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Meta–Constellation Nuclear Power Agreement Analysis: A Landmark Agreement Beyond the Grid

Earlier today (June 3, 2025) Meta has signed a landmark 20-year agreement with Constellation Energy to purchase 1,121 MW of nuclear power from Illinois' Clinton nuclear plant starting in 2027. The deal marks a major full output nuclear power purchase by a Big Tech company. This multi-billion-dollar commitment secures clean, reliable energy for Meta's expanding AI data centers and ensures the plant's operation through 2047, while adding 30 MW of capacity. Guzman team believes that the transaction offers a model for similar tech-utility partnerships amid soaring AI energy demands. It reflects a broader trend of tech giants like Microsoft, Google, and Amazon investing directly in nuclear power, signaling a shift in corporate energy procurement strategies toward direct, large-scale clean energy sourcing and reducing reliance on traditional intermediaries. At the same time, we see challenges for traditional utilities that may risk losing new load growth to independent producers unless they proactively offer tailored clean energy packages.

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Executive Summary: Earlier today Meta has signed a groundbreaking 20-year power purchase agreement with Constellation Energy to buy 1,121 MW of nuclear power from the Clinton nuclear plant in Illinois. The deal, announced earlier today (June 3, 2025), is multi-billion dollars in scale and will take effect in mid-2027 when Illinois' existing nuclear subsidies expire. By directly contracting nuclear energy, Meta secures a long-term supply of reliable, clean electricity to fuel its growing AI data centers, rather than relying on the power from the grid. This nuclear PPA not only ensures the Clinton plant remains operational through 2047, but also expands its capacity by 30 MW. For Constellation, the agreement guarantees stable revenue for decades to come. Strategically, Constellation gains a template to partner with other large energy buyers and potentially revive or extend additional reactors. This deal exemplifies a broader trend: U.S. utilities with clean energy assets (especially nuclear) could see new life through direct partnerships with tech companies as AI-driven power demand soars. Other tech giants are pursuing parallel strategies – for instance, Microsoft's recent nuclear deal (paying about $100/MWh for power from a restarted Three Mile Island reactor), Google's agreements to purchase power from advanced small modular reactors (SMRs) by 2030, and Amazon's investments in SMRs and co-location of data centers at nuclear plants. These moves underscore how the explosive energy needs of AI infrastructure are reshaping corporate energy procurement, with firms seeking dedicated clean power sources at unprecedented scale.

Contract Pricing and Economic Structure

- *Scale and Term*: The Meta–Constellation contract is a 20-year power purchase agreement (PPA) for the full output (1,121 MW) of Constellation's Clinton Clean Energy Center. The supply begins in June 2027, aligning with the expiration of Illinois' ratepayer-funded zero-emission credits (ZEC) that currently support the Clinton reactor. In essence, Meta's payments will replace the state subsidy, providing the revenue needed to keep the plant running without additional ratepayer support.

- *Pricing:* Financial terms were not publicly disclosed by Meta or Constellation, but both indicated the deal represents a "multibillion-dollar" commitment. For context, Microsoft's recent nuclear PPA involves paying on the order of $100 per MWh for a revived plant's output – roughly double the cost of typical renewables in that region. The average total generating cost for nuclear energy in the US in 2023 was $31.76 per MWh, with merchant market plants averaging $28.11 per MWh. The average cost of electricity to consumers was $132 per MWh. While Meta's pricing for Clinton likely differs (Clinton is an already-operating plant requiring less new investment than a restart), Meta is essentially stepping in with a market-based payment to replace the prior subsidy stream. The economic structure can be seen as Meta providing a long-term revenue floor or "backstop" for the plant. This assures Constellation recovers the costs of re-licensing, uprates, and operations at Clinton, while Meta secures a fixed supply of clean energy at a predictable price.

- *Capacity and Output*: The contract covers the full capacity (1.121 GW) of Clinton, which produces roughly 9–10 million MWh per year (enough to power ~800,000 homes). Constellation will even invest to uprate the plant by 30 MW as part of the deal. Meta effectively becomes the primary offtaker for all this electricity, which will still be delivered through the regional grid (PJM/MISO) but financially reserved for Meta's use. In effect, Meta is buying clean energy credits and output tied to Clinton's generation, allowing it to claim that a large portion of its data center load is met with 24/7 nuclear power.

