

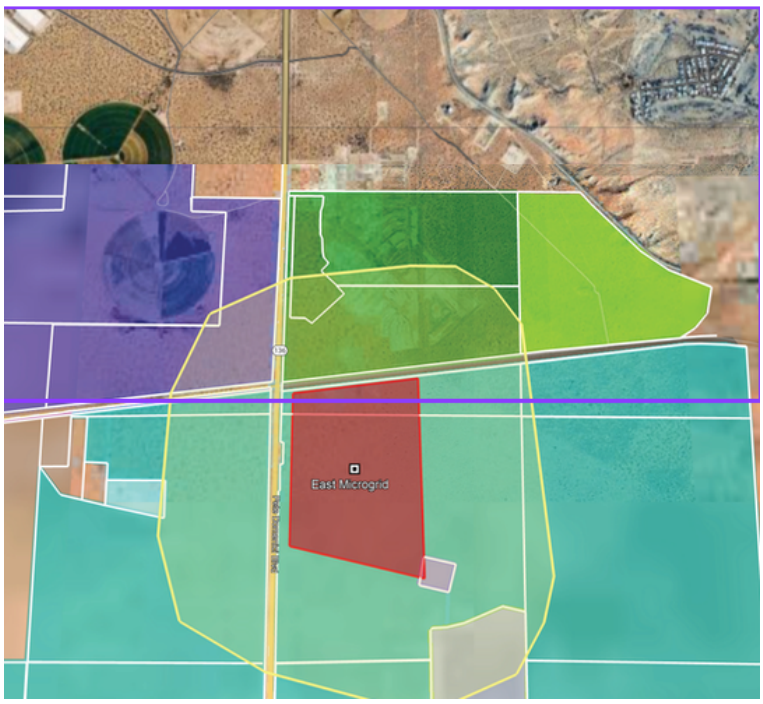
humans and animals." **In other words, because CO_2 sensitivity exists on a spectrum, even minor increases in regular CO_2 exposure could disproportionately heighten anxiety or stress responses in vulnerable individuals.**

A pre-print examining the physiological impacts of elevated CO_2 in greenhouse environments[15] included this helpful illustration:



The proposed "microgrid," with CO2 emissions equivalent to the three largest cities in New Mexico compressed into about 275 acres, will have public health impacts in vulnerable local communities that cannot be ignored.

15 https://www.researchgate.net/publication/404391979_Physiological_and_health_effects_of_greenhouse_carbon_dioxide_exposure_a_review



The YGI Microgrid is adjacent to populated neighborhoods.

6. Solid Oxide Fuel Cells are fueled by methane and will further exacerbate the climate crisis. Renewable energy alternatives exist and are more cost effective.

Project Jupiter's proposed power plant will release up to 10 million tons – 20 billion pounds – of climate-warming greenhouse gasses every year. (10,144,115). The YGI proposal makes a mockery of New Mexico's emissions reduction goals and will erase most of the progress that has been made in the state in the last two decades. The YGI plant generation capacity, 2,462 MW, is nearly equivalent to the size of the 2900 MW grid of El Paso Electric and the 2,700 MW grid of PNM, but emits more CO_2 pollution than both electric utilities combined.[16]

It is imprudent to accept YGI's chosen resource generation without the consideration of alternatives; the failure to reasonably consider alternatives and present them is a fundamental flaw in YGI's decision-making process. In the analysis of feasible generation resources, YGI can and should be expected to factor in cost, time of deployment, externalized costs: water consumption, air, heat, noise pollution and health impacts. Environmental justice principles require NMED to analyze the total combined burden of multiple pollutants and social stressors (e.g., poverty, housing, water quality, heat and quantity) that will disproportionately affect the BIPOC and low-income

[16] El Paso Electric CO2 pollution: 3,119,379 tons (2025) (https://www.epelectric.com/el-paso-electric/uploads/2025-sustainability-report.pdf), PNM CO2 pollution: 5,276,705 tons (2022), https://www.txnmenergy.com/sustainability/environment/climate_change_report.aspx

communities living near Project Jupiter over time. NMED must evaluate these air permits beyond single-source pollution, requiring holistic assessments of health risks and socioeconomic vulnerabilities, and to prioritize the health and safety of New Mexicans.

According to the June 2025 Lazard Levelized Cost of Energy Report "renewables stand out as both the lowest-cost and quickest-to-deploy generation resource." (p. 4)[17] Construction time for utility-scale solar averages 15 months (p 34), and importantly, **a 100% renewable energy solution for data centers is not theoretical. Google is already deploying a 300MW/30GWh iron air battery system paired with 1.6 GW renewable energy generation to power a data center in Minnesota.[18] A new analysis from IRENA of solar-plus-battery configurations across multiple countries shows that firm renewable energy costs have fallen from above $100 per MWh in 2020 to around $54-82 per MWh by 2025 in high-irradiance solar regions and strong wind corridors.[19] A renewable energy solution is both possible and in the public interest.**

The YGI proposed Solid Oxide Fuel Cell powered "microgrid" attempts to greenwash Project Jupiter's extreme and dangerous impacts on air quality, public health and the environment. The proposed Solid Oxide Fuel Cell plant constitutes a major air pollutant source for both Carbon Monoxide and Volatile Organic Compounds and, importantly, is based on questionable estimates provided by a company with a less-than-stellar corporate history. Construction must not be allowed to proceed on the basis of this questionable energy generation solution and the accompanying lack of rigorous empirical emissions testing data.

The proposed YGI Microgrid will significantly impact the health and wellbeing of neighboring communities and vulnerable individuals and therefore the permit should be rejected outright. At the very least a hearing should be held to investigate the significant community impacts detailed above.

7. The Integrity of the Public Comment Record Has Been Compromised and Requires Investigation Before Any Permit Action.

Recent reports that New Mexico residents' names were used without permission to submit public comments in support of Project Jupiter raise serious questions about the integrity of the administrative record before NMED. Public participation in an air permitting process is not a public-relations contest; it is a legally significant component of agency decision-making. Where comments are submitted under false names, fake phone numbers, or without the consent of the

[17] https://www.lazard.com/media/eijnqja3/lazards-lcoeplus-june-2025.pdf
[18] https://pv-magazine-usa.com/2026/02/24/google-to-deploy-worlds-largest-iron-air-battery-for-minnesota-data-center/
[19] https://www.irena.org/Publications/2026/May/24-7-renewables-The-economics-of-firm-solar-and-wind

named speaker, the agency cannot treat the resulting record as reliable evidence of public support.

The experience of Darien Fernandez illustrates the gravity of the problem. Mr. Fernandez, a Taos Town Councilmember and Director of the Taos Land Trust, stated that he "did not talk with any canvassers," had "not seen any canvassers in Taos," and that the phone number used in the first pro-Project Jupiter comment submitted under his name was "fake." After receiving an email stating that a comment in favor of Project Jupiter had been registered to him, Mr. Fernandez contacted NMED and was instructed to submit a corrective comment explaining that the first comment was false and not submitted by him. He did so, registering his opposition to Project Jupiter, and also notified the State Auditor and submitted a complaint to the Ethics Commission.

