Blueprint Biosecurity

SEPTEMBER 2025

Request for Proposals

Glycol Vapors for Infection Suppression: Efficacy and Safety Research (GlycolISER)

Overview

Context

Our initial assessment is that glycol vapors could be affordable, effective, and rapidly deployed as an additional layer of defense during outbreaks of airborne-transmissible pathogens. Studies that build on the existing evidence base could help further evaluate the potential for glycol vapors to be used as a response intervention during future infectious disease emergencies. The aim of this Request for Proposals is to inform evidence-based guidance for incorporating glycol vapor air disinfection into comprehensive pandemic preparedness and response strategies.

Opportunity

We invite 1-4 page *Expressions of Interest* from groups interested in investigating the following areas:

1. Mechanisms of pathogen inactivation
2. Efficacy during emergency deployment
3. Interactions of glycol vapors with filtration media
4. Human safety, especially in potentially-sensitive persons or groups
5. Real-world field observation
6. Additional studies

We welcome submissions from all teams who are experts in microbiology or indoor air, no matter your level of prior experience with glycol vapors. We encourage you to submit an *Expression of Interest* if you believe you can deliver on the objectives of one or more of the areas above, even if you have no prior experience with glycol vapors. Please reach out to glycoliser@blueprintbiosecurity.org if you have questions about glycol vapors or study requirements; we are happy to help.

Anticipated awards

A single proposer may (but does not need to) submit a proposal addressing multiple technical areas, and we encourage multiple groups to form teams where appropriate. We have included expected proposal values for each technical area; these guidelines represent our best estimate for the maximum amount that a study answering the key questions might cost if run efficiently.

Depending on proposal quality, cost-effectiveness, and available funding, we may not make an award for every technical area, or we may make multiple awards in some technical areas and none in others. Potential awards range from $100k-$1.4m per technical area.

We particularly value speed of execution, and we have a preference for proposals that reasonably aim to achieve their stated deliverables within 12 months or sooner.

Important dates

Posting date: September 22, 2025.

Final deadline for *Expressions of Interest*: October 24, 2025 (11:59pm PT).

Expressions of Interest will be evaluated on a rolling basis. Selected groups will then be invited to submit a *Full Proposal* within 3 weeks after Notice of Recommendation.

Submission instructions

Please email submissions to glycoliser@blueprintbiosecurity.org.

Submissions are encouraged, but not required, to use the *Expression of Interest* template available for download HERE. The template can also be copied as a Google doc with this link.

Contact information

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Contents

Background

About glycol vapors

Vapors of triethylene, propylene, and dipropylene glycol (TEG, PG, and DPG respectively) have been demonstrated to inactivate airborne pathogens. Historical research dating back to the 1940s indicates that these compounds are likely safe and effective at reducing airborne pathogen concentrations. More recent studies have further supported their potential utility against respiratory pathogens, such as influenza viruses and coronaviruses (historical and recent studies are compiled in Duggan et al., 2024).

The antimicrobial mechanism of glycol vapors appears to involve condensation onto airborne particles containing pathogens, followed by pathogen inactivation via a range of possible potential pathways including dehydration, protein denaturation, and membrane disruption (e.g. as demonstrated by Styles et al., 2023).

Based on an assessment of existing evidence, we believe that glycol vapors have the potential to provide an **effective, safe, affordable, and rapidly-deployable capability** for reducing risk of indoor transmission of respiratory infections in future airborne pathogen outbreaks. Several characteristics make glycol vapors particularly attractive for potential emergency deployment:

- **Broad-spectrum efficacy**: Multiple glycol vapor studies have demonstrated efficacy against a diverse set of respiratory pathogens, including bacteria, enveloped viruses, and non-enveloped viruses as compiled in Duggan et al., 2024, suggesting possible efficacy against both known and novel respiratory pathogens.
- **Safety evidence**: Studies to date have indicated that glycol vapors at or near concentrations required for air disinfection do not pose severe inhalation hazards to healthy individuals (e.g. as compiled in EPA, 2003 and EPA, 2006), and future research should be informative and could provide additional confidence in these findings.
- **Affordability**: Liquid glycols and potential dispersion devices are available at low cost, so they could be accessible to a wide range of potential stakeholders in an emergency.
- **Rapid deployment capability**: Because glycols are already mass-produced and distributed in supply chains for a variety of food, beverage, and cosmetic products, liquid glycol formulations and repurposed dispersion devices could be deployed quickly in an emergency. Because glycol vapor technology does not require fundamental breakthroughs to be usable, it has the potential to be deployed in an emergency within the next few years.

