

U. S. DEPARTMENT OF ENERGY, OFFICE OF SCIENCE
INTEGRATED SUPPORT CENTER—CHICAGO OFFICE

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)
ENVIRONMENTAL EVALUATION NOTIFICATION FORM

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 with this Form, refer to "Instructions for Preparing ISC-CH F-560, Environmental Evaluation Notification Form."

Solicitation/Award No. (if applicable): _____

Organization Name: _____

Proposed Action Title: _____

Total DOE Funding/Total Funding: _____

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

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

B. Would the project proceed without Federal funding? Yes No
If "yes," use explanation page.

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

III. Preliminary Questions:

- | | Yes | No |
|---|--------------------------|--------------------------|
| A. <u>Is the DOE-funded work routinely administrative or <i>entirely</i> advisory or a “paper study?”</u> | <input type="checkbox"/> | <input type="checkbox"/> |

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 type="checkbox"/> |
| 2. Major modification of a building interior? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Threat of violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Siting, construction or major expansion of waste treatment, storage, or disposal facilities? | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Disturbance to hazardous substances, pollutants, or contaminants preexisting in the environment? | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. The presence of any environmentally-sensitive resources? | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Any potential whatsoever for high consequence impacts to human health or the environment? | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. The work being connected to another existing/proposed activity that could potentially create a significant impact? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Nearby past, present, and/or reasonably foreseeable future actions such that collectively significant impacts could result? | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Scientific or public controversy, uncertainty over potential impacts, or conflicts regarding resource usage? | <input type="checkbox"/> | <input 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. Sensitive Environments (e.g., Tundra/Coral Reefs/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 type="checkbox"/>
19. Asbestos Removal	<input type="checkbox"/>	<input type="checkbox"/>
20. Polychlorinated biphenyls (PCBs)	<input type="checkbox"/>	<input type="checkbox"/>
21. Import, Manufacture, or Processing of Toxic Substances	<input type="checkbox"/>	<input type="checkbox"/>
22. Chemical Storage/Use	<input type="checkbox"/>	<input type="checkbox"/>
23. Pesticide Use	<input type="checkbox"/>	<input type="checkbox"/>
24. Hazardous, Toxic, or Criteria Pollutant Air Emissions	<input type="checkbox"/>	<input type="checkbox"/>
25. Liquid Effluents	<input type="checkbox"/>	<input type="checkbox"/>
26. Spill Prevention/Surface Water Protection	<input type="checkbox"/>	<input type="checkbox"/>
27. Underground Injection	<input type="checkbox"/>	<input type="checkbox"/>
28. Hazardous Waste	<input type="checkbox"/>	<input type="checkbox"/>
29. Underground Storage Tanks	<input type="checkbox"/>	<input type="checkbox"/>
30. Radioactive or Radioactive Mixed Waste	<input type="checkbox"/>	<input type="checkbox"/>
31. Radiation Exposure	<input type="checkbox"/>	<input type="checkbox"/>
32. Nanoscale Materials	<input type="checkbox"/>	<input type="checkbox"/>
33. Genetically Engineered Microorganisms/Plants or Synthetic Biology	<input type="checkbox"/>	<input type="checkbox"/>
34. Ozone Depleting Substances	<input type="checkbox"/>	<input type="checkbox"/>
35. Greenhouse Gas Generation/Sustainability	<input type="checkbox"/>	<input type="checkbox"/>
36. Off-Road Vehicles	<input type="checkbox"/>	<input type="checkbox"/>
37. Biosafety Level 3-4 Laboratory	<input type="checkbox"/>	<input type="checkbox"/>
38. Research on Human Subjects or other Vertebrate Animals	<input type="checkbox"/>	<input type="checkbox"/>
39. Facility footprint exceeds 5,000 Square Feet	<input type="checkbox"/>	<input 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 type="checkbox"/>
41. Existing, Modified, or New Federal/State Permits	<input type="checkbox"/>	<input type="checkbox"/>
42. Involvement of Another Federal Agency (e.g. license/permit, funding, approval)	<input type="checkbox"/>	<input type="checkbox"/>
43. Action in a State with NEPA-type law	<input type="checkbox"/>	<input type="checkbox"/>
44. Expansion of Public Utilities/Services	<input type="checkbox"/>	<input type="checkbox"/>
45. Depletion of a Non-Renewable Resources	<input type="checkbox"/>	<input type="checkbox"/>
46. Subject to an Existing Institutional Work Planning and Control Process	<input type="checkbox"/>	<input type="checkbox"/>
47. Other Pertinent Information Which Could Impact Human Health or the Environment	<input type="checkbox"/>	<input type="checkbox"/>

