White Paper Template for N65236‐20‐Q‐S001 COMMERCIAL SOLUTIONS OPENING (CSO)

NAVAL INTEGRATION IN CONTESTED ENVIRONMENTS (NICE) ADVANCED NAVAL TECHNICAL EXERCISE (ANTX)

White Paper Formatting and Other Notes:

All pages of the white paper shall be formatted for printing on 8‐1/2 by 11‐inch paper with 1‐inch margins, single line spacing, and a font size not smaller than 12 point. Font sizes of 8 or 10 point may be used for figures, tables, and charts. White papers shall be submitted in MS Word document format (.doc or .docx) and limited to 10 pages maximum. White paper and quad charts should be submitted with the same file name format. Submissions must be written in English. All acronyms must be spelled out on first use. Supplemental artifacts, such as technology readiness assessments, design reports, test reports, or other documentation is not included in the 10-page maximum page limit.

If you find your proposal space limited, please consider orienting more towards the technical components and the operational concept value vice past work.

Submission Dates and Times:

White papers and quad chart submissions shall be submitted to nice.antx21.fct@navy.mil no later than 5:00PM Eastern Time on 01 July 2020 for unclassified submissions. For classified submissions, white papers and quad chart submissions shall be submitted per instructions in Section A and received by no later than 5:00PM Eastern Time on 01 July 2020. Submissions received after that date will not be considered and no exceptions will be granted.

White papers shall include the following sections:

**(1) Operational Relevance.** Describe how the proposed technology/engineering innovation addresses specific warfighting capability area(s), or elements and/or combinations of capability area(s), provided in the classified addendum.

**(2) Cost.** Provide an estimated cost to mature the proposed technology/engineering innovation to low rate production levels as well as a not‐to‐exceed estimate of a low rate initial production (LRIP) cost for the technology/engineering innovation. For purposes of estimation, LRIP quantities shall range from four to six fieldable prototype units. In addition, provide a not to exceed estimate of a LRIP cost for the technology/engineering innovation unless such a range is justifiably prohibitive (e.g. four to six units is too low/too high of a scale to be economically viable). These estimates are not contractually binding, but could be used as evaluation criteria to determine suitability for further experimentation.

**(3) System/Sub‐Systems Architecture.** Describe the systems, interfaces, and the data architecture of the technology/engineering innovation being submitted. Include diagrams, architectural views, or other graphical representations to describe the major systems/sub‐systems and interfaces. Submissions are not required to provide end‐to‐end solutions, but should identify external interfaces that will ultimately be required for the technology/engineering innovation to function in the intended operational environment. If submitters have Systems Modeling Language (SysML) or Unified Modeling Language (UML) models for their system, they are encouraged to provide these as part of their submission. Proposers must clearly identify the current Intellectual Property rights (open‐ competitive or closed‐proprietary) that apply to each of the major systems/sub‐systems and interfaces.

**(4) Critical Technical Parameters.** Describe the critical technical parameters that characterize the specific contribution of the proposed technology/engineering innovation. In tabular format, quantify the performance that has been demonstrated and describe the environment or conditions it has been tested under. If test data in a contested amphibious operational environment is not available, estimate the technical performance that may be immediately achievable. Include supplemental artifacts such as specification sheets, data sheets, test reports or other documentation that supports performance estimates.

**(5) Employment and Objectives**. Describe the employment plan and objectives for demonstration. Describe all phases in detail (pre‐deployment, deployment, operation, recovery, post‐recovery). Describe required network connections, sensor inputs, and data sets. Identify any and all support, handling, or special gear that the submitter will bring to conduct the experiment. Estimate how many persons are required on‐site to conduct the experiment. Identify needed support requirements (e.g., power, network, vehicle platforms, personnel, space, equipment, or others). Provide a pictorial representation of the experiment with network connectivity diagrams.

**(6) Dependencies and Special Considerations.** The Government will provide technical and operational assessment personnel, basic access to approved training areas and ranges to conduct experiments, basic venue infrastructure including frequency allocation services, intra‐network connectivity, and shore power. Identify any and all other Government Furnished Information (GFI) (e.g., interface specifications, launch and recovery procedures, topside surveys, etc.) and/or equipment required to support the submission (e.g., specific unmanned system deployment from host platform, weapon or target deployment from an MV‐22 Osprey, communication link to MH‐60, iridium‐enabled Gateway Buoy, GPS, GSM, Secret or higher facility clearance/storage capabilities). Identify any significant certifications required prior to conducting a planned experiment (e.g., Weapons Safety Review Board, Laser Safety Review Board, Li‐ion Battery Certification, etc.). For each specific dependency or consideration, identify at least one feasible alternative (e.g., virtual or constructive event, test rigs, simulations, static displays) that would mitigate, for example, the uncertainty risk of operational asset availability(ies)). Following selection, the Government will provide submitters with a summary of range and support equipment that will be allocated to the specific submission. If the submitter’s requirement for range support exceeds what has been allocated, the submitter may acquire additional resources at no cost to the Government. The Government will work in good faith to identify requested resources and/or propose alternatives that meet the submitters’ budgets. An extreme case might be that a required Government asset is not available, and the costs to acquire a surrogate test asset are not affordable. The Government may then recommend the submitter participate in the ANTX as a standalone, virtual, or constructive demonstration.

**(7) Technology and Integration Readiness Levels**. Assess the current Technology Readiness Level (TRL) of the major systems/sub‐systems described in Section 3. Assess the current Integration Readiness Level (IRL) of the critical interfaces also described in Section 3. For each estimate, describe whether the estimate is based on test data from a developmental (lab‐, simulation‐based) or operational (test range or other with operational users). If applicable, project the TRL and/or IRL achievable upon completion of the Phase 1. Include supplemental artifacts, such as technology readiness assessments, design reports, test reports, or other documentation that supports technical and interface maturity estimates. TRL and IRL definitions are provided in Appendix B.

**(8) Team**. Submitters are encouraged to team amongst industry, academia, and Government partners. Provide a brief description of the subject matter expertise that each member of the team provides and a brief description of the participating organizations.

**(9) Triage Questions**. Please provide short answers to the following questions. These questions will help identify what ranges, platforms and approvals we need to gather in order for your demonstration to be successful. Save for the last question, typical answers will be just yes or no.

* Does your technology require a tactical vehicle/vessel in order to perform your demonstration?
* Does your technology emit lasers?
	+ Does your technology have LSRB approval?
* Does your technology use batteries?
* Does your technology have any RF emissions?
* Is an Interim Flight Clearance (IFC) required?
* Does your technology require a wired or wireless network?
* Does your technology require a denied environment for your demonstration (i.e. do you want to be jammed?)
* Does your technology perform offensive jamming?
* List any government equipment your technology needs to facilitate your demonstration (i.e. radios, tactical vehicles, buoys, etc.)