For more detailed information on glycol vapors and our initial assessment of their potential use, see our overview here.

Opportunity information

While initial evidence on glycol vapors is promising, additional studies will help to further establish the evidence base for potential use in epidemics and pandemics in the coming years.

The goal of this Request for Proposals (RFP) is to commission a set of studies that can inform evidence-based guidance for incorporating glycol vapor air disinfection into comprehensive pandemic preparedness and response strategies, with particular emphasis on scenarios where rapid deployment of broad-spectrum transmission suppression technologies is critical for protecting public health and national security.

The studies in this RFP will generate data that address key questions that emergency response stakeholders may face when considering future deployment of glycol vapors in emergencies, such as those highlighted by the UK Department for Business, Energy, and Industrial Strategy in 2020. We have identified several areas where more information would help evaluate glycol vapors for an emergency use case, and we seek studies addressing these technical areas according to the details below.

We will compile the results of these studies into a clear, actionable report and workshop for government emergency preparedness and response stakeholders. The results of this research will inform stakeholders on:

- Whether, when, and how to deploy glycol vapors during airborne biological threat scenarios.
- What further investments might be warranted to investigate glycol vapors for more routine use in high-risk spaces (e.g. conducting randomized controlled trials on their effectiveness at reducing transmission of respiratory infections).

By building this knowledge and using it to inform stakeholders, including biodefense and public health preparedness and response communities and funders, **we aim to improve society's toolkit for preventing and responding to airborne biological threats**.

Technical Area 1: Mechanisms of pathogen inactivation

Context:

Research on glycol vapors to date demonstrates that glycol vapors condense onto airborne particles and can inactivate pathogens in those particles via several mechanisms (such as dehydration, protein denaturation, and membrane disruption). However, a more detailed understanding of these mechanisms of action would enable better predictive modeling of how glycol vapors could inactivate pathogens across diverse threat scenarios. This knowledge gap limits our ability to forecast glycol vapors' effectiveness against novel pathogens or optimize deployment strategies for specific environmental conditions.

This technical area seeks to generate more data on the biophysical or chemical mechanisms of action by which glycol vapors inactivate different types of pathogens, and the factors that may impact their efficacy. (For example, expanding on the work of Styles et al., 2023.)

Key questions:

- What are the relative contributions of each known inactivation mechanism (dehydration, protein denaturation, and membrane disruption) to the total efficacy?
    - How do these relative contributions vary with environmental conditions (e.g. humidity), composition of airborne particles (e.g. salt or organic/inorganic matter content), and pathogen characteristics (e.g. taxonomic group or size)?
- Are there indications of other inactivation mechanisms that have not yet been characterized?
- When below their ambient air saturation point, glycol vapors appear to work much less effectively on dustborne bacteria compared to those in moist respiratory droplets (as reported in papers like Hamburger, 1945). Why are glycol vapors less effective on pathogens in dustborne particles than on pathogens in moist particles?
- In dry environments, some respiratory droplets will dehydrate, and different types of pathogens may be located in different parts of the dried particle (e.g. on the particle surface, trapped inside a salt crystal, or inside the water layer surrounding a salt crystal–see Pan et al., 2025 for an example). Does a pathogen's typical location inside a droplet nucleus impact the efficacy of glycol vapors? If so, how much does this effect explain the variation in glycol vapor efficacy across room relative humidities?

Proposal requirements:

All proposals must:

- Directly address the questions above (ideal proposals will address all of the questions, although we are open to proposals that only address one).

- Study all three glycols of interest (propylene, dipropylene, and triethylene) and characterize any differences between their mechanisms of action.
- Include controls where appropriate to assess the effect of glycol vapors beyond “natural” decay.

We are open to multiple experimental setups, including (but not limited to) single-particle isolation experiments, in vitro studies, and small-chamber experiments.

Expected proposal value (for entire technical area): Up to $400,000 (USD)

Technical Area 2: Efficacy during emergency deployment

Context:

Glycols need to be in vapor form—not merely aerosol form—to have a significant air disinfection effect, and there are several possible methods for turning liquid glycol formulations into vapors. This technical area seeks to evaluate the real-world effectiveness of glycol vapor air disinfection systems using readily-available or improvised dispersion methods that could be deployed during emergency scenarios when purpose-built equipment isn't immediately widely available.

