



RTS · NUCLEAR ENERGY + AI BRIEFING · OCTOBER 2026

The fleet writes AI into the contract.

This period, AI showed up in an uprate deal, an outage plan, and a construction permit that landed four months early.

R-01 · NEW CAPACITY	R-02 · NRC REVIEW	R-03 · OFFTAKE TERM
890 MW	14 MO	20 YR
Upgrades across 11 Constellation reactors, Google deal	Clinch River permit vs. 18-month schedule	Both new Constellation agreements

1.0 SUMMARY

Three deals, one shift. AI is no longer a side pilot. It is being written into the commercial terms of running the fleet.

Google signed a \$4.3 billion, 20-year deal with Constellation that puts Gemini into outage management at the same plants it is paying to uprate. The NRC issued the first U.S. construction permit for a commercial small modular reactor, four months ahead of schedule. Amazon bought 20 years of Calvert Cliffs output, which gives Constellation the certainty to pursue license extensions past 2034 and 2036.

Once AI is in the contract, it carries obligations. Its outputs have to stand up to review.

PREPARED BY: RTS RESEARCH TEAM

2.0 FIELD REPORTS

AREA OPERATIONS DATE 2026-10-06 STATUS SIGNED

2.1 Gemini goes into the outage plan

PARTIES	Google · Constellation Energy
VALUE / TERM	\$4.3B · 20-year PPA
CAPACITY	890 MW from uprates, 6 plants, 11 reactors
AI SCOPE	Gemini Enterprise: site selection, outage mgmt, infrastructure protection

The megawatts come from upgrades at existing plants in Illinois, New Jersey and Pennsylvania, including modernized turbines, steam generators and digital control systems.

RTS ASSESSMENT2.1-A

The headline is the dollar figure. The line that matters is outage management.

Outages are where schedule, dose, work orders and procedure compliance collide. Putting a general-purpose model into that workflow is a bigger operational step than putting one into a search bar.

Ask now: which outage decisions does the model inform, which does it never touch, and who signs for the output? Human in Command® has to be designed into the work package, not added after the first finding.

REF ▶ Yahoo Finance, 2026-10-06

AREA LICENSING DATE 2026-09-29 STATUS PERMIT ISSUED

2.2 Fourteen months, four months early

APPLICANT	Tennessee Valley Authority
DESIGN / SITE	GE Vernova Hitachi BWRX-300 · Clinch River, TN
REVIEW	July 2025 to Sept 2026 · 14 months
SIGNIFICANCE	First U.S. commercial SMR construction permit

NRC Chairman Ho K. Nieh: “Four months ahead of schedule is what the new NRC looks like.” Five days earlier the NRC published a proposed overhaul of reactor licensing and oversight rules across Parts 50, 52 and 53.

RTS ASSESSMENT2.2-A

The regulator just showed it can move. That changes the bottleneck.

When the review clock shrinks, the applicant's documentation becomes the critical path. A 14-month review does not help a project that needs 24 months to assemble a defensible submittal.

This is where AI earns its place in licensing: traceable drafting, requirement mapping and consistency checks. Every generated assertion maps to a qualified source, and a named engineer owns it.

REF ▶ NRC News Release 26-079

AREA GRID AND DEMAND DATE 2026-09-30 STATUS SIGNED

2.3 Twenty more years for Calvert Cliffs

PARTIES	Amazon · Constellation Energy
CAPACITY	690 MW + ~190 MW expansion (2030 to 2032)
INVESTMENT	More than \$3B
LICENSES	Extensions sought beyond 2034 and 2036

The power keeps flowing into the PJM grid rather than to a single facility. Constellation says the certainty lets it pursue 20-year license extensions for both units.

RTS ASSESSMENT2.3-A

This looks like a data center story. It is a license renewal story.

Subsequent license renewal is document-heavy work: aging management programs, time-limited aging analyses and decades of operating history. At the NRC's September AI workshop, Duke described cutting an aging management review from roughly five months to one.

Bounded, measurable, and inside a process the NRC already knows how to audit. Every 20-year offtake signed this year creates a renewal application due within the decade.

REF ▶ Voz, 2026-10-01

3.0 FROM THE RTS DESK

- 3.1

From Pilots to Practice. The full recap of NRC AI Workshop #7: trust and bounded autonomy, the data and traceability constraint, and production lessons from Duke, TerraPower, Southern Nuclear and INPO. [Read the recap](#)
- 3.2

Nuclear AI as the Key to Part 53. Sam Rieck's argument for Part 53 as a machine-readable decision architecture, with the objectives hierarchy worked through and the human command model spelled out. [Read the paper](#)

HOLD POINT · COMMENT WINDOW OPEN

The NRC's proposed licensing overhaul was published September 24. Staff webinars run October 8 (2:00 to 3:30 p.m. ET) and October 14 (9:00 to 10:30 a.m. ET). If AI-assisted documentation is part of your plan, read this rulemaking closely.

4.0 RESEARCH NEWS

- 4.1

The rule behind the faster clock. The proposed rule touches Parts 20, 21, 50, 52, 53, 55, 70, 72 and 75, with risk-informed, performance-based alternatives and fewer duplicative requirements. [Federal Register](#)
- 4.2

AI is already in the NRC's toolkit. An NRC official said earlier this year that AI tools have cut months off licensing reviews. Useful context for the Clinch River timeline. [Government Executive](#)
- 4.3

Webinar details. Times and the Teams link for the October 8 and 14 sessions on the proposed overhaul. [NRC Advisory](#)

5.0 OTHER NEWS

- 5.1

Korea and the U.S. plan eight large reactors. Two APRI400s and six AP1000s, \$120 billion allocated, and a goal of all eight under construction by 2030. No sites or utility commitments were named. [Neutron Bytes](#)
- 5.2

Oracle taps Point Beach. We Energies agreed to let Oracle subscribe to 10 to 20 percent of Point Beach's output for the Port Washington campus it is co-developing with OpenAI. Wisconsin regulators still have to approve it. [Wisconsin Watch](#)
- 5.3

The Google deal came in bigger. Earlier coverage put the talks at about \$1 billion. The signed agreement is \$4.3 billion. [Cybernews](#)

6.0 FINDINGS: WHAT THIS SIGNALS

Two 20-year commitments to the existing fleet and one early licensing decision. Google tied its megawatts to uprates and an AI deployment. Amazon tied its megawatts to license extensions. The NRC finished a construction permit in 14 months.

- F-1

AI is now a contract term.

When a model is named in a power deal, its scope, controls and accountability become something a counterparty can ask about.
- F-2

Outages are the next proving ground.

High stakes, hard deadlines, measurable results. Expect the first serious operational AI lessons to come from refueling outages.
- F-3

The review clock is no longer the excuse.

With the NRC moving faster, the applicant's documentation is the critical path.
- F-4

Renewal work is about to stack up.

Twenty-year offtake deals mean subsequent license renewals. That is a bounded, auditable place to start.
- F-5

The rules are open for comment.

The proposed overhaul is the moment to shape how AI-assisted submittals get treated.

None of this rewards moving fast for its own sake. It rewards moving fast in a way you can show your work on. That is what we build at RTS: nuclear AI that is audit-ready from day one, with Human in Command®, and a measurable AI advantage you can put in front of a regulator.

7.0 RECOMMENDED ACTION

One conversation. No pitch deck.

Tell us where your bounded problem is. We will tell you whether AI belongs anywhere near it.

Schedule a roadmap session

PREPARED RTS Research Team	CONTROL Human in Command®	CONTACT raisuns.com
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