- *Economic Impact and Guarantees*: The PPA's revenues enable Constellation to keep Clinton running through mid-century (2047, pending license renewal). By extension, the deal carries substantial local economic benefits: based on the deal estimates, it preserves 1,100 jobs and provides $13.5 million/year in tax revenue for the community. Meta's agreement also includes $1 million in local charitable contributions over five years. These figures, highlighted in press releases, underscore that the contract's structure isn't simply about buying electricity – it is a comprehensive package supporting the plant's operational viability and community

value. Meta is essentially assuming the role a government or utility might play, by shouldering long-term financial support to ensure a vital clean energy asset remains online. Constellation's CEO described it aptly: "a backstop so we can make the investments needed to re-license these assets and keep them operating."

Overall, the pricing is likely a fixed or escalated PPA rate high enough to cover plant costs post-subsidy, and the economic structure is designed to replace public funding with private capital. This model proves attractive to both parties: Meta gains assured clean power at scale, and Constellation secures guaranteed income to justify capital expenditures (like uprates and license extensions) that it otherwise might not undertake.

Table 1: Key Terms of the Meta-Constellation PPA

Feature	Detail
Plant Name	Clinton Clean Energy Center
Utility	Constellation Energy
Offtaker	Meta Platforms
Capacity	1,121 MW (plus 30 MW uprate)
Duration	20 years
Start Date	June 2027
Key Benefits for CEG	Replaces ZEC program, supports relicensing, preserves 1,100 jobs, $13.5M annual tax revenue, $1M charitable giving
Key Benefits for Meta	Emissions-free, reliable baseload power, supports AI ambitions, matches 100% clean energy goal

Going Beyond the Grid: Why Meta Chose a Direct Contract

Meta's decision to contract directly with a nuclear generator – instead of buying power from the grid or purchasing renewable energy credits – is driven by its unique needs for reliability, scale, and sustainability:

- *Assured Clean Energy for AI Operations*: Meta is rapidly expanding its AI infrastructure, which consumes large amounts of electricity around the clock. Rather than drawing generic grid power, Meta aims to guarantee a dedicated supply of carbon-free energy to meet its sustainability goals and power its data centers continuously.

- *Grid Limitations and Reliability*: Traditional power purchases could leave Meta more exposed to power price volatility and reliability risks. A long-term PPA insulates Meta from electricity market swings by locking in a price and source. It also bolsters reliability – Meta's contract supports keeping an existing plant running, which in turn maintains local grid stability.

- *Scale and Additionality*: A single nuclear unit offers over a gigawatt of capacity – massive scale from one deal – whereas achieving that with new solar farms would require dozens of projects plus storage. Moreover, keeping Clinton open has a tangible climate impact (avoiding an emissions increase that would occur if it closed). Meta likely judged that preserving an at-risk clean asset is as impactful as building new renewables.

In fact, Meta stated that "keeping an existing plant operating will have the same positive effect as adding new clean energy to the grid". Thus, the direct contract is a way to add additionality in carbon-free generation.

- *Economic Incentives*: By negotiating directly, Meta can structure a deal suited to its needs (such as possibly tying payments to plant output or capacity). This may yield a more favorable long-term price than retail or wholesale market purchases, especially as electricity demand (and prices) rise with AI. Locking in a power price now hedges against future price spikes.

In short, Meta opted for a direct PPA to control its energy supply: it gains a secure, sizable and green power supply for decades effectively wholesaling its own power. The traditional model of simply buying power from the grid is increasingly becoming too risky for the Big Tech due to market instability and supply constraints. PPAs, especially for baseload sources like nuclear, are evolving from mere tools for meeting sustainability goals or achieving marginal cost savings into essential financial risk management instruments and a means to ensure operational continuity. Meta's approach guarantees the "certainties" that big tech firms seek – certainty of source (100% carbon-free), of supply (no risk of the plant retiring or output variability), and of cost (budget predictability). The grid alone could not offer the same level of assurance, given the historic surge in power demand and strains on generation capacity due to AI and data centers. Meta's deal effectively bypasses the complexities of the open market and aligns a specific clean power asset directly with its consumption.