These improvised methods may include:

- Nebulization (e.g. by ultrasonic humidifiers or theatrical haze machines)
- Heat vaporization (e.g. in theatrical fog machines or with low-cost heat sources)
- Atomization (e.g. using commonly-available air compressors and nozzles, such as in paint sprayers or fragrance dispensers)
- Evaporation (e.g. from towels soaked in liquid glycols)

Each of these dispersion methods may produce variable vapor concentrations, particle size distributions, and chemical stability profiles, all of which could impact efficacy. This technical area aims to characterize the antimicrobial performance and chemical stability of glycol vapors using different emergency dispersion approaches, across different glycol types, and under varying environmental conditions, providing evidence that can be used to generate guidance for deployment in emergencies. TEG, PG, and DPG each appear to have a different efficacy profile across varying relative humidities and saturations, so we are especially interested to understand how these glycols could complement each other.

Key questions:

- How does glycol vapor efficacy vary with the following features?
    - Glycol type and formulation
    - Pathogen type
    - Concentration
    - Relative humidity
    - Dispersion method
- How much of the variation in efficacy is a result of varying glycol degradation rates?

Proposal requirements:

All proposals must:

- Gather data on the following test conditions:

    - **Formulation:** Individually study all three glycols of interest (propylene, dipropylene, and triethylene), separately or in combination.
    - **Test agents**: Test at least one bacterial agent and non-enveloped virus, both in simulated respiratory aerosols. We suggest endospore-forming bacteria (like *B. subtilis*) and a bacteriophage as surrogates for human respiratory pathogens, although we are open to other agents. We are open to these agents being aerosolized simultaneously.
    - **Concentrations and relative humidities:** Test at least three different glycol concentration points (below saturation, near saturation, above saturation) and at least five different relative humidity points.
    - **Dispersion methods:** Test at least one improvised or readily-available dispersion method from each of the four categories in the "context" section of this technical area. We are open to other emergency dispersion methods beyond those listed there, as long as there is a reasonable justification that they will be widely available in an emergency.
- Gather the following data points for each test condition:
    - The equilibrium pathogen concentration reduction achieved in a space with a constant rate of airborne pathogen introduction.
        - Because glycol vapors may cause multi-phasic pathogen decay, equivalent air changes per hour (which is based on single-term exponential decay) may not be an appropriate efficacy metric alone.
        - One possible method for studying equilibrium reductions is a continuous-flow chamber study (similar to the setup in Eadie et al., 2022), although we are also open to studies that propose validated methods for using point-release decay rates to estimate equilibrium reductions.
    - The rate and extent of degradation of dispersed glycol vapors into potentially-hazardous compounds (such as various aldehydes).
        - Liquid glycols are known to oxidize into carbonyl compounds, and different emergency dispersion methods may result in different rates of oxidation.
- Provide data on efficacy of each glycol (including at above-saturation concentrations) against ambient bacteria in typical indoor and outdoor air in at least three relative humidities.
    - This data does not need to be gathered for every emergency dispersion method.
- Offer a final report with:
    - Initial guidance on which emergency dispersion methods, using which glycols, are likely to be most effective at high or low relative humidities.
    - Potential guidance or protocols on how users could estimate or confirm the amount of dispersion to use.

While not required, we encourage proposers to:

- Test each glycol in multiple dilution ratios with water, as well as formulations that include a mixture of glycols.
- Understand *why* glycol vapor efficacy varies with dispersion method or environmental conditions, not just *how*.
    - For example, Hu et al., 2018 showed that different glycols display varying condensation behavior in response to humidity and Wells, 1955 showed similar variations in glycol efficacy in response to humidity.

Expected proposal value (for entire technical area): Up to $800,000 (USD)

Technical Area 3: Interactions of glycol vapors with filtration media

Context:

When used in an emergency, glycol vapors may be deployed alongside complementary infection control measures, such as personal protective equipment (PPE), portable air filters, and centralized heating, ventilation, and air conditioning (HVAC) systems.

There is evidence that particulate filter media may adsorb glycol vapors from the air, potentially compromising or modifying filter performance through increased pressure drop and reduced filtration efficiency (Sultan et al., 2024), and also potentially reducing the efficacy of glycol vapors.

This technical area seeks to quantify the impact of glycol vapors on the performance characteristics of particulate filtration media, to inform future guidance for co-deployment of glycol vapors with existing filtration technologies in emergency settings.