Similarly, Albuquerque City Councilor Tammy Fiebelkorn publicly stated that comments submitted in support of Project Jupiter under her name were unauthorized and that she neither submitted nor approved them. She condemned the impersonation as an attack on the integrity of the public comment process and emphasized that she opposes Project Jupiter because she believes it threatens the environment, communities, and wildlife. Councilor Fiebelkorn further asserted that the company has misled the public about its plans and attempted to manufacture public support through deceptive advertising. She concluded that the unauthorized use of her name is reprehensible and that the public deserves an honest and transparent permitting process free from deception.

Accordingly, before NMED relies on any claimed public support for Project Jupiter, it must investigate whether comments submitted in favor of the project were authentic, knowingly authorized, and fairly obtained. At minimum, NMED should require disclosure of all contractors, canvassers, public-relations firms, consultants, scripts, databases, submission platforms, metadata, quality-control procedures, and communications used to solicit, prepare, transmit, or file public comments. Any comment shown to have been submitted without authorization must be removed from or separately identified in the record and given no evidentiary weight.

The agency should not proceed as though the public-comment record is intact when credible evidence suggests that New Mexicans' identities may have been misused to manufacture public support for a project with profound air-quality, climate, water, land-use, and community impacts. The integrity of the permitting process requires more than counting comments; it requires ensuring that the people whose names appear in the record actually spoke for themselves.

8. Significant Public Interest Warrants a Public Hearing.

The record leaves no doubt that this application has generated an extraordinary and unprecedented degree of public concern. Thousands of people have offered public comments, elected officials at every level of government have demanded greater scrutiny, construction has proceeded while critical environmental reviews remain incomplete, and substantial questions have been raised concerning the integrity of the public comment process itself. Under these

circumstances, the Secretary cannot reasonably conclude that the statutory threshold has not been met. Rather, the Secretary must find that there is a significant degree of public interest in this permit application and, consistent with the Department's obligation to ensure a full, fair, and transparent administrative process, must order a public hearing before any permit decision is issued. Anything less would deprive the public of its right to meaningfully participate in a permitting decision involving one of the largest and most consequential air pollution sources ever proposed in New Mexico.

WHEREFORE, for all of these reasons, NEE respectfully requests that the Department deny YGI's air permit application. The Application is not supported by substantial evidence, as required for permit approval, but instead rests on speculative emissions estimates derived from grossly inadequate testing that cannot reasonably be extrapolated to a facility consisting of 2,275 individual solid oxide fuel cells and stacks. The Applicants concede that the proposed design employs **no add-on controls for regulated pollutants**, yet fail to identify any practical means of monitoring, verifying, or enforcing compliance with applicable emission limits across thousands of independent emission points. Consequently, the Application fails to satisfy the monitoring, recordkeeping, and reporting requirements of **20.2.72.210 NMAC**, because it does not demonstrate how compliance can be measured or enforced throughout the life of the facility. Equally troubling, the Application fails to adequately characterize the full range of emissions and environmental impacts associated with the project, including hazardous air pollutants, significant carbon monoxide and VOC emissions, extreme waste heat, and hazardous waste streams generated by the proposed solid oxide fuel cells. In a community already burdened by existing industrial pollution and located near EPA nonattainment areas, the Department cannot lawfully rely on theoretical best-case assumptions in lieu of reliable empirical evidence. Because the record does not contain representative emissions testing, an enforceable compliance methodology, or substantial evidence demonstrating that the proposed facility will comply with the Air Quality Control Act and the Department's regulations, **YGI's Application is incomplete on its face and must be denied unless and until these fundamental deficiencies are remedied.**

Thank you for the opportunity to comment.

Respectfully,

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Project Jupiter — Red-Flag Assessment

Prepared for New Energy Economy review
June 28, 2026

This document raises concerns and identifies areas for further independent investigation based on publicly available information about Project Jupiter as of late June 2026. It is intended to support, not replace, the work of qualified professionals (legal counsel, environmental engineers, atmospheric scientists, hydrologists, public health specialists, and others) engaged on this case. Specific numbers and claims herein should be verified against primary sources before being relied upon in formal proceedings.

Project Summary

Project Jupiter is a proposed AI-optimized datacenter campus in Doña Ana County, New Mexico, near Santa Teresa and the US-Mexico international port of entry. Key parameters:

- **Compute capacity:** Up to 2.45 GW across four datacenter buildings
- **Site footprint:** Approximately 1,400 acres
- **Power source:** On-site Bloom Energy solid oxide fuel cell (SOFC) microgrid at 2.45 GW installed capacity (revised from gas turbines and diesel generators in April 2026)
- **Cooling:** Closed-loop dry cooling
- **Anchor tenant:** Oracle, hosting AI infrastructure for OpenAI
- **Developer:** BorderPlex Digital Assets in partnership with STACK Infrastructure
- **Total claimed investment:** Up to $165 billion over 30-year project term; initial $50 billion within five years
- **Current status:** Construction underway despite final air permits not yet issued; New Mexico Environment Department air permit decision pushed to July 2026; at least four active lawsuits pending in New Mexico courts

The discussion below identifies several areas where publicly available information appears to understate likely impacts, where developer claims diverge from state-engineering verifications, and where the regulatory process appears to have proceeded on materially incomplete information. The report concludes with a section on procedural irregularities, framed within the whole-systems context.

1. Power Source: The Fuel Cell Pivot and What Did Not Change

The April 2026 announcement that Project Jupiter would replace gas turbines and diesel generators with Bloom Energy fuel cells has been framed publicly as a substantive environmental concession. The reality is more limited.

What changed

The pivot, announced 27 April 2026, was driven by regulatory friction rather than environmental conscience:

- In March 2026, the New Mexico State Land Office denied an application from Energy Transfer (Dallas-based pipeline owner via Transwestern Pipeline Company) for state-land right-of-way access for the "Green Chile Project" — a proposed 17-mile, $60 million pipeline that would have delivered 400,000 dekatherms per day of natural gas from El Paso to the Project Jupiter site
- Federal Energy Regulatory Commission staff protested the pipeline developer's filing as incomplete on historic preservation documentation
- Oracle and BorderPlex Digital Assets subsequently withdrew the two pending air permit applications tied to the gas turbine design and announced the fuel cell pivot

In the revised design, Bloom Energy will supply up to 2.45 GW of installed fuel cell capacity to power the datacenter. The development has been framed by the developer as part of a broader Oracle-Bloom partnership covering up to 2.8 GW of capacity across Oracle's US projects, of which 1.2 GW had been previously contracted at other sites.

Compared to the original gas turbine plan, the fuel cell design offers:

- Approximately 92% reduction in NO_x emissions
- Substantially lower water use at the generation facility itself
- Modest reduction in greenhouse gas emissions (approximately 30% lower than the gas turbine version)

What did not change

Several fundamentals are essentially unchanged by the pivot:

The datacenter load. The 2.45 GW of compute capacity becomes 2.45 GW of heat regardless of how the electricity is generated. This is a basic thermodynamic constraint.

The local thermal load on the basin. Approximately 4 GW (discussed in Section 2).

