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NRC 38th Annual Regulatory Information Conference | March 10, 2026

# Make America Nuclear Again:

## Strengthening the Nuclear Supply Chain for Tomorrow's Reactors

**Mesut Uzman**

Chief Nuclear Construction Officer | Fermi America

Session: "Critical Links: Strengthening the Nuclear Supply Chain for Tomorrow's Reactors"
3:30–5:00 PM | Chair: Michele Sampson, Division Director, NRR

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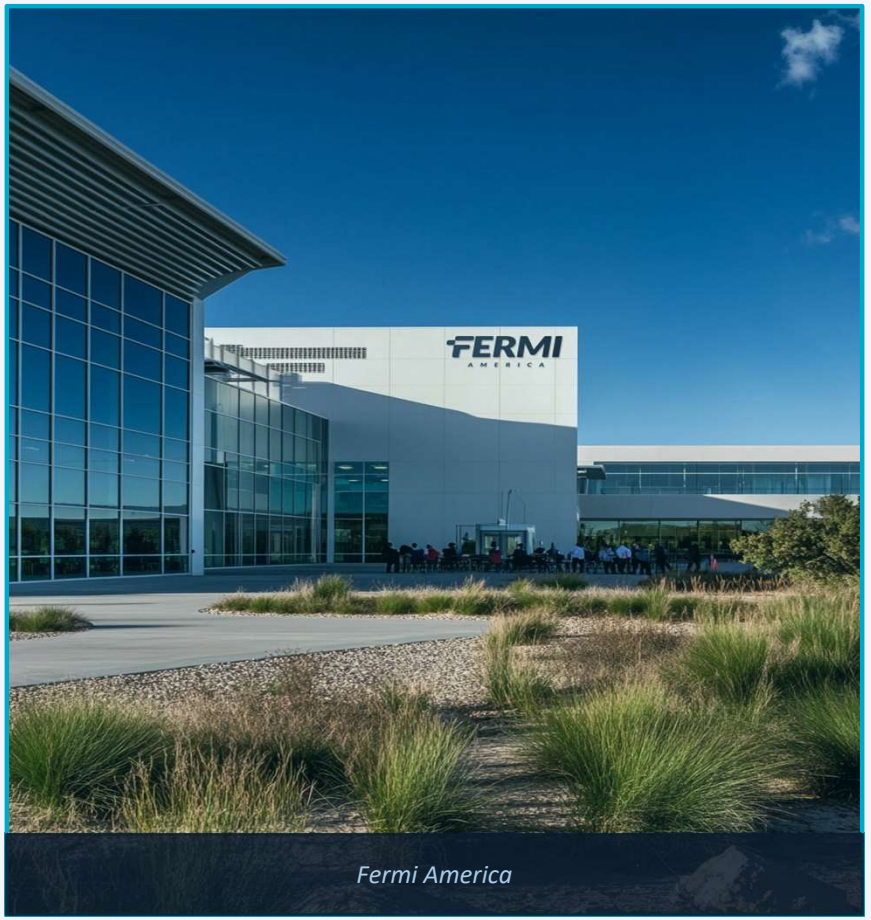
# About Fermi America

## America's Flagship Advanced Nuclear Project

- 11 GW advanced energy campus on 5,236 acres — co-located with Texas Tech University, Amarillo TX
- AP1000 Combined License Application accepted for NRC review — first new COL in 15+ years
- Shovel-ready: final geotechnical survey is getting completed
- Co-founded by former Governor Rick Perry and Toby Neugebauer
- Preferred EPC partner: Hyundai E&C — 18+ large reactors delivered on-time, on-budget (advanced negotiations ongoing)

### Speaker Background — Mesut Uzman

- 14 years at Westinghouse Electric (1997–2011) — Director of Engineering; top 2% performer
- Engineering Director, Invensys/Framatome (2011–2013) — led engineering for 8 nuclear plants in China
- VP Engineering at ENEC, UAE: led delivery of 4 APR-1400 units at Barakah (Arab World's first nuclear plant, 5,600 MW)
- Now Chief Nuclear Construction Officer at Fermi America — leading Project Matador, Amarillo TX



*Fermi America*

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# Project Matador — America's Largest Clean Energy Campus

*5,236 acres in Amarillo, TX — site preparation underway; ground ready for nuclear construction upon LWA issuance.*

*Project Matador Campus Master Plan — Amarillo, TX*

**5,236**

Acres — 99-Year Ground Lease with Texas Tech University

**11 GW**

Total planned power capacity (gas + nuclear combined)

**4M sq ft**

Site area already graded across data center & gen sites

**6,500 ft**

Roads installed | 34,000 ft of perimeter fencing complete

**12,000 ft water lines · Gas & water supply secured · Tax abatement executed with Carson County**

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# The Nuclear Supply Chain Crisis

*The global nuclear renaissance is accelerating — but the supply chain is already over-committed.*

**~60**

nuclear reactors under construction or in near-term start globally

**42–54**

months lead time for Reactor Vessels and Steam Generators

**Zero-Sum**

global supply dynamic: AP1000 and APR-1400 share the SAME suppliers (e.g. Doosan)

**KEY:** China's 9 CAP1000 + 2 CAP1400 units, Korea's APR-1400 fleet, European and Middle East programs, and U.S. newcomers ALL compete for the same reactor forgings, pumps, and modules. Fermi must move first.