Key questions:

- Do glycol vapors in the air (when below/above saturation) increase the rate the filter pressure drop increases over time, for either electret or non-electret particulate filtration media?
    - If so, how much quicker would each type of filter media need to be replaced, when compared to similar filters used in air without glycol vapors?
- Do glycol vapors in the air (when below/above saturation) reduce the filtration efficacy of electret or non-electret particulate filtration media?
    - Will glycols adsorbed on electret filter media shield or degrade the electrostatic charge of the media?
- If changes in pressure drop or filtration efficiency occur, how does the rate of those changes differ across varying environmental conditions (e.g. humidities, environmental particle concentrations, or particle compositions) when compared to controls?

Proposal requirements:

All proposals must:

- Test at least two non-electret HEPA-level, two electret MERV-13-level, and two electret MERV-8-level filters, at least one charge-eliminated MERV-13 equivalent filter (MERV-A 13-A-level or ISO 16890-tested), and at least one each of an N95 and P100 respirator filter.
- Characterize the pressure drop and filtration efficiency of each filtration medium (using ASTM standard methods):

- Under at least three different humidity conditions (e.g. 30%, 50%, and 70%) at room temperature before glycol vapors are added to the room.
- Under at least three different humidity conditions and three saturation levels (below, near, and above saturation) for each of the three glycols of interest (propylene, dipropylene, and triethylene).
- Across multiple particle size buckets spanning, at minimum, 0.3-1 µm and 1-3 µm sizes.
- With multiple data points over an 8-hour or longer duration of continuous use.

Expected proposal value (for entire technical area): Up to $100,000 (USD)

Technical Area 4: Human safety, especially in potentially-sensitive persons or groups

Context:

Reviews of available human safety and toxicology evidence for PG, DPG, and/or TEG indicate that they are negligible or low-toxicity compounds for most adults when inhaled at the concentrations typically used for air disinfection, and there is additional safety evidence on inhalation exposure to these glycols from their use in entertainment settings (Raymond, 1997, Teschke et al, 2003, Magari and Wesley, 2017).

- Reviews of PG safety and toxicology: ATSDR, 1997, OECD SIDS, 2001, EPA, 2006, EPA, 2008, USDA, 2021
- Reviews of DPG safety and toxicology: OECD SIDS, 2001, NTP, 2004, EPA, 2006, EPA, 2020
- Reviews of TEG safety and toxicology: EPA, 2003, OECD, 2009, EPA, 2014

During a pandemic or high-consequence epidemic, decision-makers and key stakeholders will likely have little time to fully quantify the risk-benefit profile of glycol vapors. A stronger base of evidence will help them make informed decisions faster and with more confidence. Decisions about governmental approval and marketing of pharmaceuticals are often guided, in part, by rate forecasts of anticipated health effects at the population-level, and this technical area seeks to gather data that can support similar forecasts for glycol vapors if used in an emergency.

While several studies have examined glycol vapor exposure in healthy adults, there have not been many studies assessing the effects of glycol vapor exposure on persons or groups who could be predisposed to sensitivity or adverse events, such as people with asthma, chronic obstructive pulmonary disease (COPD), or dermal allergy to glycols. Studying the effects of glycol vapors in these potentially-sensitive groups will strengthen our understanding of the overall risk-benefit profile of glycol vapors. Studying sensitivities to glycol vapors will also eventually help create more nuanced instructions for their use, just as personal healthcare product guidelines are informed by ingredient sensitivities.

This technical area will produce data that helps improve forecasts of population-scale rates of health effects if glycol vapors are used in an emergency, and this data will help emergency responders make more informed decisions about when, where, and how to use glycol vapors in emergencies.

Key questions:

- During an emergency, when glycols are vaporized in the air using emergency dispersion methods to reduce the risk of airborne transmission over the course of a workday or

workweek, how likely are they to cause any health effects in particular persons or groups?
    - What persons or groups might be more likely to exhibit sensitivity to glycol vapors?
    - What would be the estimated population-level rates of occurrence of health effects?
    - How do these effects vary when the concentration of glycol vapors is below vs. above the saturation point in air?
- Does short-term exposure to glycol vapors cause consistent changes in any human biomarkers that may indicate health impacts from longer-term exposure (e.g. exposure for several hours a day over multiple consecutive weeks)?
    - What biomarkers, if any, are the best indicators of acute or chronic human health effects?