The natural gas dependency. Fuel cells consume natural gas through electrochemical reaction rather than combustion, but they still consume substantial quantities of methane. Discussed in Section 3.

The greenhouse gas emissions footprint. Even after the pivot, projected emissions of approximately 10 million tons CO_2-equivalent per year remain extraordinary for a single facility. Discussed in Section 4.

The scale relative to community-facing disclosure. The capacity disclosed to Doña Ana County commissioners at the time of the 19 September 2025 industrial revenue bond approval was 700–900 MW initially, reaching up to about 1 GW eventually. The current 2.45 GW capacity is roughly 2.5–3.5 times larger than that disclosure. This gap is addressed in Section 10.

Operational uncertainties at unprecedented scale

A 2.45 GW deployment of Bloom SOFC fuel cells at a single site is genuinely without precedent. As of August 2025, Bloom Energy's total deployed fleet across all customers globally was approximately 1.5 GW. Project Jupiter alone, at 2.45 GW, would be larger than Bloom's entire prior deployed installed base. This warrants caution about:

- Operational behavior at scale not previously demonstrated
- Reliability characteristics across thousands of units operating as a single microgrid
- Maintenance and replacement cycles for fuel cell stacks at this scale
- Long-term performance degradation patterns
- Acoustic profile (distributed across thousands of units rather than concentrated)
- End-of-life management for spent fuel cell stacks

What this warrants

- Independent technical assessment of the operational, reliability, and lifecycle characteristics of GW-scale SOFC deployment, not relying solely on developer or vendor representations
- Specific disclosure of unit count, expected replacement cycles, and lifecycle environmental footprint including stack manufacturing and disposal
- Verification that the revised microgrid design has undergone the same level of regulatory scrutiny that the original gas turbine plan was undergoing when it was withdrawn

References:

Oracle press release, 27 April 2026: "*Oracle, BorderPlex, and Bloom Energy to Power Project Jupiter with Cleaner, Water-Efficient Fuel Cell Technology*"

Bloom Energy: https://www.bloomenergy.com/

BorderPlex Digital Assets: https://www.borderplexdigital.com/

Source NM coverage of the pivot: https://sourcenm.com/

Bloom Energy Server datasheet: https://www.bloomenergy.com/wp-content/uploads/bloom-energy-server-datasheet-feb-2026.pdf

Bloom Energy SOFC technical explainer: https://www.bloomenergy.com/blog/everything-you-need-to-know-about-solid-oxide-fuel-cells/

Royal Society of Chemistry (2024), techno-economic analysis of SOFC systems documenting steam requirements for reforming: https://pubs.rsc.org/en/content/articlehtml/2024/gc/d3gc02645k

Applied Energy (2020), comparison of steam reforming concepts in SOFC systems: https://www.sciencedirect.com/science/article/pii/S0306261920302609

2. Thermal Load

The local thermal injection into the Doña Ana County environment is determined by the datacenter electrical load plus the waste heat from on-site power generation.

Datacenter load:	2.45 GW electrical
Becomes heat at the facility:	2.45 GW (all electrical → heat)
Fuel cell efficiency:	~60% (Bloom SOFC, optimistic)
Primary gas energy required:	2.45 / 0.60 ≈ 4.08 GW thermal
Fuel cell waste heat:	4.08 – 2.45 ≈ 1.63 GW
Total local thermal load:	**~4.1 GW**

This is a massive single-site thermal load — equivalent to something like 10,000 Walmart Supercenters. Roughly speaking, think of a rectangular footprint on the ground of 250 Supercenters (say 25 Supercenters x 10 Supercenters) stacked 50 deep. Distributed across the 1,400-acre footprint (5.66×10^6 m²), this represents a thermal flux density of approximately:

$$4.1 \times 10^9 \text{ W} \div 5.66 \times 10^6 \text{ m}^2 \approx 725 \text{ W/m}^2$$

For context, the average solar irradiance in southern New Mexico (annualized, all hours) is approximately 230–250 W/m². The facility would therefore inject approximately **three times the local average solar energy budget** into the site, continuously, day and night.

Implications

A continuous 4 GW thermal injection into a single 1,400-acre site in the Chihuahuan Desert has several implications:

Local microclimate alteration. Persistent warming and altered convection patterns at the site, with effects on overnight cooling, soil temperature, evaporation rates, and local atmospheric stability.

Downwind atmospheric effects. Warm air plumes propagating downwind under typical wind regimes. In the southern Rio Grande corridor, prevailing winds carry effects toward El Paso and across the border into Ciudad Juárez.

Cumulative effects with regional thermal forcing. The Chihuahuan Desert is already experiencing climate-driven warming and aridification. A persistent 4 GW industrial heat injection adds to that trajectory in ways the regional environmental review process has not adequately characterized.

Dust mobilization. Industrial development on Chihuahuan Desert lands disrupts the biological soil crust that stabilizes soil against wind erosion. The footprint and operational thermal anomaly together can be expected to increase dust mobilization in a region already affected by significant dust events.

What this warrants

- Three-dimensional atmospheric boundary layer modeling under realistic Doña Ana County meteorological conditions, including typical wind regimes and downwind transport patterns, to determine temperature change implications — which are likely to be significant
- Specific assessment of cross-border atmospheric effects on Ciudad Juárez and surrounding Mexican territory
- Dust mobilization modeling specific to the site, including effects on regional air quality
- Cumulative thermal loading assessment that accounts for other industrial development in the Borderplex region

References:

New Mexico State University climate data: https://weather.nmsu.edu/

Western Regional Climate Center: https://wrcc.dri.edu/

3. Gas Supply

Project Jupiter's full operation requires substantial natural gas volume to feed the Bloom fuel cell microgrid.

Plant primary energy input: ~4.08 GW thermal

At typical gas energy density (~1,000 Btu/cubic foot):

Annual gas consumption: ~0.35 Bcf/day at full build

The gas would be sourced from the Permian Basin via the El Paso Natural Gas Company mainline. The original gas turbine design required a new 17-mile pipeline ($60 million capital cost) to connect the site to existing infrastructure. With the fuel cell pivot, the status of that pipeline project requires verification — fuel cells still require gas supply, but the volumetric requirements are somewhat lower than the gas turbine design.

Energy Economics / Regional Supply Context

Several supply-side concerns are relevant and would likely have some impact on regional energy economics:

LNG export competition. Gulf Coast LNG export terminals are aggressively expanding. Multiple new export facilities are coming online over the next several years. The competition for available pipeline capacity between domestic industrial users like Jupiter and international LNG exports is more intense in this region than almost anywhere else in the United States.

Cross-border supply dynamics. El Paso Natural Gas serves substantial exports to Mexico. Mexican gas demand has been growing, driven by power generation and industrial demand. Jupiter would enter a tri-national supply competition (US domestic, Mexican imports, LNG exports) for the same regional pipeline capacity.

Price impact and ratepayer effects. A 0.35 Bcf/day industrial gas load is meaningful. For context, total residential and commercial gas consumption in New Mexico is approximately 0.3–0.4 Bcf/day. **Jupiter's industrial demand would be roughly equivalent to all of New Mexico's residential and commercial gas consumption combined.** The developer's "behind-the-meter" framing suggests Jupiter will not affect anyone else's rates, but the market dynamic is that a large new industrial load withdraws supply from the available regional pool, tightens supply-demand balance, and puts upward pressure on prices for everyone drawing from the same regional supply.

