

U. S. DEPARTMENT OF ENERGY, OFFICE OF SCIENCE
NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)
ENVIRONMENTAL EVALUATION NOTIFICATION

To be completed by "Applicant," i.e., organization with responsibilities for a "Federal action" involving application to DOE for a permit, license, exemption or allocation, or other similar actions. For assistance, refer to "Instructions for Preparing Environmental Evaluation Notification."

Solicitation/Award No. (if applicable): DE-FOA-0002809

Organization Name: Tokamak Energy Inc.

Proposed Action Title: ST-E1 Preliminary Design Review for a Fusion Pilot Plant

Total DOE Funding/Total Funding: \$3M / 18 months

I. Project Description: (Use explanation pages if additional space is required)

A. Proposed Project/Action (if applicable, delineate Federally funded/Non-Federally funded portions)

- The design will:
Approximate a Fusion Pilot Plant's scientific, technical, commercial, and economic requirements.
Achieve and sustain an adequate energy gain.
Develop the engineering solutions for fusion's extreme conditions inside the reactor.
Develop a sustainable fuel cycle involving tritium.
Realize the necessary technological advances to sustain gain, manage fusion conditions, and maintain the fuel cycle.
Deliver a preliminary-design review.
There will be some laboratory validation, but this is primarily a preliminary design project.

B. Would the project proceed without Federal funding? No, not at this pace. Yes [] No [X]
If "yes," use explanation page.

II. Description of Affected Environment: (Use explanation pages if additional space is required)

No environment will be affected, as this project's product is a design, only, not a facility or commodity in Bruceon Mills WV.

III. Preliminary Questions:

- | | | Yes | No |
|---|---|---|-------------------------------------|
| A. | Is the DOE-funded work routinely administrative or <i>entirely</i> advisory or a "paper study?" | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <i>(There will be some laboratory validation)</i> | |
| If "Yes", ensure that the description in Section I reflects this and go directly to Section V. | | | |
| B. | Is there any potential whatsoever for: (Provide an explanation for each "Yes" response) | | |
| 1. | Work to be performed outdoors? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. | Major modification of a building facade or interior? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. | Threat of violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. | Siting, construction or major expansion of waste treatment, storage, or disposal facilities? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. | Disturbance to hazardous substances, pollutants, or contaminants preexisting in the environment? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. | The presence of any environmentally-sensitive resources? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. | Any potential whatsoever for high consequence impacts to human health or the environment? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. | The work being connected to another existing/proposed activity that could potentially create a significant impact? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. | Nearby past, present, and/or reasonably foreseeable future actions such that collectively significant impacts could result? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. | Scientific or public controversy, uncertainty over potential impacts, or conflicts regarding resource usage? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

If "No" to ALL Section III.B. questions, go directly to Section V.

IV. Potential Environmental Effects: **(Provide an explanation for each "Yes" response)**

- A. Environmentally Sensitive Resources: Could the proposed action potentially result in changes and/or disturbances to any of the following resources?

- | | | Yes | No |
|-----|--|--------------------------|--------------------------|
| 1. | Threatened/Endangered Species and/or Critical Habitats | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | Other Protected Species (e.g., Burros, Migratory Birds, Pollinators) | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | Tundra, Coral Reefs, or Rain Forests | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | Cultural or Historic Resources | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | Important Farmland | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | Non-Attainment Areas for Ambient Air Quality Standards | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | Class I Air Quality Control Region | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | Special Sources of Groundwater (e.g., Sole Source Aquifer) | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | Navigable Air Space | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | Coastal Zones | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | Areas with Special National Designation (e.g. National Forests, Parks, Trails) | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. | Floodplains and/or Wetlands | <input type="checkbox"/> | <input type="checkbox"/> |

- B. Regulated Substances/Activities: Would the proposed action involve any of the following regulated items or activities?

- | | | | |
|-----|--|--------------------------|--------------------------|
| 13. | Natural Resource Damage Assessments | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. | Invasive Species or Exotic Organisms | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. | Noxious Weeds | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. | Clearing or Excavation greater than one acre or Removal of Trees Governed by Local Requirement | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. | Dredge or Fill (under Clean Water Act, Section 404, greater than one acre) | <input type="checkbox"/> | <input type="checkbox"/> |

B. Regulated Substances/Activities: Would the proposed action involve any of the following regulated items or activities? (continued)