Proposal requirements:

All proposals must:

- Develop justified lists of:
    - Exposure conditions to study, including glycol vapor concentrations, dispersion methods to be used, and exposure durations. At minimum, the chosen exposure conditions should provide conservative safety data for the three glycols we are considering in this RFP (PG, DPG, and TEG) by including above-saturation concentrations of each glycol.
    - Variables to be controlled during exposure (e.g. relative humidity, temperature, and participant activity levels).
    - Human health data, including biomarkers, to be studied before, during, and after exposure. These data points should reflect 1) the most likely and 2) the most clinically significant anticipated health effects, based on available studies of glycol vapor exposures.
    - Persons or groups who could potentially be sensitive to glycol vapors, and should be included in this research.
- Specify protocols to assess the total amount and anticipated health effects of glycol vapor exposure that occurs via 1) direct inhalation, 2) ingestion of liquids and foods that glycol vapors have condensed on, and 3) contact with condensed glycols on surfaces.
- Explain how the data gathered could be used to forecast population-scale rates of adverse reactions if each glycol were to be used at below-, near- or slightly above-saturation concentrations for subchronic (~30-45 days) or chronic (>45 days) durations, such as during use in emergencies or respiratory virus seasons.

    - Explanations should state any remaining uncertainties when predicting health effects of acute, sub-chronic, or chronic exposure data.
    - Explanations should include an analysis of the minimum number of data points required to achieve sufficient statistical power, where appropriate.
- Include a plan for any experiments required before gathering data from individuals in potentially-sensitive persons or groups.
- Specify a plan for efficiently obtaining appropriate ethics reviews (e.g. application to university or commercial institutional review boards).

Expected proposal value (for entire technical area): Up to $800,000 (USD)

Technical Area 5: Real-world field observation

Context:

Multiple studies in the 1940s and 1950s monitored pathogen concentrations, the health and welfare of occupants of indoor spaces, and other environmental effects in occupied buildings where glycol vapors had been deployed (e.g. Mather and McClure, 1945, Loosli et al., 1947, Naval Medical Research Unit, 1952). Studies like these provide building operators, occupants, public health authorities, and other decision-makers with clear expectations for how introducing glycol vapors to a building will affect occupant experiences and building functionality while potentially reducing exposure to viable pathogens.

However, there has not been a similar study on real-world glycol vapor deployment published recently. Building designs and functionality have changed significantly since the mid-20th century: centralized air handling, energy-efficient building envelopes, modern textiles and appliances, and fire suppression infrastructure could all affect how glycol vapors will interact with a building and its occupants.

This technical area seeks one or more contemporary real world field observation studies to gather data on pathogen concentrations, occupant experiences, and other elements of building functionality in buildings where glycol vapors are regularly or continuously dispersed over the course of several weeks.

The data generated by this observational assessment will help decision-makers and other stakeholders better predict how glycol vapors will affect buildings and their occupants, if deployed in an emergency scenario. Having clear expectations will help emergency responders make quicker and more refined decisions on glycol vapor deployment during an emergency.

Key questions:

- When glycol vapors are deployed continuously in occupied indoor environments:
    - How does the concentration of glycol vapors vary over time, and can concentration variability be reduced with simple interventions?
    - How do glycol vapors interact with routinely used building systems (e.g. heating, ventilation, and cooling, or fire safety)?
    - How do glycol vapors interact with common appliances (e.g. refrigerators) or other durable equipment?
    - Do building occupants report or experience any nuisances or objectionable effects?
    - How do glycol vapors affect indoor air quality?
    - How much are airborne concentrations of multiple respiratory pathogens reduced?

    - How much are airborne concentrations of ambient outdoor-origin bacteria reduced?
- Which of the effects above are relevant only to particular buildings and environments, and which are likely to occur in most buildings where glycol vapors might be deployed in an emergency?
- Are there any simple interventions that can improve how well glycol vapors interact with buildings or building occupants, or how well they reduce viable pathogen concentrations?