Curtailment risk. Under federal and state regulations, residential heating has legal priority over industrial gas customers during winter peak demand events. A datacenter designed for high uptime is structurally incompatible with being last in line during a cold weather event.

Winter Storm Uri precedent. The Texas and New Mexico region experienced catastrophic gas supply failures during Winter Storm Uri in February 2021. Wellheads froze, pipelines failed, gas prices spiked, and residential heating customers lost service during life-threatening cold. The regional gas supply system has demonstrated documented vulnerability under extreme weather. Adding a multi-gigawatt continuous industrial load to that system makes the vulnerability worse, not better.

What this warrants

- Specific disclosure of pipeline capacity commitments and contractual structure for Project Jupiter's gas supply
- Assessment of cross-border supply implications, including Mexican demand competition
- Independent analysis of price impact on residential and commercial gas customers in southern New Mexico
- Curtailment risk analysis under historical extreme weather scenarios
- Resilience assessment under Winter Storm Uri-comparable conditions

References:

EIA natural gas data: https://www.eia.gov/naturalgas/

New Mexico Public Regulation Commission: https://www.prc.nm.gov/

4. Greenhouse Gas Emissions

The greenhouse gas emissions profile of Project Jupiter is among the most concerning aspects of the proposal, even after the fuel cell pivot.

The numbers

The original gas turbine design's air permit applications, filed in late 2025, projected emissions of more than 14 million tons CO_2-equivalent per year, from a planned 41 natural gas turbines across two co-located "east microgrid" and "west microgrid" facilities. The fuel cell redesign reduces projected emissions by approximately 30%, to approximately **10 million tons CO_2-equivalent per year**.

For context:

- The combined annual greenhouse gas emissions of Albuquerque and Las Cruces (New Mexico's two largest cities), per their respective climate action plans, are approximately **6.7 million metric tons** CO_2-equivalent

- Project Jupiter's fuel-cell-version projected emissions (~10 million tons) are therefore **roughly 1.5 times** the combined emissions of the state's two largest cities, from a single facility
- The original gas-turbine-version emissions (14+ million tons) would have been **more than twice** the combined cities

The wipeout framing

Las Cruces environmental attorney David Baake has characterized the emissions impact as wiping out approximately 20 years of state-level climate progress. This characterization is broadly consistent with the arithmetic: at projected reductions in state-level emissions through the Energy Transition Act and other policy mechanisms, the cumulative reductions achieved over a multi-year period would be substantially offset by a single facility of this scale.

What this warrants

- Independent emissions modeling under realistic operational scenarios (load factor, duty cycle, maintenance schedules)
- Comparison against state Energy Transition Act trajectory and federal emissions reduction commitments
- Assessment of how the emissions framework integrates with state climate policy
- Consideration of cumulative emissions across the broader Oracle-Bloom 2.8 GW partnership

References:

David Baake, quoted in Algernon D'Ammassa, "*Project Jupiter permit applications forecast massive carbon fuel use*," Albuquerque Journal, December 9, 2025.

New Mexico Energy Transition Act: https://www.emnrd.nm.gov/

New Mexico Climate Change Task Force reports

US Environmental Protection Agency Greenhouse Gas Reporting Program: https://www.epa.gov/ghgreporting

5. Water

This is one of the most significant areas of factual disagreement between developer-facing claims and apparent state-engineering verification, and warrants particularly careful attention.

The discrepancy

Publicly available reporting documents a substantial gap between the water use figures the developer has communicated to the public and the figures apparently verified by state engineers:

- **Developer-stated water use:** Approximately 20,000 gallons per day
- **State-engineering-verified figure (first application:** Up to approximately 1,000,000 gallons per day

This is a discrepancy of approximately **50-fold** between the public-facing claim and the apparent state verification. If the state-engineering figures are accurate, the developer's public communication of "two dairy cows per year" or equivalent low-impact framing substantially misrepresents the actual water demand of the project.

The legal team should verify the underlying documents (state engineer reports, water rights filings, infrastructure capacity assessments) and assess the implications for both the integrity of the public process and the substantive water impact analysis.

Why water use is consequential here

Doña Ana County sits in a multi-decade drought. The lower Rio Grande through the Mesilla Valley experiences zero-flow events during much of the year. Groundwater in the Mesilla Basin has been declining for decades due to over-allocation. Local farmers have been drilling wells deeper as the water table drops. Pecan orchards have been dying. The Camino Real Regional Utility Authority (CRRUA) provides public drinking water to the area and has its own infrastructure constraints.

Within this context:

- 20,000 gallons per day is roughly equivalent to a few residential customers — easily absorbed by existing infrastructure
- 1,000,000 gallons per day is equivalent to the water demand of approximately 3,000–5,000 residential customers — a substantial new water user that would compete directly with existing agricultural and municipal use

The arithmetic is straightforward, but the implications turn entirely on which figure is accurate.

I realize that the new application claims that Bloom Energy fuel cells will use no water during "normal operation" but I believe, especially given the conditions unique to this area, that there should be a third party independent assessment of this claim. I've included an additional section below discussing this point.

The cooling architecture

Like Stratos, Project Jupiter has committed to closed-loop dry cooling rather than evaporative cooling. The fuel cell facility itself uses relatively little water in normal operation. However:

- First-fill requirements for the closed-loop system at this scale are substantial
- Operational top-up losses through drift, treatment, and maintenance accumulate over time
- Ancillary water needs (cleaning, fire suppression, sanitation, fuel cell maintenance) add to the total

- Construction water requirements during the multi-year build-out are substantial

The 1,000,000 gallons per day state-engineering figure likely reflects the total operational water demand including these ancillary needs, while the 20,000 gallons per day developer figure likely reflects only the cooling tower top-up under steady-state operation.

If both figures are accurate within their narrow definitions, the public communications problem is that the developer has been disclosing only the smallest component of total water demand while the state has been verifying the full operational requirement. The 50-fold gap reflects the difference between these definitions, not a simple disagreement about the same number.

The Bloom SOFC "no water" claim — narrow scope, broader misapplication

The developer and Bloom Energy have publicly emphasized that Bloom's solid oxide fuel cells consume "no water during normal operation." This claim is technically accurate as stated, but its scope is much narrower than facility-wide framings may suggest.

What Bloom actually claims: From Bloom Energy's official product data sheet: "*With no water consumption during normal operation and a high operational efficiency, the Bloom Energy Server significantly reduces greenhouse emissions today.*" Bloom's technical explanation is that the steam required for the internal steam-reforming reaction (which converts natural gas to hydrogen for the electrochemical reaction) is generated by recycling the water produced as a byproduct of the $H_2 + O_2 \rightarrow H_2O$ reaction. Independent peer-reviewed literature confirms this mechanism: SOFCs require steam for reforming, and well-designed systems can recycle their own reaction water rather than requiring external supply.