Strategic and Financial Implications for Constellation Energy

For Constellation Energy Group, the Meta contract is a significant win with multiple strategic and financial benefits:

- *Ensured Operation of a Key Asset*: Strategically, the PPA guarantees that the Clinton nuclear plant – one of Constellation's high-performing reactors – will remain online for the long term. The Meta agreement underwrites Clinton's operation for an additional 20 years, enabling Constellation to pursue a license extension to 2047 with confidence. This secures a valuable generation asset in Constellation's fleet without burdening state taxpayers or ratepayers.

- *Financial Stability and Revenue Visibility*: The PPA provides a long-term secure revenue stream for Constellation, which is especially significant for a merchant power plant in a competitive market. Instead of relying on volatile wholesale electricity markets or uncertain political subsidies, Constellation now has contracted cash flows from a AA-credit tech company. This reduces earnings volatility and credit risk. By covering operational and capital costs (relicensing, uprates), the contract assures that Constellation's $0.5–1 billion+ investment (typical for a 20-year nuclear extension and upgrades) will be recuperated with a return.

- *New Partnership Model and Market Positioning*: Constellation emerges as one of the leads in corporate clean-energy partnerships. CEO Joe Dominguez emphasized that they are already in discussions with other major customers across the country to "step in and do what Meta has done". This suggests Constellation can replicate this model – leveraging its large nuclear fleet (the largest in the U.S.) to secure direct deals with corporate buyers. By leading on these innovative PPAs, Constellation could lock in more long-term contracts, effectively de-risking more of its fleet and justifying further investment in maintenance or even new reactors. It's a symbiotic growth strategy: as AI and data centers drive demand, Constellation can offer ready-made, scalable clean supply.

The Meta deal fortifies Constellation's financial foundation and validates a new business model. The company becomes less dependent on uncertain policy support and more on bilateral partnerships. Guzman team believes, this could significantly improve Constellation's earnings reliability and growth prospects. Strategically, Constellation is

leveraging this success to pursue similar arrangements, which could herald a broader shift in how baseload clean power projects are funded in the U.S.

Broader Implications for U.S. Utilities and Beneficiaries

Meta's direct nuclear procurement signals a broader trend that could affect utilities and power producers across the country. Guzman think believes it presents both challenges and opportunities for U.S. Utilities:

- *New Life for Nuclear Assets*: This deal provides a template to support existing nuclear plants that might otherwise shut down due to economic pressures. Utilities or plant owners with merchant nuclear reactors (i.e. selling into competitive markets) are likely paying close attention. For example, operators of other at-risk plants (such as those in PJM or New England markets) could seek similar corporate partnerships as state subsidies phase out. The agreement "could serve as a model for other Big Tech companies to support existing nuclear" while they also consider new energy sources. Any nuclear operator facing a sunset of subsidies or rising costs may look to tech firms or large corporations as saviors.

- *Boost to Advanced Nuclear Projects*: Beyond existing plants, the demonstrated willingness of tech giants to invest in nuclear energy (financially and via offtake commitments) is a bullish sign for new nuclear development. Utilities planning small modular reactors (SMRs) or other advanced reactors can now court big tech as anchor customers. The Meta deal and others show there is a premium market for firm, carbon-free power; this could help justify the financing of first-of-a-kind reactors if companies are ready to sign long-term PPAs for their output. Potentially, even regulated utilities could benefit via "green tariff" programs – they could build or maintain nuclear capacity and allocate the carbon-free energy to corporate subscribers for a fee. In sum, nuclear's role in the future grid gets a boost, with Big Tech acting as a catalyst for an industry revival.

- *Upside for Renewable-Rich Utilities*: While this trend centers on nuclear for its reliability, it underscores a larger point: utilities that can offer carbon-free energy at large scale stand to gain corporate customers. This includes not only nuclear operators but also utilities with massive hydropower, or those investing in renewable + storage combos that can guarantee delivery. However, intermittent renewables alone have limits in meeting 24/7 demand. Thus, utilities with balanced clean portfolios or energy storage might try to position themselves as alternative partners. For example, NextEra Energy (a major renewable developer) might not have merchant nuclear aside from Point Beach, but it could bundle wind/solar, batteries, and maybe future green hydrogen to offer firm power contracts to data centers. Likewise, Southern Company or Duke Energy, though mostly regulated, could create special arrangements to serve large tech campuses in their territories with dedicated clean resources (their new Vogtle nuclear units, for instance, or upcoming SMRs, could be partially allocated to corporate buyers under innovative tariffs).