⚠ **CRITICAL:** Any delay in placing orders shifts Fermi's in-service date day-for-day. The window to secure the 2033 schedule is NOW.

** Fermi's LWA application is the critical near-term trigger — once ground is broken, procurement orders follow immediately.*

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# Critical Long-Lead Components — AP1000 (WEC LLI Top 14)

*AP1000 critical LLI procurement list — all items targeted by Fermi America:*

| Code | Component / Module | Primary Supplier(s) | Lead Time | Status |
|---|---|---|---|---|
| MV01 | Reactor Vessel Equipment | Doosan Enerbility | 42–54 mo. | **Phase 0 contract ✓** |
| MB01 | Steam Generators | Doosan Enerbility | 36–48 mo. | **Phase 0 contract ✓** |
| MV50 | Containment Vessel | Doosan Enerbility | 36–48 mo. | In planning |
| MI01 | Reactor Vessel Internals | Doosan Enerbility | 24–36 mo. | In planning |
| MV13 | Pressurizer | Doosan Enerbility | 30–42 mo. | In planning |
| MP01 | Reactor Coolant Pumps | Curtiss-Wright (USA) | 24–36 mo. | In planning |
| MV11 | Control Rod Drive Mechanism | Westinghouse | 24–30 mo. | In planning |
| MG01 | Main Turbine Generator Package | TBD | 30–42 mo. | In planning |
| ME01 | Main Condenser & Feedwater Heaters | Various | 24–30 mo. | In planning |
| CA01–CA20 | Steel Plate Composite Modules (7 types) | IHI Japan / Domestic US | 30–42 mo. | In planning |
| SC40 | Shield Building Panels & Transition Joints | IHI Japan / Domestic US | 24–36 mo. | In planning |
| PCS01 | Passive Core Cooling System (PRHR HX) | Holtec / Various | 24–36 mo. | In planning |
| IE01 | I&C Platforms (DAS, PMS, PAMS) | Westinghouse (Proprietary) | 48–60 mo. | In planning |
| RF01 | Fuel Assemblies — First Core Load | Westinghouse | 36–48 mo. | In planning |

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# MANA — Make America Nuclear Again: A Proposed National Supply Chain Strategy

**MANA** is a proposed Special Purpose Vehicle (SPV) **first introduced by Fermi America in the original Title XVII loan application submitted to DOE in June 2025** — to preemptively secure long-lead-time equipment for the U.S. nuclear renaissance. *A similar concept was subsequently proposed by Westinghouse, validating Fermi's approach.*

## Industrial Queue

Not confined to a single site — creates a national industrial queue. Other developers, utilities, and agencies can leverage Fermi's procurement block to accelerate their own programs

## National Asset

MANA functions simultaneously as a supply chain reservation platform, a national energy readiness initiative, and an industrial accelerator — benefiting all U.S. nuclear stakeholders

## Immediate Action

Fermi America and the State of Texas prepared to commit $200M equity to support a $750M Title XVII DOE loan — to immediately tie up long-lead-time items before global allocations close

## Volume Economics

Centralized bulk procurement for multiple units secures factory queue priority, volume discounts, and cost certainty — replicating the successful multi-unit procurement model of Korea and UAE

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# Fermi's Partnership Ecosystem

*Strategic partners spanning construction, supply chain, cooling technology, and nuclear licensing.*

## Doosan Enerbility

**Phase 0 Contract Signed ✓**

**South Korea | Reactor Components**

✓ Phase 0 contract signed — initiates raw material procurement and forging queue reservation

✓ Phase 1 (full forging start) follows upon Westinghouse purchase specification issuance

✓ Experienced supplier for RPV, Steam Generators, Containment Vessel, and Reactor Internals

## Hyundai E&C

**Negotiations Ongoing**

**South Korea | Preferred EPC Partner**

✓ 18+ large reactors delivered on-time, on-budget — unmatched global track record

✓ FEED substantially complete for Fermi project; schedule and cost targets confirmed

✓ Advanced EPC negotiations ongoing; formal contract targeted upon financing commitment