What the claim does not cover: The "no water" characterization applies specifically to the fuel cell chemistry under steady-state operation. It does not cover:

- **Startup and shutdown — steam generation during initial startup requires external water**
- **Maintenance and cleaning** of the fuel cell stacks
- **Ancillary equipment cooling** — power electronics, inverters, controls, monitoring systems
- **Fire suppression infrastructure** — required for a fuel cell installation at this scale
- **Human sanitation for on-site workers**
- **Construction water demand** during the multi-year build-out
- **The *data center* (not powerplant) closed-loop cooling system** — an entirely separate water demand that exists regardless of the electricity source

For Project Jupiter specifically, the last item is decisive. The facility comprises 2.45 GW of fuel cells plus four data centre buildings totaling 2.45 GW of compute load. The data centre cooling infrastructure has its own substantial water demand — including a first-fill of approximately 10

million gallons over two years (per developer disclosure) plus ongoing top-up requirements — that is entirely separate from and independent of the fuel cell water accounting. Applying Bloom's "no water" characterization to the entire Project Jupiter facility conflates the fuel cell chemistry with the full facility water demand.

The Bloom claim is a real technical advantage over combustion power plants that require substantial cooling water. It does not, however, resolve the 50-fold gap between the 20,000 gallons per day figure communicated to the public and the up to 1,000,000 gallons per day figure verified by state engineers. That gap reflects the difference between the fuel cell chemistry alone and the total operational water demand of the integrated facility.

What this warrants

- Independent verification of state engineering documentation
- Specific disclosure by the developer of total operational water demand including all ancillary uses
- Assessment of cumulative water demand against Mesilla Basin sustainability
- Compliance review against the Camino Real Regional Utility Authority's capacity and any applicable water rights
- Assessment of cross-border water implications under the 1906 and 1944 US-Mexico water treaties

References:

New Mexico Office of the State Engineer: https://www.ose.state.nm.us/

Camino Real Regional Utility Authority: https://www.crrua.org/

Project Jupiter community organization documentation: https://projectjupiternm.org/

6. Cross-Border Ecological and Atmospheric Effects

Project Jupiter is sited approximately two miles from the US-Mexico border, with substantial implications for cross-border environmental analysis that domestic-only review may not adequately address.

Ecological pathways

The Chihuahuan Desert ecosystem does not end at the political border. It continues into northern Chihuahua state, with shared:

- Wildlife populations and migration corridors

- Vegetation communities and ecological processes
- Watershed connections via the Rio Grande
- Air pollution and dust transport patterns
- Light pollution from industrial development

Atmospheric pathways

Prevailing wind patterns in the southern Rio Grande corridor carry atmospheric pollutants and thermal effects across the border into Ciudad Juárez and surrounding Mexican territory. Project Jupiter's emissions and thermal anomaly will affect populations in Mexico who have had no meaningful opportunity to participate in the US permitting process.

Water pathways

The Mesilla Basin aquifer is hydrologically connected to the Rio Grande and to groundwater systems extending across the border. Water use in Doña Ana County has downstream implications for Mexican water users under the 1906 and 1944 US-Mexico water treaties.

Regulatory framework

The Espoo Convention and related international instruments establish principles for transboundary environmental impact assessment, though US-Mexico practice is governed primarily through bilateral mechanisms. The legal team should assess:

- Whether the US permitting process has adequately consulted Mexican authorities
- Whether the project triggers obligations under the La Paz Agreement (US-Mexico environmental cooperation framework)
- Whether the cumulative cross-border environmental footprint has been characterized

What this warrants

- Specific assessment of atmospheric pollution and thermal effects on Ciudad Juárez and surrounding Mexican populations
- Cross-border water resource impact assessment under applicable treaty frameworks
- Consultation with Mexican environmental authorities through appropriate bilateral mechanisms
- Documentation of how the cross-border dimension has been addressed (or not addressed) in the New Mexico permitting process

References:

US-Mexico Border Environment Cooperation Commission (BECC) / North American Development Bank: https://www.nadbank.org/

La Paz Agreement framework

International Boundary and Water Commission: https://www.ibwc.gov/

7. Environmental Justice

The environmental justice dimension of Project Jupiter is among the most significant features distinguishing it from other hyperscale datacenter proposals.

Existing pollution burden

Santa Teresa and Sunland Park (the immediate host communities) have substantial documented pre-existing environmental burdens. The EPA, in its October 2024 Federal Register action approving the periodic emissions inventory for the Sunland Park nonattainment area, conducted an EJScreen analysis of the host community (population approximately 17,408 within 13.86 square miles). The EPA's published findings:

- **Eight of twelve EJScreen indicators exceed the 80th percentile** nationally
- **Seven of twelve EJScreen indicators exceed the 80th percentile** within the State of New Mexico
- **Five of twelve indicators exceed the 90th percentile** in both New Mexico and the United States, including indices for **particulate matter 2.5, ozone, air toxics cancer risk, air toxics respiratory hazard, and wastewater discharge**

Additional documented community characteristics:

- The **American Lung Association** has given Doña Ana County a **failing grade for ozone**, an air pollutant linked to asthma attacks, increased respiratory infection risk, and increased risk of premature death
- The Sunland Park Area has been designated by the EPA as a **2015 ozone National Ambient Air Quality Standards (NAAQS) nonattainment area** since 2018
- The area was incorporated into the expanded **El Paso-Las Cruces, Texas-New Mexico multi-state nonattainment area** effective December 2021
- Sunland Park's population is approximately **93.2% Hispanic or Latino**, with **86.3% of households Spanish-speaking** and **34.1% foreign-born**
- Approximately **42% of households** report median income below $25,000
- Adjacent to major industrial corridor along the border

- Downwind of significant existing industrial and transportation pollution sources
- Documented historical pattern of polluting industry siting in border communities
- Lower-income communities with reduced capacity for individual mitigation

The cumulative-loading argument applied

The cumulative-loading framework applies to environmental justice analysis with particular force. A new industrial facility of Project Jupiter's scale is being proposed in an airshed and community that is already exceeding the capacity to absorb pollution without harm. The marginal regulatory framework asks whether this specific facility, with appropriate mitigation, can be approved within current standards. The cumulative framework asks whether any additional industrial loading is appropriate in a community already bearing more than its share of pollution.