Proposal requirements:

All proposals must:

- Identify one or more appropriate settings where glycol vapors can be deployed using an emergency dispersion method (see Technical Area 2) without significantly interrupting normal building use, or are already deployed frequently during normal use of the building (e.g. certain entertainment venues.)
- Define appropriate control groups or settings with similar building functionality and occupant activity, but where glycol vapors are not deployed.
- Identify initial and final features to observe in an initial building survey or audit (e.g. floor area, total volume, surface area and material composition, air exchange rate with ventilation on and off, etc.).
- Specify:
    - Protocols for tracking the amount of glycol vapors dispersed over time, as well as the glycol vapor concentration in air.
    - Protocols for regularly measuring airborne and surface concentrations of multiple airborne agents, including respiratory viruses and ambient outdoor-origin bacteria. (Tracking concentrations of at least 10 common agents is ideal.)
    - Protocols for measuring condensation of glycol vapors on common surfaces.
    - Methodology for identifying locations to place glycol vapor dispersion devices.
    - Building and appliance features to regularly visually monitor (e.g. condensation on windows, refrigerators, or air conditioning units) and check functionality of.
    - Occupant activities to track (e.g. use of natural gas-burning appliances, opening of windows, use of exhaust fans or hoods, use of cleaning sprays, maintenance) and protocols for tracking them.
    - Indoor and outdoor environmental variables to measure (e.g. volatile organic compound concentrations, particulate matter concentrations, relative humidity, carbon dioxide concentrations, and temperature), and the level of spatial resolution to achieve.

    - Key questions for regular surveys of building occupants on nuisances (e.g. odors or slippery surfaces), health experiences, and overall satisfaction.
    - Any regular physiological or biomarker measurements of building occupants, and timelines for when they would be taken.
    - Protocols for researchers or building occupants to propose and adopt interventions that mitigate any undesired effects of glycol vapors or enhance their efficacy at reducing indoor pathogen concentrations (while the study is ongoing).
- Include a plan for efficiently obtaining appropriate ethics reviews (e.g. application to university or commercial institutional review boards) and ongoing consent of building occupants.

Expected proposal value (for entire technical area): Up to $1,400,000 (USD)

Technical Area 6: Additional studies

We welcome innovative research proposals that advance our understanding of whether, when, and how to use glycol vapors for air disinfection in future emergencies, but may not fit within the specific parameters of the other technical areas.

Our overarching goal is to **evaluate the feasibility, human safety profile, and value of using glycol vapors for air disinfection in future emergencies**, and we recognize that important research questions may emerge that require novel approaches or address critical knowledge gaps not covered in the structured technical areas above or highlighted by others. *Expressions of Interest* for studies in this category must provide strong justification for how the proposed research advances practical implementation of glycol vapor air disinfection strategies. We are particularly interested in studies that address operational challenges, build technical understanding of the field, or introduce novel use cases for glycol vapors that could enhance emergency response capabilities.

Expected proposal value (for entire technical area): Up to $400,000 (USD)

Award information

Proposers may elect to contract subcomponents of their proposed work to other groups.

We reserve the right to:

- Select for negotiation all, some, one, or none of the proposals received in response to this RFP;
- Conduct discussions with proposers if it is later determined to be necessary;
- Select for award entire proposals, or only specific portions;
- Fund awards in increments or by milestone achievements
    - There may be options for continued work and additional funding following completion of the proposed work;
- Request additional documentation once the award instrument has been determined (e.g., representations and certifications); and
- Stop considering a proposal for award if: all parties involved fail to reach agreement on terms (award, technical, milestones, etc.) within a reasonable time; the proposer fails to provide requested additional information; or the application is deemed noncompliant with the requirements of the RFP at any time.

Proposals identified for negotiation may result in a milestone-based contract, depending on the nature of the work proposed, the required degree of interaction between parties, and other factors.

Awardees are responsible for ensuring that research is conducted in compliance with rules set forth by relevant institutional, local, and national research regulatory bodies such as Institutional Review Boards (IRBs) and/or Institutional Ethics Committees (IECs). Awardees shall be solely responsible for ensuring that any goods, services, or deliverables provided under this award do not infringe upon any existing patents, trademarks, or other intellectual property rights.

We retain sole discretion to select awards and to negotiate all terms and conditions with selectees.

Deliverables

We will negotiate project deliverables with individual awardees. We anticipate that, at a minimum, selected awardees will provide the following:

1. Monthly technical reports, describing progress made on the specific milestones as well as anticipated future progress, any problem areas, and plans to overcome these.

2. Accompanying virtual meetings to describe and discuss the technical progress.

3. A report submitted within 60 days of defined project phases, summarizing the findings.

Proposed project timelines should be no longer than 24 months from contract award.

We encourage awardees to publish their findings (particularly in open-access outlets), but we do not require publication or seek to constrain the scope of work based on publication requirements.