- *Competitive Pressure on Traditional Utilities*: If tech firms bypass local utilities to sign directly with independent producers (as Meta did), this could marginalize utilities in providing new load growth. Many utilities count on data center load as a growth driver; they may now face competition from generators wooing those data centers with direct deals. To avoid this, utilities might need to be proactive in offering clean energy solutions. Utilities slow to accommodate corporate sustainability goals risk seeing their largest new customers find workarounds.

In essence, U.S. utilities that own dispatchable carbon-free generation stand to benefit by tapping into a new customer segment willing to pay a premium for clean energy security. Those without such assets may invest in or acquire them. This trend blurs the line between traditional utility service and private deals – potentially reshaping how large energy projects are financed. As one energy analyst observed, Big Tech's voracious AI power demand has

utilities and generators undertaking unprecedented efforts to meet that need. The likely winners will be companies agile enough to form these public–private clean energy partnerships.

Table 2: Largest U.S. Nuclear Power Plant Operators by Owned Net Summer Capacity (2025 Projection)

Company/Operator	Active Reactors Operated	Total Net Nuclear Capacity (MW)
Constellation Energy	21	22,800
Duke Energy	11	10,773
Southern Company (Southern Nuclear)	8	~8,200
Tennessee Valley Authority (TVA)	7	~8,000
Vistra Corp. (Vistra Vision)	6	~6,400
NextEra Energy (FPL/NextEra)	7	~6,100
Dominion Energy	6	~5,676
Entergy Corporation	5	~5,355
Arizona Public Service (APS) *(Pinnacle West)*	3	3,937
PSEG (Public Service Enterprise Group)	3	~3,468

Big Tech Energy Procurement Strategies: Meta vs. Peers

Meta's direct nuclear deal is part of a wider shift in how tech giants source energy, though each firm's strategy has distinct elements:

- *Meta (Facebook)*: Historically, Meta (like other hyperscalers) invested heavily in wind and solar PPAs to achieve 100% renewable matching for its data centers. The nuclear deal represents an evolution toward firm, around-the-clock clean power. In fact, Meta launched a nuclear RFP for 1–4 GW of capacity earlier in 2025 and received over 50 project submissions. This suggests Meta is considering not just Clinton, but also new nuclear projects or additional existing plants to meet its future needs. The company has publicly recognized "the immense value of nuclear" for reliability and sees supporting existing plants as equally impactful as new energy sources. In addition to nuclear, Meta continues to expand renewables – for instance, signing recent solar PPAs (e.g., 650 MW with AES in 2024) – but it appears to be one of the pioneers among tech firms in directly backing nuclear energy for AI. Meta's approach is notably proactive: rather than waiting for advanced reactors to come online, it is leveraging an operational plant now and simultaneously scouting next-generation plants for the near future.

- *Microsoft*: Microsoft has been aggressively pursuing firm carbon-free power. In 2024 it inked a deal with Constellation to restart the Three Mile Island Unit 1 reactor in Pennsylvania explicitly to power Microsoft's AI data centers. This unprecedented move involves Microsoft buying 835 MW of nuclear output for 20 years, and reportedly paying at least $100/MWh for that privilege. Microsoft is effectively funding a $1.6 billion reactor resurrection (without direct subsidies) to secure long-term clean power. Additionally, Microsoft has ventured into nuclear fusion procurement, signing a first-ever agreement to purchase power from Helion Energy's planned fusion plant by 2028. These deals underline Microsoft's strategy of technology

diversification – it is willing to bet on both proven and cutting-edge sources to meet its pledge of 100% carbon-free energy by 2030. Like Meta, Microsoft also continues to add renewables (it has hundreds of MW of solar/wind PPAs globally), but it has clearly recognized that baseload clean power (nuclear fission and even fusion) will be critical for its AI and cloud footprint. Notably, Microsoft's energy team has hinted they would "consider similar contracts to restart [other] nuclear plants" if necessary, signaling that Microsoft could partner with utilities to save additional reactors (or even build new ones) if it aligns with their needs.