Applicable regulatory framework

Several regulatory mechanisms apply specifically to environmental justice analysis:

- **Executive Order 12898** (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) requires federal agencies to consider EJ implications in their decisions
- **Executive Order 14096** (April 2023, Revitalizing Our Nation's Commitment to Environmental Justice for All) strengthens EJ requirements across federal agencies
- **EPA EJScreen** and similar tools allow specific characterization of cumulative environmental burden
- **New Mexico Environmental Justice policy** has been developed under several recent legislative initiatives

What this warrants

- Specific EJ analysis using EPA EJScreen and comparable tools for the affected community
- Cumulative pollution burden assessment that includes existing sources plus Project Jupiter
- Meaningful consultation with affected community members in language and format accessible to predominantly Spanish-speaking residents
- Health impact assessment addressing differential effects on already-burdened populations
- Documentation of how EJ considerations have been (or have not been) incorporated into the New Mexico Environment Department's permit review

References:

EPA EJScreen: https://www.epa.gov/ejscreen

Executive Order 14096 (April 2023): https://www.whitehouse.gov/

New Mexico Environment Department Environmental Justice resources: https://www.env.nm.gov/

8. Cumulative Loading on an Already-Stressed System

Drawing together the threads above, Project Jupiter would be introduced into a regional system that is already showing significant documented stress across multiple overlapping dimensions. Each of the following claims is anchored in specific verifiable sources, listed below:

- **Air quality:** The Sunland Park Area has been federally designated a nonattainment area for the 2015 ozone NAAQS since 2018, expanded to the El Paso-Las Cruces, Texas-New Mexico multi-state nonattainment area in December 2021. The American Lung Association has given Doña Ana County a failing grade for ozone. EPA's own EJScreen analysis (October 2024 Federal Register action) found five of twelve indicators above the 90th percentile, including PM2.5, ozone, and air toxics measures.
- **Water resources — groundwater:** The U.S. Geological Survey's long-term hydrologic monitoring of the Mesilla Basin documents declining groundwater elevations across the Rio Grande alluvium over the last two decades (2000–2020), accompanying reduced streamflow and irrigation deliveries. The New Mexico Bureau of Geology and Mineral Resources, in geostatistical analyses of groundwater monitoring data since the early 1900s, identifies the Mesilla Basin as one of New Mexico's larger groundwater storage decline regions. Increasing water demand and multi-year drought have resulted in diminished surface-water supplies and increased groundwater withdrawals throughout the basin.
- **Water resources — surface water:** The Rio Grande experienced its earliest recorded drying date in the past 30 years on 27 March 2026, with the Bureau of Reclamation noting "river drying may be some of the most extensive we've ever seen." Snow water equivalent in the Rio Grande headwaters was at 13% of median as of mid-April 2026. The US Fish and Wildlife Service observed a Rio Grande silvery minnow "population crash" in 2025.
- **Climate trajectory:** Project Jupiter's projected ~10 million tons CO_2-equivalent annual emissions (fuel cell version) represent approximately 1.5 times the combined annual emissions of Albuquerque and Las Cruces. Las Cruces environmental attorney David Baake has characterized the project's emissions as offsetting approximately 20 years of state-level decarbonization progress.
- **Environmental justice baseline:** EPA's EJScreen analysis of the Sunland Park nonattainment area (Federal Register, October 2024) found eight of twelve EJ indicators

above the 80th percentile nationally and five above the 90th percentile, including air toxics cancer risk and respiratory hazard. The host community is approximately 93% Hispanic/Latino with 86% Spanish-speaking households.

- **Drought conditions:** The southwestern United States is in a documented multi-decade megadrought. The NOAA National Integrated Drought Information System has identified the Rio Grande Basin among the regions most affected. The 2025 calendar year saw record-low snowpack across the Rio Grande headwaters, with rapid mid-March melt-out pushing southwestern basins from above-average snowpack to snow drought conditions within weeks. The 2026 Rio Grande Compact outlook, presented by New Mexico State Engineer Elizabeth Anderson, characterized the year ahead as "challenging" with "dire forecasts."

- **Energy supply vulnerability:** Winter Storm Uri (February 2021) caused catastrophic gas supply failures across the Texas-New Mexico region — frozen wellheads, pipeline failures, gas price spikes to thousands of dollars per MMBtu, and loss of residential heating service during life-threatening cold. The regional gas supply system has documented vulnerability under extreme weather events.

- **Cross-border ecological systems:** The Mesilla Basin aquifer is a recognized binational transboundary aquifer under the 2009 Cooperative Framework signed by the International Boundary and Water Commission (IBWC) and Comisión Internacional de Límites y Aguas (CILA). Shared groundwater systems, surface water, atmospheric pathways, and wildlife migration corridors extend across the US-Mexico border into Chihuahua state.

The framing question

The relevant question for the regulatory process is not "can this specific facility be permitted with appropriate mitigation?" but "what is the cumulative carrying capacity of this region, and how should remaining capacity be allocated?"

This question has not been asked in the regulatory process for Project Jupiter. The default framework — project-by-project review against existing standards — is structurally incapable of detecting or preventing cumulative collapse of stressed systems. Marginal addition of Project Jupiter to a system already showing stress across this many dimensions, simultaneously, warrants whole-system assessment rather than facility-by-facility review.

The legal team will know better than I do which specific regulatory hooks support raising this cumulative-loading argument in the actual proceedings. The substantive point — anchored in the sources listed above — is that the marginal regulatory framework is not the appropriate frame for evaluating this proposal.

References:

US Geological Survey, Mesilla Basin Observation Well Network (MBOWN): https://www.usgs.gov/centers/new-mexico-water-science-center/science/monitoring-network-groundwater-flow-system-and

Robertson et al. (2022), "Determining seasonal recharge, storage changes, and specific yield using repeat microgravity and water-level measurements in the Mesilla Basin alluvial aquifer," *Journal of Hydrology*

New Mexico Bureau of Geology and Mineral Resources, "Southwest New Mexico Hydrogeology Update" (presented to NM Legislature 2017): https://www.nmlegis.gov/handouts/WNR%20090517%20Item%203%20SW%20NM%20HYDROGEOLOGY.pdf

EPA Federal Register (October 2024), "Air Plan Approval; New Mexico; Periodic Emission Inventory SIP for Sunland Park Nonattainment Area for 2015 Ozone NAAQS": https://www.federalregister.gov/documents/2024/10/11/2024-23339/

EPA Federal Register (March 2023), "Determination of Attainment by the Attainment Date But For International Emissions for the 2015 Ozone National Ambient Air Quality Standard; El Paso-Las Cruces, Texas-New Mexico": https://www.federalregister.gov/documents/2023/03/07/2023-04634/

US Drought Monitor — New Mexico: https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?NM

NOAA Drought.gov: https://www.drought.gov/states/new-mexico

Organ Mountain News (May 2026), Rio Grande Compact 2026 outlook from NM State Engineer

American Lung Association State of the Air report for Doña Ana County: https://www.lung.org/research/sota

Transboundary Aquifer Assessment Program (TAAP): https://taap.nmwrri.nmsu.edu/mesilla-aquifers/

9. Construction Proceeding Without Final Approvals

Construction at the Project Jupiter site has been moving forward despite final environmental permits not being in place. According to the developer's community engagement website (projectjupitertogether.com), **as of April 2026 the project had surpassed 1 million hours worked, employed more than 1,200 team members, and reached a new daily high of more than 1,600 onsite personnel**. Multiple independent sources have corroborated the pace and scale of construction activity:

- NM State Rep. Sarah Silva, in a 15 May 2026 op-ed in El Paso Matters, reported visiting the site and speaking to 1,200 workers there
- KRQE News (February 2026) reported construction underway with "hundreds of workers" on site
- The Albuquerque Journal (February 2026) reported construction "appears to be proceeding around the clock"
- Oracle has publicly stated only that "we have made great progress and expect to continue at a rapid pace"

This pattern creates several concerns:

- **Sunk-cost pressure on regulators.** As construction proceeds and capital is invested, regulatory decision-makers face increasing pressure to approve permits in order to avoid stranded investments
- **Premature site disturbance undermines required environmental review.** Significant site disturbance is occurring before the environmental review is complete
- **Procedural integrity.** The proper sequence is environmental review followed by construction, not concurrent construction and review
- **Community signal.** The pattern signals to the community that the regulatory process is a formality rather than a substantive review

The legal team should consider whether the construction-before-approval pattern itself supports procedural challenges or supports requests for project pause pending complete environmental review.