If your proposal includes any proprietary components, please clearly identify what they are, why they need protection, and whether there is a way for us to share the information with others where we feel it may advance the scientific field.

Administrative overhead policy

We maintain the following policy that limits indirect costs ("overhead") for any grant it makes or recommends:

> When making or recommending grants to universities and community colleges, we restrict indirect costs to no more than 10% of direct costs.

Direct costs are defined as expenses that support and advance the project's specific goals; indirect costs are defined as general administrative and operational expenses that are not specifically identified with the funded project.

Eligibility requirements

Eligible applicants

Submissions are welcome from all responsible sources, inside and outside the United States, capable of satisfying the requested work in this Request for Proposals.

To avoid conflicts of interest, any individual who contributed substantive written or editorial input to drafts of this Request for Proposals within thirty (30) days prior to its public release is ineligible to serve as a principal investigator on a proposal.

Awards to for-profit entities may be limited or restricted, consistent with applicable laws, regulations, and guidance governing private benefit and inurement. We reserve the right to decline awards to for-profit organizations where such awards would be inconsistent with these requirements.

We will be unable to provide awards to any entities subject to United States sanctions.

Conflicts of interest

Proposers are required to disclose all potential, real, or perceived organizational conflicts of interest, which may include but are not limited to:

1. Current or historical funding received from organizations involved in the manufacture or sale of glycol products or dispersion devices
2. Any relationships between proposers' team members and organizations involved in the manufacture or sale of glycol products or dispersion devices that are not at arm’s length
3. Any direct or indirect financial interest in organizations involved in the manufacture or sale of glycol products or dispersion devices
4. Any familial, financial, or business connections between proposers and members of the Blueprint Biosecurity team that are not at arm’s length

Guidelines for submission

Stage 1: *Expression of Interest*

We require proposers to submit an *Expression of Interest* with a summary of proposed work as the first stage of their application. **All submissions should be emailed to glycoliser@blueprintbiosecurity.org.**

- This document should be **under 4 single-spaced pages**. Proposers may opt to provide links or supplemental papers for consideration as part of the evaluation, though these may not be reviewed in their entirety.
- References/bibliography and supplemental papers do not contribute to the page limit.
- Please submit as a PDF or Word document, in English. Use the template if helpful. We care more about the clarity of your plan than perfect formatting or polish.
- We request that proposals do not include brochures or marketing materials; please provide only information relevant to the submission requirements or evaluation criteria.

Please include the following information in your *Expression of Interest*:

1. Names and affiliations of key personnel.
2. The technical area you are proposing to study (can be multiple).
3. A brief 2-4 sentence summary of your previous experience conducting research similar to the technical areas you propose to study.
4. A brief initial description (can be bullet points) of your intended study design, timeline, and deliverables, including multiple study stages and components as appropriate.
5. Requested budget, with a rough approximation of materials, personnel, and overhead costs, as well as other expenses. We encourage proposals to include budgets for conference travel, presentations, and open access publications, where appropriate.
6. Other funding sources you aim to pursue concurrently for this work, including co-funding options or funding sources that you would pursue if you are not selected under this RFP.

We understand that each of the points above may change in the process of developing a *Full Proposal*, including the requested budget. We have listed expected proposal values that represent our best guesses for the maximum amount each study could cost if run efficiently, although we plan to adjust the total funding pool to match the quality of proposals once we see all *Expressions of Interest*. We will consider proposals that exceed the cost guidance for each technical area; such requests will require additional justification and evaluation.

We encourage creative (but rigorous) ways to accomplish the study objectives. **We have a preference for proposals that reasonably aim to achieve their stated deliverables within 12 months or sooner.**

Stage 2: Full Proposal

Select proposers will be invited to submit a *Full Proposal* after we review their *Expression of Interest*. A *Full Proposal* will consist of a technical section and a cost section. We will provide templates and further guidance to selected proposers after reviewing their *Expression of Interest*.

Application review

Evaluation criteria

All proposals will be evaluated based on the following criteria:

1. **Scientific and technical quality of proposed studies**

Proposals will be evaluated for achievability, reasonableness, and completion. Proposals should include a logical plan with timelines, deliverables, and a clear connection to the goals of this RFP. We will also assess whether the proposed schedule is realistic and whether technical risks are identified with feasible mitigation strategies.