## MVM / EGI

**Innovative Cooling Solution**

**Hungary | Hybrid Cooling Technology**

✓ Selected for innovative hybrid cooling tower solution adapted to AP1000 thermal design

✓ Minimizes water usage and environmental footprint — aligning with Fermi America's clean energy and sustainability goals

✓ Proven technology aligned with AP1000 site interface and NRC safety requirements

## COLA Licensing Team

**DCD Rev 20 Strategy**

**USA | NRC Licensing & COL Application**

✓ Westinghouse: AP1000 DCD Rev 20 delivery (contract amendment signed Feb 2026)

✓ PLS Corp: COLA management — update to adopt DCD Rev 20

✓ Enercon Services: EIS pilot

✓ RIZZO International: FSAR Chapter 2 (site characterization)

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# Site Progress — Amarillo, Texas




**6,500 ft roads installed** | **34,000 ft fencing** | **~4M sq ft graded** | **12,000 ft water lines** | **Site prep: UNDERWAY**

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# Lessons from Vogtle — What the U.S. Must Not Repeat

*Under my leadership, Fermi replicates global best practices — not the U.S. FOAK experience.*

| | Vogtle Units 3 & 4 | Fermi America — Project Matador |
|---|---|---|
| **Supply Chain** | New supply chain built from scratch; limited qualified vendors; each component ordered separately → bottlenecks and delays from day one | MANA SPV for centralized bulk procurement; Doosan Phase 0 contract already placed; multi-unit orders drive factory queue priority |
| **Cost** | Exceeded $35 billion total (all owners) for ~2,234 MW — more than double the original estimate; among the most expensive power plants ever built | Cost target not disclosed — aligned with successful global AP1000 and APR-1400 benchmarks (UAE, Korea) that demonstrate far superior cost performance |
| **Schedule** | ~15 years from construction start to Unit 4 commercial operation; seven years of delays and ~$21B in overruns vs. original targets | Target: ~6 years per unit; Unit 1 first power ~2033; achievable with Hyundai E&C's proven track record (contingent on timely DOE/DOC support) |
| **Design Risk** | First-of-a-kind AP1000; COL referenced DCD Rev 19; numerous design changes during construction added cost and time | COL being updated to reference AP1000 DCD Revision 20 — incorporating ALL Vogtle Unit 4 design solutions. Nuclear island is a direct copy, not a FOAK |

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# Regulatory & Industry Collaboration — Working with NRC

*Fermi's licensing strategy is designed to eliminate FOAK risk and support the NRC's modernization agenda.*

## NRC Licensing Progress

✓ COL accepted for NRC processing — first new COL in 15+ years in the U.S.

✓ NRC is piloting an accelerated environmental review for Fermi's project

✓ Fermi is updating its COL to reference AP1000 DCD Revision 20 — incorporating all Vogtle Unit 4 design solutions, immediately eliminating FOAK design risk

✓ Fermi is ready to break ground in 2026 — pending appropriate support from DOE and DOC for project financing

## Opportunities for Collaboration

### Streamlined Foreign Vendor Acceptance

Clear NRC guidance for accepting components from internationally-qualified facilities (Doosan, IHI) without duplicative re-inspection under 10 CFR 50 Appendix B

### COL Schedule Coordination

Alignment between NRC's COL review schedule and project procurement timelines — to prevent regulatory delays from cascading into supply chain schedule impacts

### DCD Rev 20 as New Baseline

NRC adopting DCD Rev 20 as the standard reference for all new AP1000 COLs eliminates site-specific gap analyses and dramatically reduces licensing risk for all U.S. projects

### National Supply Chain Registry

NRC + DOE + Industry joint qualified vendor database — so all U.S. developers share visibility into supply chain capacity and qualification status

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# Nuclear Project Milestones — Status as of Q1 2026

*All critical pre-construction nuclear milestones are on track or advancing — Fermi is uniquely positioned to break ground in 2026.*

## Licensing & Regulatory

| | |
|---|---|
| COMPLETE | COL Application submitted and accepted for NRC review — first new COL accepted in 15+ years |
| IN PROGRESS | COL update to reference AP1000 DCD Revision 20 (incorporating all Vogtle Unit 4 design solutions) |
| IN PROGRESS | NRC accelerated environmental review underway; FSAR Chapter 2 site characterization under preparation |
| 2026 TARGET | LWA (License to Start Construction) issuance — enables ground-breaking and nuclear island excavation |

## Supply Chain & Procurement

| | |
|---|---|
| COMPLETE | Phase 0 contract signed with Doosan Enerbility — initiates forging queue for RPV and Steam Generators |
| COMPLETE | Westinghouse AP1000 DCD Rev 20 contract amendment executed (February 2026) |
| IN PROGRESS | FEED substantially complete by Hyundai E&C — site layout, cost, and schedule targets confirmed; EPC negotiations ongoing |
| IN PROGRESS | MANA SPV framework under development — coordination with DOE Title XVII program ongoing |