- *Google*: Google has a goal to run on 24/7 carbon-free energy by 2030, and has been a leader in innovative clean energy sourcing. While Google hasn't purchased output from an existing nuclear plant, it made waves in October 2024 by signing an agreement with Kairos Power to develop multiple small modular reactors. Google's deal is the world's first corporate PPA for new nuclear SMRs, aiming to enable up to 500 MW of advanced reactor capacity by 2030 to serve its needs. This indicates Google's strategy is to invest in next-gen nuclear as a future supply (essentially seeding the development of new plants rather than adopting an existing one). Google also formed partnerships to explore geothermal energy and advanced storage, and continues to sign solar/wind PPAs to decarbonize its current operations. However, Google recognizes AI's around-the-clock demand can't be met by intermittent sources alone. As their energy lead said, new firm sources are needed to "unlock the full potential of AI" with clean power. Google is also reportedly partnering with Elementl Power to develop nuclear sites and has invested in nuclear startups (like TAE for fusion research). In summary, Google's approach leans toward investing in emerging nuclear capacity for the late 2020s, coupled with a massive global portfolio of renewables that it dynamically manages to match its load.

- *Amazon*: Amazon (via Amazon Web Services) has primarily focused on being the world's largest corporate buyer of renewable energy – achieving 100% renewable match in 2023. But Amazon, too, is "going nuclear" for its next phase. In October 2024, AWS announced three agreements to support new nuclear projects, including funding the development of multiple SMRs with X-energy and Energy Northwest in Washington state, exploring an SMR project with Dominion Energy in Virginia (300 MW), and even co-locating a data center campus next to Talen Energy's Susquehanna nuclear plant in Pennsylvania to directly draw carbon-free power. Amazon also invested $500 million in X-energy to hasten its reactor deployment. These steps show Amazon's two-pronged strategy: continue scaling renewables (solar, wind) for bulk energy, but augment with nuclear for firm capacity in the 2030s. The co-location at an existing reactor is similar to Meta's approach, though on a smaller scale (Amazon's data center will use part of that plant's output on-site). It's clear Amazon foresees its future data centers, especially for AI and cloud, needing a reliable carbon-free backbone which SMRs and partnerships with utilities can provide. As Amazon put it, nuclear can be built at scale and has "a decades-long record" of reliability, making it a key part of reaching net-zero operations.

- *Others (Apple, etc.):* Apple so far has stayed with 100% renewable (mostly solar) strategy and hasn't announced nuclear plans. It tends to invest in battery storage and solar farms near its facilities. However, if the trend continues, even companies like Apple or smaller tech firms might in the future join consortiums for advanced nuclear to satisfy 24/7 clean power goals. For now, Meta, Microsoft, Google, and Amazon are the primary drivers of this new paradigm.

Comparison: Meta's strategy in striking an immediate deal for an existing nuclear plant is slightly different from peers: Microsoft did a similar nuclear PPA but with the twist of restarting a shut plant (involving large capital outlay), whereas Meta leveraged an operational plant that needed support. Google and Amazon are investing in future reactors (SMRs) and haven't yet tapped existing big reactors. Meta's approach yields near-term impact (Clinton's output will count toward Meta's goals in just two years, 2027), whereas Google/Amazon's SMRs will come late in the decade. All strategies, however, point to a common theme: diversification beyond wind and solar into firm, dispatchable clean energy to meet the relentless power demands of cloud and AI services. They also highlight a

willingness to directly invest or contract long-term to achieve carbon-free operations – even if it means engaging in utility-scale generation projects (something unheard of a few years ago).

While Amazon and Google are paving the way for new nuclear technologies and Microsoft is reopening dormant capacity, Meta's Clinton deal demonstrates that no option is off the table to secure clean power. The companies are essentially in a race to secure the energy infrastructure of the future for AI – whether by reviving the old (existing reactors) or banking on the new (SMRs/fusion) – a stark contrast to the past decade's focus solely on wind/solar PPAs. The Meta–Constellation agreement underscores that AI's rise and power demand are inextricably linked. To support burgeoning AI workloads, companies are seeking out guaranteed megawatts on a scale that requires owning or contracting entire power stations

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