V. Applicant certification that to the best of their knowledge all information provided on this form 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): _____

Signature: _____ Date: _____

e-mail: _____ Phone: _____

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:

	Yes	No
Has the Applicant completed this Form correctly?	<input type="checkbox"/>	<input type="checkbox"/>
Does an existing generic categorical exclusion apply?	<input type="checkbox"/>	<input type="checkbox"/>

If yes, indicate: _____

Name and Title: _____

Signature: _____ Date: _____

B. DOE NEPA Team Review (if requested):

	Yes	No
Is the class of action identified in the DOE NEPA Regulations (Appendices A-D to Subpart D (10 CFR § 1021))?	<input type="checkbox"/>	<input type="checkbox"/>

If yes, specify the class(es) of action: _____

Name and Title: _____

Signature: _____ 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 a Secretarial Officer. Recommend preparation of an Environmental Impact Statement.

Comments/limitations if any:

NEPA Compliance Officer:

Name: _____

Signature: _____ Date: _____

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

If requested we can develop the necessary of environmental compliance documents.

A. Analysis Period - Aug 15, 2021 - Aug 24, 2022 - Week 53-105

- a. Daily Measurements; Microclimate measurements, Photovoltaic power generation.
- b. Monthly Measurements; Water evaporation, Mineral content, algae growth, MS-2 survivability, micro-climate

B. UofA co-PI, Dr. Kelly Bright (WEST Center)

- a. ICP-MS analysis Inorganic water content testing
- b. Analysis for total organic carbon and nitrogen (UA ALEC lab) (108 samples)
- c. Sample filtration for samples sent to ALEC laboratory (216 samples)
- d. detecting MS-2 coliphage in water samples
- e. included E. coli as a general indicator organism for the microbial quality of the water and natural contamination from dust, animals, etc.

C. Monthly Measurements; Mineral content, algae growth, MS-2 survivability,

- i. Each of the canal's water levels will be noted prior and after these periods with evaporation during these periods subtracted from the final results. Each canal pond will undergo the exact same method of covering at the same times.
- ii. Bacteriophage MS-2 is a non-pathogenic virus that is commonly used as a safe substitute for testing E. Coli and Salmonella in an environment. UA co-PI Dr. Kelly Bright will sow the canal ponds with MS-2 and measure the survival rate in each pond (covered with PV and not covered) to see what effect the CSSP structures would have. Since MS-2 survives and dies in the same ways as E. Coli and Salmonella (common irrigation canal contaminates), this is the safest substitute that would not endanger the safety of any human or animal that might come in contact with the canal water. Dr. Kelly Bright and a trained research assistant will conduct this work.
- iii. Water samples will be brought to the WEST and ALEC labs at UofA for their respective testing.
- iv. Sample collecting is simple using a specialized water collection tool (Kemmerer Bottle, Alpha Type Bottle, Beta type Bottle) which allows safe and accurate sampling of a pool, canal, or other below-grade body of water.
- v. The site will be surrounded by a 6' high locked chain-linked fence. Additionally a 24" tall 1" chicken-wire mesh will be placed around the bottom of the fence to keep out small animals.
- vi. In addition to these precautions, two wildlife ladders (Expanded steel grate ramps that are grippy) will be placed into each pond should any animals get around the fencing and go for a swim. These are standard equipment for cattle and wildlife water troughs in rural areas.