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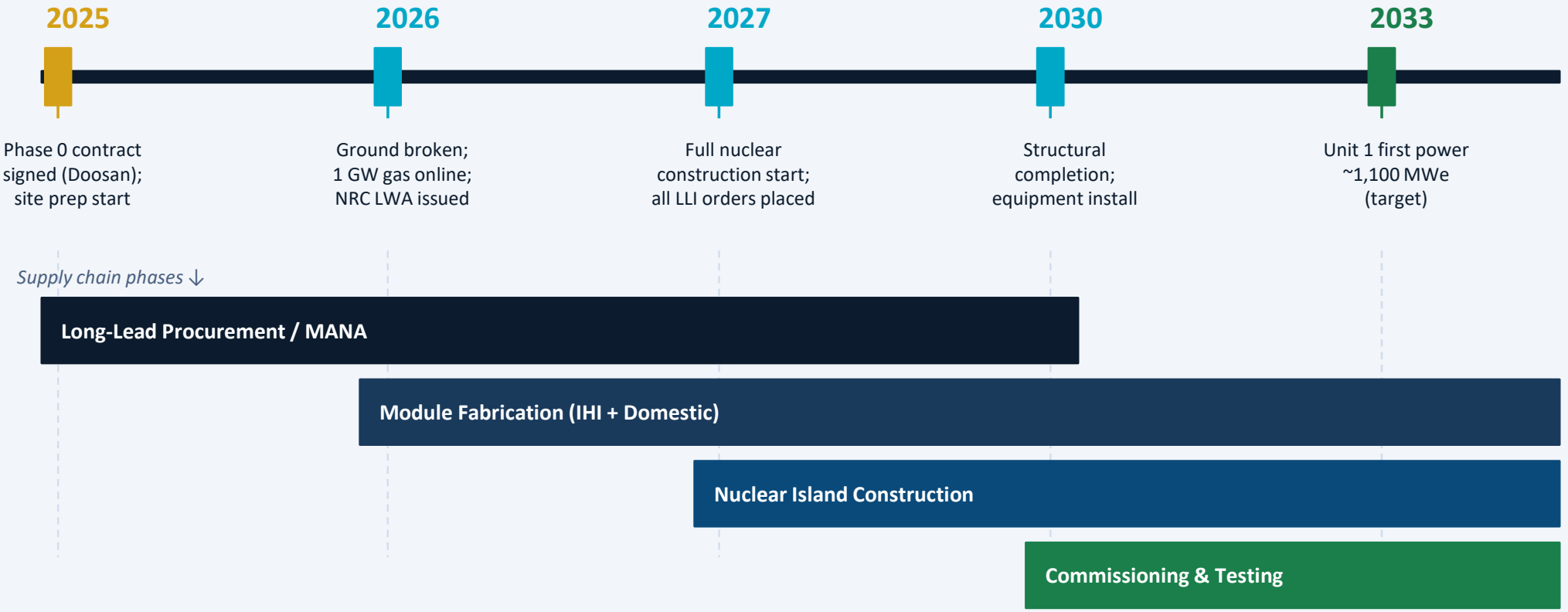
# Fermi America — Project Timeline & Supply Chain Milestones

*Target schedule — achievable with timely DOE / DOC funding support and supply chain actions initiated NOW.*




** Timeline is a target and is contingent on timely DOE/DOC funding support.*

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# The Road Ahead — Building a Stronger Nuclear Future Together

## Key Takeaways

### 01 Act Now on Supply Chain

Long-lead procurement decisions made today determine whether the U.S. meets its nuclear construction targets. Fermi's Phase 0 Doosan contract is step one — but the window is closing fast.

### 02 MANA — A National Platform

Proposed by Fermi in June 2025, MANA creates a national industrial queue that benefits all U.S. nuclear developers. The concept was subsequently validated by Westinghouse.

### 03 Proven Team, Proven Design

Fermi's leadership led completion of 4 APR-1400 units at Barakah, UAE — Arab World's first nuclear plant. COL references AP1000 DCD Rev 20 (Vogtle Unit 4 copy): no FOAK risk.

### 04 Ready to Break Ground in 2026

All preconditions are advancing: COL accepted, DCD Rev 20 contract signed, Phase 0 Doosan placed, EPC negotiations ongoing. With DOE/DOC support, Fermi breaks ground in 2026.


*Fermi America × Hyundai E&C MOU Signing*
*Leading the Energy Transition with Nuclear — July 2025*

*"The supply chain is not a constraint to be managed — it is an opportunity to be seized. America must move first."*