References:

Project Jupiter Together (developer community engagement site): https://projectjupitertogether.com/

Sarah Silva (May 2026), "Opinion: Making the most of Project Jupiter's jobs while staying vigilant," El Paso Matters: https://elpasomatters.org/2026/05/15/opinion-project-jupiter-construction-jobs-new-mexico-sarah-silva/

KRQE News (February 2026), "Massive data center project in Doña Ana County facing one hurdle": https://www.krqe.com/news/new-mexico/massive-data-center-project-in-dona-ana-county-facing-one-hurdle/

Albuquerque Journal (February 2026), "Oracle doubles Project Jupiter job projections, saying operations will 'require a much larger team'": https://www.abqjournal.com/business/oracle-doubles-project-jupiter-job-projections-saying-operations-will-require-a-much-larger-team/2975266

10. Procedural Concerns — A Whole-Systems Perspective

From a whole-systems perspective, procedural irregularities are not a separate category of concern from the substantive environmental issues documented above — they are part of the same pattern. The institutional architecture of review, public comment, and regulatory scrutiny is designed to provide the checks and feedback loops that allow consequential decisions to be informed by accurate information and corrected when problems emerge. When that architecture is short-circuited — through compressed timelines, materially incomplete disclosure to decision-makers, or filings structured to evade review — the system loses its capacity to detect and correct the very kinds of substantive failures documented above. The procedural concerns outlined below should therefore be understood as indicators that the decision system has been operating

outside its intended design parameters during the approvals that brought Project Jupiter to its current state.

The specific procedural issues I am aware of from publicly available reporting are listed below. I note these as a non-specialist; the legal team will know better how to characterize their significance and how to raise them in the appropriate proceedings. Several of these are matters of active litigation and active investigation by New Mexico state authorities.

Material information gap at IRB approval

When the Doña Ana County Commission voted on 19 September 2025 to approve up to $165 billion in industrial revenue bonds for Project Jupiter, the commissioners were reportedly informed that the on-site microgrid would initially produce 700–900 MW, eventually reaching up to about 1 GW. Subsequent air permit applications filed in late 2025 disclosed planned capacity of up to 2.8 GW for the gas turbine design; the current fuel cell pivot is sized for up to 2.45 GW.

The New Mexico Environmental Law Center's October 2025 lawsuit alleges that some of the applications before the Board of County Commissioners at the time of the vote were incomplete, and that some carried the word "draft" stamped across them. If accurate, this raises questions about whether commissioners made the IRB decision on materially complete information.

Water disclosure discrepancy

As discussed in Section 5, publicly available reporting documents a substantial gap between the water use figure communicated to the public at IRB approval (approximately 20,000 gallons per day, included in the official Doña Ana County materials) and the figure apparently verified by state engineers (up to approximately 1,000,000 gallons per day). The 50-fold gap was first reported by the Santa Fe New Mexican and subsequently picked up by other regional reporting. The Doña Ana County Commission has formally sought clarification from developers about the apparent discrepancy.

East/west microgrid permit structure

Project Jupiter's gas turbine air permit applications were filed as **two separate applications** — one for an "east microgrid" and one for a "west microgrid" — at the same site, operated by related entities. The applications were structured such that each fell just under New Mexico's state major-source classification threshold (250 tons per year of nitrogen oxides), avoiding the more comprehensive major-source review that would apply to the combined emissions of the integrated facility.

Environmental advocates have characterized this as an attempt to evade major-source review. Colin Cox, senior attorney at the Center for Biological Diversity's Climate Law Institute, told reporters: "They've split it into two separate plants that are 'minor sources' to avoid having to monitor their actual air quality impacts, which are going to be huge. They're coming up to 99.9% of the threshold." Maslyn Locke, NMELC senior attorney representing residents in active litigation, noted: "We've seen this with other air permit applications, where they're right under the limit. Ultimately that means everything has to go 100% perfectly as they operate to not violate that. I don't know if that's realistic."

Whether this structure also has implications under federal Title V (which has different thresholds and triggers than the New Mexico major-source classification) should be assessed by qualified Clean Air Act counsel.

Open Meetings Act violation alleged

The New Mexico Environmental Law Center has filed suit alleging that the Doña Ana County Commission violated New Mexico's Open Meetings Act during its 19 September 2025 meeting by "abruptly" pausing the heated public meeting on Project Jupiter and proceeding to meet behind closed doors before the vote. This lawsuit is currently pending.

Public records withholding alleged

Following IPRA (Inspection of Public Records Act) requests from NMELC for Project Jupiter-related emails, construction drawings, permits, and inspection reports, Doña Ana County reportedly withheld approximately 29 emails citing the Act's exemption for "tactical response plans...that could be used to facilitate the planning or execution of a terrorist attack." The New Mexico Foundation for Open Government (NMFOG) has filed a separate lawsuit on this matter. NMFOG legal director Amanda Lavin: "They're wrongfully relying on this exemption that's very narrow…they're using it to withhold emails that are obviously of great public concern."

Anonymous out-of-state advertising campaign

While the New Mexico Environment Department was reviewing the gas turbine air permit applications, an anonymous out-of-state group undertook a substantial advertising campaign in New Mexico promoting the project. The New Mexico State Ethics Commission is currently litigating the matter under the state's Lobbyist Regulation Act.

Coordinated promotional efforts

Source NM reported on 15 June 2026 that a firm previously engaged in a New Mexico Medicaid promotional campaign was recruiting influencers to promote Project Jupiter. The community-engagement landscape includes coordinated paid messaging.

Summary of active litigation

As of late June 2026, at least four active lawsuits regarding Project Jupiter are pending in New Mexico courts:

1. **NMELC suit #1 (October 2025)** — challenges IRB approval on grounds of incomplete applications, currently pending
2. **NMELC suit #2** — challenges alleged Open Meetings Act violation at the 19 September 2025 commission meeting, currently pending
3. **NM Foundation for Open Government** — challenges county's withholding of public records under IPRA exemptions

4. **Derrick Pacheco (individual resident)** — challenged IRB approval as procedurally improper; dismissed without prejudice on 23 June 2026 with permission to refile (second of three permitted attempts); Mr. Pacheco has been filing pro se with assistance from ChatGPT and is considering retaining counsel

A separate lawsuit by the New Mexico State Ethics Commission is pursuing the anonymous advertising group under the Lobbyist Regulation Act.

The legal team will know better than I do how to assess these proceedings and their interactions. The cumulative pattern — four separate active lawsuits from independent parties, plus a state ethics commission enforcement action, all arising from a single project's approval and permitting process — is itself a system-level indicator worth weighing.

