

Literacy — Agencies: The Department of Energy

The energy, science, and nuclear-security department — a hybrid that both funds research like a science agency and buys operations like an industrial giant. It is the agency behind the curriculum’s worked exemplar (a DOE STTR Phase I NOFO), which makes it the best first agency to study in detail. This profile maps the DOE’s national-laboratory posture, its merit-review scoring, and its strong SBIR/STTR lane.

Culture: science and mission, side by side

The DOE is really three departments in one, and the mission mix explains its buying:

1. **Energy** — the applied-energy offices: efficiency and renewable energy, grid modernization, fossil and nuclear energy, the power-marketing administrations that sell federal hydropower, and ARPA-E, the advanced-research projects agency for energy modeled on DARPA.
2. **Science** — the **Office of Science**, the single largest federal funder of basic physical-science research in the United States, which runs the ten national laboratories devoted to fundamental science.
3. **National security and cleanup** — the **National Nuclear Security Administration (NNSA)**, which stewards the nuclear stockpile and nuclear nonproliferation, and the **Office of Environmental Management**, which cleans up the legacy of the nuclear weapons complex.

The cultural through-line: **the DOE is a science culture**. Its default posture toward the private sector is *funder and research partner* as much as *buyer*. Where a defense program says “deliver this capability,” a DOE program often says “propose the research that advances this mission.” That posture shows up in everything below.

The national-laboratory posture

The DOE owns the nation’s **network of national laboratories** — roughly seventeen world-class labs (including the big multidisciplinary ones: Argonne, Brookhaven, Lawrence Berkeley, Lawrence Livermore, Los Alamos, Oak Ridge, Pacific Northwest, Sandia, and others) plus the science office’s specialist labs. Three facts about the labs that matter to a pursuer:

1. **The labs are operated by contractors**. Most national labs are run under large **management-and-operating (M&O) contracts** — the DOE hires a contractor (often a university consortium or a nonprofit) to operate the lab. Those contracts are huge, long-lived, and periodically competed.
2. **The labs are a vast subcontract market**. The M&O contractor buys most of what the lab needs — services, equipment, IT, specialized engineering. A small firm that wants DOE work often gets in through the

lab's procurement rather than the department's. The lab is a customer in its own right, with its own solicitations and its own vendor lists.

3. **The labs anchor the SBIR/STTR ecosystem.** For small firms, the DOE SBIR/STTR program funds work that is often *shaped with* lab expertise, and the labs themselves are exactly the kind of “nonprofit research institution” an STTR partnership requires. A DOE STTR team is often a small firm plus a national lab.

Solicitation shapes

The DOE uses a science-flavored version of the federal toolbox:

- **Funding Opportunity Announcements (FOAs)** — the DOE's dominant research-solicitation shape. The DOE uses “FOA” the way other agencies use “BAA” or “NOFO”: a published call for research proposals within a program area. (The STTR Phase I NOFO in the worked exemplar is this shape — a call for proposals with merit-review scoring.)
- **RFP/RFQ** for operational buys and lab-support services.
- **SBIR/STTR solicitations** — the DOE's small-business R&D set-asides, run on a published cadence with energy-flavored topics.
- **The lab contracts** — the M&O competitions themselves, and the tens of thousands of subcontracts the labs issue.

Evaluation emphasis: merit review

The DOE's signature evaluation move is **merit review**: for research and R&D competitions, outside experts review proposals for *scientific and technical merit*, scored against published criteria, and the funding decision follows the review. This is the peer-review philosophy of the science world applied to solicitations (see the NIH profile for the fuller treatment of peer review).

The durable points for a pursuer:

1. **Technical excellence is the gate.** The review rewards the quality, significance, and feasibility of the proposed research — the science has to be credible and the approach sound.
2. **Relevance to the mission is the second gate.** The DOE funds research that serves *its* missions: clean energy, grid reliability, scientific discovery, nuclear security, environmental cleanup. A proposal that is excellent science but irrelevant to the funding program loses to a proposal that is both.
3. **The review is documented and score-based.** The criteria and weights are published in the FOA; mirror them in the proposal exactly as doctrine/02 teaches.
4. **Budget and cost are reviewed too** — for reasonableness and alignment with the work, the same “budget and work tell one story” rule from how-to-read-a-nofo.

SBIR/STTR emphasis

The DOE is one of the largest SBIR/STTR funders in the federal family (behind the DoD and NIH in dollar volume). Its program has a few durable features:

- **Energy topics.** DOE SBIR/STTR topics track the mission: energy efficiency, renewable energy, the grid, advanced manufacturing, nuclear science, environmental management, and national-security applications.
- **The award sizes are published** — Phase I typically in the low hundreds of thousands of dollars, Phase II on the order of a million — exactly the shape the worked exemplar walks through (\$250,000 Phase I, up to \$1,100,000 Phase II).
- **The commercialization requirement applies** (see the SBIR/STTR profile): DOE wants research that becomes technology in the marketplace and serves the energy mission.
- **The labs make it a two-sided market:** DOE topics often carry laboratory context, and the STTR research-institution slot is a natural fit for a national lab.

Vehicles and set-aside landscape

For operational and services work, the DOE uses the standard federal vehicles — IDIQs for lab and site support, GSA schedules and GWACs for shared needs (see the GSA profile) — and its procurement is heavily concentrated at the sites (the labs, the cleanup sites, the production facilities). The set-aside landscape is the standard one — small business, 8(a), HUBZone, SDVOSB/VOSB, WOSB — with the added nuance that *the labs themselves carry small-business subcontracting goals*, which is how many small firms first sell into the DOE system.

The environmental/energy mission context

Two mission currents shape almost everything the DOE buys and funds:

- **Energy.** The department is the federal home of the energy transition: grid modernization, storage, efficiency, and clean-energy technology. Energy topics dominate its R&D and much of its procurement — and the evaluation language returns constantly to energy outcomes.
- **Environmental.** The DOE also owns the largest environmental-cleanup obligation in the federal government, at its Cold War-era nuclear sites. Environmental management is a decades-long, highly specialized market — remediation, waste processing, safety — with its own contractors, its own sites, and its own steady stream of work.

A pursuer should read the mission current as the culture: **proposals and offerings that speak the DOE’s mission language — energy, science, security, cleanup — read as credible; proposals that treat the DOE as just another buyer do not.**

Learning pointers

Learning pointers. The DOE profile is the closest study the course offers of a research-funding agency that is also a major buyer. - **Doctrine** — doctrine/01 (assistance vs. contract; the DOE does both), doctrine/02 (the FOA/NOFO shape), doctrine/05 (published award sizes, budget alignment). - **Literacy** — how-to-read-a-nofo (the anatomy of the STTR NOFO), where-the-money-flows. - **Practice** — the worked exemplar is a DOE STTR Phase I; read it with this profile open and watch the merit-review criteria (Technical Merit 40%, Impact 25%, Team 20%, Budget 15%) drive the proposal structure. - **Case study** — Ravonics' physics-and-modeling bench, its 541715 R&D NAICS, and its INSTAR Lab STTR partnership are a natural fit for the DOE SBIR/STTR lane. - **Course** — the R&D-funding discussion belongs in the strategic-initiative track (modules/strategic-initiative.md); the capstone can be run on any DOE FOA. - **Verify** — DOE FOA schedules, topic lists, and lab-contract structures change; confirm the live FOA on the DOE site or Grants.gov and the SBIR/STTR status on SBIR.gov before committing.