	Yes	No
18. Noise (in excess of regulations)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19. Asbestos Removal	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20. Polychlorinated biphenyls (PCBs)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21. Import, Manufacture, or Processing of Toxic Substances	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22. Chemical Storage/Use Including Emerging Chemicals (e.g., PFAS)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23. Pesticide Use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24. Hazardous, Toxic, or Criteria Pollutant Air Emissions	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25. Liquid Effluents	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26. Spill Prevention/Surface Water Protection	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27. Underground Injection	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28. Hazardous Waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>
29. Underground Storage Tanks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
30. Radioactive or Radioactive Mixed Waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>
31. Radiation Exposure (radiation will be involved, but no exposure to it will be involved)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
32. Nanoscale Materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>
33. Genetically Engineered Microorganisms/Plants or Synthetic Biology	<input type="checkbox"/>	<input checked="" type="checkbox"/>
34. Ozone Depleting Substances	<input type="checkbox"/>	<input checked="" type="checkbox"/>
35. Greenhouse Gas Generation/Sustainability	<input type="checkbox"/>	<input checked="" type="checkbox"/>
36. Off-Road Vehicles	<input type="checkbox"/>	<input checked="" type="checkbox"/>
37. Biosafety Level 3-4 Laboratory	<input type="checkbox"/>	<input checked="" type="checkbox"/>
38. Research on Human Subjects or other Vertebrate Animals	<input type="checkbox"/>	<input checked="" type="checkbox"/>
39. Facility footprint exceeds 5,000 Square Feet	<input type="checkbox"/>	<input checked="" type="checkbox"/>

C. Other Relevant Information: Would the proposed action involve the following?

	Yes	No
40. Disproportionate Nearby Presence of Minority and/or Low Income Populations	<input type="checkbox"/>	<input checked="" type="checkbox"/>
41. Existing, Modified, or New Federal/State Permits	<input type="checkbox"/>	<input checked="" type="checkbox"/>
42. Involvement of Another Federal Agency (e.g. license/permit, funding, approval)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
43. Action in a State with NEPA-type law	<input type="checkbox"/>	<input checked="" type="checkbox"/>
44. Action Would Require Expansion of Public Utilities/Services	<input type="checkbox"/>	<input checked="" type="checkbox"/>
45. Depletion of a Non-Renewable Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>
46. Subject to an Existing Institutional Work Planning and Control Process	<input type="checkbox"/>	<input checked="" type="checkbox"/>
47. Other Pertinent Information Which Could Impact Human Health or the Environment	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. Applicant certification that to the best of their knowledge all information provided on this Notification is accurate:

Does this disclosure contain: classified, sensitive business, or other exempt information that DOE would not be obligated to disclose pursuant to the Freedom of Information Act. Yes No

A. Organization Official (Name and Title): Mark Koepke, Vice President for Research & Development

Signature: Mark Koepke Date: 14 August 2023

e-mail: mark.koepke@tokamakenergy.com Phone: 304 904 7144

B. Optional Secondary Approval (Name and Title): _____

Signature: _____ Date: _____

e-mail: _____ Phone: _____

Remainder to be completed by DOE

VI. DOE Concurrence/Recommendation/Determination:

A. DOE Project Director/Program Manager or Contract/Grant Management Specialist:

Has the Applicant completed this Notification correctly?

Yes

No

Does an existing generic categorical exclusion apply?

If yes, indicate: _____

Name and Title: Tanisha Smith, Grants Management Specialist

Signature: Tanisha Smith

Digitally signed by Tanisha Smith
Date: 2023.08.17 09:48:17 -05'00'

Date: _____

B. DOE NEPA Team Review (if requested):

Is the class of action identified in the DOE NEPA Regulations (Appendices A-D to Subpart D (10 CFR § 1021))?

Yes

No

If yes, specify the class(es) of action: A9, A11 and B3.6

Name and Title: Environmental Engineer

Signature: Jayashree Jayaraj

Digitally signed by Jayashree Jayaraj
Date: 2023.08.17 10:01:25 -05'00'

Date: _____

C. DOE Counsel (if requested):

Name and Title: _____

Signature: _____ Date: _____

D. DOE NEPA Compliance Officer:

The preceding pages are a record of documentation required under DOE Final NEPA Regulation, 10 CFR § 1021.410.

- Action may be categorically excluded from further NEPA review. I have determined that the proposed action meets the requirements for Categorical Exclusion referenced above.
- Action requires approval by Head of the Field Organization. Recommend preparation of an Environmental Assessment.
- Action requires approval by Head of the Field Organization or the SC Director of Field Operations. Recommend preparation of an Environmental Impact Statement.

Comments/limitations if any:

NEPA Compliance Officer:

Name: PETER SIEBACH

Digitally signed by PETER SIEBACH
Date: 2023.08.18 13:06:49 -05'00'

Signature: _____ Date: _____

Optional Additional Narrative: (add additional detail to description to Sections I and II or explanations to responses in Sections 3 and 4.