2. **Proposer's demonstrated capability and/or related experience**

Proposals will be evaluated for the technical team's experience and expertise relevant to the proposed work. Strong proposals will show a track record of delivering similar projects on time and within budget. Please include any related current or past efforts, with details such as the funder, timeline, summary of progress or results, and award value, to help us assess capability.

3. **Cost-effectiveness**

Each proposal will be subject to cost analysis to ensure effective, reasonable, and realistic proposed costs for technical work and equipment, labor, and other associated program costs. By 'cost effectiveness', we mean the ability to extract the most useful information for this RFP per dollar spent. By 'cost realism' we mean the necessity of each expense to address the program objectives. By 'cost reasonableness', we mean the justification of the monetary value of those expenses. For example, 'cost realism' would address whether a specific piece of equipment is required for the project, and 'cost reasonableness' would address whether the budgeted cost of that equipment is reasonable.

4. **Speed of execution**

Proposals will be evaluated for the speed at which the work is initiated and completed, while not sacrificing scientific integrity. Proposers should identify how their approach will preserve scientific integrity while accelerating the experimental timeline.

Proposal evaluation process

It is the policy of Blueprint Biosecurity to ensure impartial, equitable, comprehensive evaluations of Proposer Submissions. The review team will consist of two team members from Blueprint Biosecurity, as well as a small number of outside contractors/consultants/experts. Review team members will individually evaluate and comment on the proposals. A subsequent discussion will weigh the merits of each proposal to inform funding decisions. Final funding decisions will be made by Blueprint Biosecurity team members. We will identify and execute a mitigation plan for identified conflicts of interest between review team members and any proposals. Our Chief Operating Officer, who will not be part of the review team, will manage this process, and adjudicate conflicts.

Handling of proposal submissions and proprietary information

Blueprint Biosecurity treats all submissions as protected information and will only share them with personnel involved in evaluation. This may include support contractors who assist with administrative or technical review. All contractors performing this role are prohibited from conducting Blueprint-sponsored research and are bound by nondisclosure agreements. Input on technical aspects may also be solicited from external experts under the same confidentiality obligations.

Blueprint Biosecurity will retain an electronic copy of each proposal; all other copies will be destroyed. Submissions will not be returned.

To the extent possible, please submit non-proprietary information. If proprietary or confidential information must be included, it must be clearly marked as “Proprietary,” and you must have the authority to disclose it. Such information will be shared only with authorized personnel bound by nondisclosure agreements and used solely for evaluation.

Please note that Blueprint Biosecurity may already possess, or may separately obtain, information similar or identical to your proprietary submission. In such cases, we reserve the right to use that information according to the applicable rights from those sources.

Award administration information

Selection notices

1. Types and delivery of notices

The following notices will be provided as applicable:

- Notice of Disinclination (for proceeding from *Expression of Interest* to *Full Proposal*)
- Notice of Recommendation (for proceeding from *Expression of Interest* to *Full Proposal*)
- Notice of Non-Selection (for proceeding from *Full Proposal* to negotiation of an Award)
- Notice of Selection (for proceeding from *Full Proposal* to negotiation of an Award)

All notices will be sent by email to the contact information identified in the *Expression of Interest* submission.

2. Expressions of Interest

Blueprint Biosecurity will respond to *Expressions of Interest* with either a Notice of Recommendation or a Notice of Disinclination, along with a brief description containing feedback. All proposers may still submit a *Full Proposal*, regardless of Blueprint Biosecurity's response to the provided *Expression of Interest*. All conforming *Full Proposals* will be reviewed according to the evaluation criteria listed in the "Application Review" section; these reviews will be independent of the abstract reviews, though consideration may be given to the proposers' responses to feedback provided.

3. Full Proposals

After *Full Proposal* evaluations are complete, proposers will be notified as to whether their proposal was selected for award negotiation. For proposals that receive a Notice of Selection, the funding negotiation could be for the proposal in whole or in part. If a proposal has been selected for award negotiation, Blueprint Biosecurity will initiate those negotiations following the notification.

Other information

Frequently Asked Questions (FAQs)

Please email all administrative, technical, and contractual questions to glycoliser@blueprintbiosecurity.org. Questions about this program that are not sent to this email may not be replied to. All questions must be in English, and must include the name, email address, and telephone number of a point of contact.

Where Blueprint Biosecurity deems it to be helpful for all interested parties to the RFP, answers to questions (paraphrased where necessary to protect proposer information) may be posted in a public FAQ on Blueprint Biosecurity's website.