Summary of Recommended Further Investigation

For the legal team, the following appear to warrant focused independent technical and procedural investigation:

Substantive environmental:

1. Three-dimensional atmospheric thermal modeling under realistic Doña Ana County meteorological conditions, including cross-border transport
2. Independent water use verification, reconciling developer-stated and state-engineering figures
3. Independent emissions modeling under realistic operational scenarios
4. Cross-border atmospheric, water, and ecological impact assessment
5. Environmental justice analysis using EPA EJScreen and comparable tools for affected populations
6. Cumulative loading assessment for the Mesilla Basin and southern Rio Grande corridor
7. Operational and lifecycle assessment of unprecedented-scale Bloom SOFC deployment
8. Acoustic and dust mobilization assessment specific to the site

Procedural:

9. Verification of IRB-time disclosure record vs. current proposal scale; documentation of materials available to commissioners on 19 September 2025
10. Major-source classification analysis under both New Mexico state regulations (250 tons/yr NOx threshold) and federal Title V (different thresholds), including assessment of the east/west microgrid permit structure

11. Open Meetings Act violation assessment (subject of pending NMELC litigation)
12. IPRA records-withholding assessment (subject of pending NMFOG litigation)
13. Status assessment of all four pending Project Jupiter lawsuits plus State Ethics Commission action
14. Cross-border consultation requirements under La Paz Agreement and related frameworks

Time-sensitive:

15. New Mexico Environment Department air permit decision is scheduled for **July 2026** (pushed back from earlier deadline after substantial public comment). Any analytical work intended to inform that decision must be in the relevant decision-makers' hands well before any specific decision date.

Caveat

This document is an assessment based on publicly available information as of late June 2026.

The intent of this document is to surface concerns warranting further investigation, particularly in the limited time before the July 2026 air permit decision, and to provide a whole-systems analytical frame for considering Project Jupiter's substantive and procedural dimensions together rather than separately.

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NEE Exhibit B

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EDUCATION

PhD, Physics—Utah State University, 1999

Additional Graduate Study, Russian Space Systems—
Moscow Aviation institute, 1993-1994

BS*, Meteorology—Texas A&M University, 1987

BS, Physics—South Dakota State University, 1986

(**Modulo Texas History 101...*)

CURRENT

ASSOCIATE PROFESSOR OF PROFESSIONAL PRACTICE

UTAH STATE UNIVERSITY DEP'T OF PHYSICS| 20017-PRESENT | Logan, Utah

Jointly sponsored by USU's College of Science, the Caine College of the Arts, and the USU Ecology Center, my focus is on synthesizing and communicating the science of complex systems as it applies to global change, sustainable human systems, and civilizational futures.

- *The Crossroads Project* — co-creator of two performance projects, a peformance science project weaving together science, imagery and music to better communicate the story of human un-sustainability. The project comprises to full-length performances, *Rising Tide* and *Emergence,* includes originally commissioned music and has seen nearly 70 performances across the United States.
- *Original Course Development* — Developed *Unveiling the Anthropocene*, a science course designed for Fine Arts and Humanities students, telling the story of humanity's impact on the planet, the human systems underlying this impact, and roadmaps for transformation.
- *Public-Interest Science Communication* — Conceptualized, prepared and delivered hundreds of public science lectures on climate change, human sustainability, and science communication.

ADJUNCT PROFESSOR

DEP'T OF PLANTS, SOILS & CLIMATE | UTAH STATE UNIV. | 2011-PRESENT | Logan, Utah

Adjunct facutly in USU's Climate Science Program. Efforts include:

- *Graduate student committee member*
- *Cooperative Extension Climate Change Initiative* — I am the Project Lead of an ongoing initiative to introduce climate change comprehensively throughout Utah's Cooperative Extension programs. The challenge is to first raise the knowledge base of Extension professionals, and then allow these professionals to introduce the topic into their communities and programs in a manner they themselves deem appropriate. My work has been conceptualizing, scripting and recording a sequence of approximately 20 short videos which, taken together, comprise a comprehensive overview of the science of climate change, including: the science of the climate system; the science of *impacts* to natural and human systems; the science of *adaptation*; the science of *mitigation*, and the science of *projections*.

HISTORY

PHYSICIST | PROGRAM MANAGER | PUBLIC INTEREST COMMUNICATIONS
UTAH CLIMATE CENTER | UTAH STATE UNIVERSITY | 2009-PRESENT | Logan, Utah

VISITING PROFESSOR OF PHYSICS
SEATTLE UNIVERSITY | 2000-2001; 2003-2005 | Seattle, WA
WHITMAN COLLEGE | 2002-2003 | Walla Walla, WA
UTAH STATE UNIVERSITY | 2001-2002 | Logan, UT

RESEARCH FELLOW
UNIVERSITY OF OXFORD | 2005-2006 | Oxford, UK

PROJECT SCIENTIST
SPACE DYNAMICS LABORATORY | 2001-2002 | Logan, UT

TECHNICAL LIAISON, INTERNATIONAL SPACE STATION
NASA | 1999-2000 | Moscow, Russia

OFFICER AND METEOROLOGIST
UNITED STATES AIR FORCE | 1986-1990

PUBLICATIONS

PEER-REVIEWED JOURNAL

Wang, S.-Y., R. E. Davies, and R. R. Gillies, 2013: Identification of extreme precipitation threat across mid-latitude regions based on short-wave circulations. Journal of Geophysical Research, 118, 11059-11074 (pdf)

Wang, S.-Y., R. R. Gillies, R. Martin, R. E. Davies, and M. R. Booth, 2012: Connecting subseasonal movements of the winter ridge in western North America to inversion climatology in Cache Valley, Utah. Journal of Applied Meteorology and Climatology, 51, 617-627. (pdf)

Wang, S.-Y., Davies, R. E., Huang, W. R., Gillies, R. R. (2011). "Pakistan's two-stage monsoon and links with the recent climate change." Journal of Geophysical Research, VOL. 116, D16114, 15 PP., 2011

M.S. Neel, J.J. Thorn, V.W. Donato, G. S. Bergreen, R.E. Davies, and M. Beck, "Observing the Quantum Behavior of Light in an Undergraduate Laboratory," Am. J. Phys. 72 (9), September 2004

Davies, R.E. and J.R. Dennison, "Evolution of Secondary Electron Emission Characteristics of Spacecraft Surfaces", Journal of Spacecraft and Rockets, Vol. 3, No. 4, 1997

BOOK CHAPTERS

Wang, S.-Y., Davies, R., Gillies, R. R., Jin, J. (2011). Changing Monsoon Extremes and Dynamics: Example in Pakistan, in J. Zhao & W. Higgins (Ed.), NOAA NWS, Science & Technology Infusion Climate Bulletin. pp. 61-68

Davies, R. (2018) Earth's Changing Climate: A Community Primer, In: Lachapelle, P.R., and D. Albrecht. (eds.), Addressing Climate Change at the Community Level in the United States. New York: Routledge.

Davies, R. (2019) Carbon Pollution and the Impacts of Climate Disruption on Utah In: Crimmel, H. (ed.), Utah's Air Quality Issues: Problems and Solutions. Salt Lake City: University of Utah Press, 2019 (in press