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To: Patrick Finley, The Definity Project and Logan Herrera

From: Maher Shomali, Thomsen and Burke LLP

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RE: **CPLC US Export Control Compliance Review and Guidance**

We understand that your organization has created the Collegiate Propulsive Lander Challenge (CPLC), which is described on your website as a collection of 5 key milestone awards designed to drive high-performing collegiate rocketry teams to demonstrate self-landing rockets. The teams consist of US students and foreign students from accredited U.S. and international institutions of higher learning who will compete in the design, build, and test of rocket-powered self-landing vehicles with liquid or hybrid engines.

At your request, we have prepared a set of Frequently Asked Questions (FAQs) designed to promote awareness and compliance with the export control regulations related to the CPLC, specifically the International Traffic and Arms Regulations (ITAR) (22 CFR parts 120-130) administered by the US Department of State's Directorate of Defense Trade Controls (DDTC) and the Export Administration Regulations (EAR) (15 CFR parts 730-774) administered by the US Department of Commerce's Bureau of Industry and Security (BIS). This memo does not comment on the export control or other laws of foreign countries. International institutions will thus need to seek separate guidance on the rules of their home countries that may be applicable to their participation.

What are the ITAR and the EAR, and why are they relevant to the CPLC rocketry teams?

The ITAR control the export and import of defense articles, including related technical data and software, and defense services designated on the ITAR's United States Munitions List (USML). One of the categories of defense articles identified on the USML is Category IV, which identifies the rockets, missiles, and related items subject to the ITAR. The EAR control all components, and related technology and software, for rockets that are not identified on the USML.

The following are definitions of key ITAR terms referred to in these FAQs:

- *Defense article* means any item or technical data designated on the USML, and includes technical data recorded or stored in any physical form, models, mockups or other items that reveal technical data directly relating to USML items. The term *technical data* includes software.

- *Defense service* means the furnishing of assistance (including training) to foreign persons, whether in the United States or abroad in the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarization, destruction, processing, or use of defense articles; or the furnishing to foreign persons of any technical data controlled under the USML, whether in the United States or abroad.

- The term *export* includes releasing technical data to foreign persons in the United States. Such exports are referred to as *deemed exports*. The term *export* also includes performing a defense service on behalf of, or for the benefit of, a foreign person, whether in the United States or abroad.

- *Technical data* includes information, which is required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance, or modification of defense articles. This includes information in the form of blueprints, drawings, photographs, plans, instructions, or documentation.

In general, US persons, including US universities, are required to obtain approval from DDTC before providing defense services or exporting, reexporting, retransfering, or importing temporarily a defense article, which includes technical data.

The ITAR's definition of "technical data," however, does not include information that is published and generally accessible or available to the public through fundamental research in science and engineering at accredited institutions of higher learning in the U.S. where the resulting information is ordinarily published and shared broadly in the scientific community. This part of the definition is often informally referred to as the "fundamental research exclusion" or "fundamental research carve-out."

Based on the facts provided, we believe that the information CPLC participants will create and publish in the public domain would be within the scope of the fundamental research carve-outs in the ITAR's definition of technical data and the EAR's definition of technology. Small changes in facts, however, can result in different conclusions. We encourage participants to ask questions of us and their trade counsel about the potential applicability of the ITAR or the EAR to any particular export or other release to foreign persons of technical data related to a rocket or its components.

Applicable Facts

- CPLC is administered by The Definity Project, a nonprofit incorporated in the US
- Participants are student-led teams at universities in the US and foreign countries
- Teams in all locations are composed of students with US and foreign citizenship
- Definity expects completing the milestones will require participants to design, build, test, and launch components and systems subject to at least one control under USML Category IV
- Teams are required by challenge rules to publish the results of their efforts on the public internet and attempt publication in scientific journals (plus any other medium they desire) and do so at a maximum interval of once per 3 months
- Definity desires to promote technical and operational cooperation among all teams

Does this mean we need a license or other authorization from DDTC to complete the CPLC milestones?

The ITAR does not impose licensing requirements on the release or other export of information that the CPLC participants publish and make available to the public as fundamental research. Information is excluded from the ITAR's definition of technical data when it is published through fundamental research at accredited institutions of higher learning in the US where the resulting information is ordinarily published and shared broadly in the scientific community. Fundamental research is defined to mean basic and applied research in science and engineering where the resulting information is ordinarily published

and shared broadly within the scientific community, as distinguished from research the results of which are restricted for proprietary reasons or specific US Government access and dissemination controls.

University or other research is not fundamental research if the university or its researchers accept other restrictions, such as non-disclosure agreements, on publication of scientific and technical information resulting from the project or activity.

Does the CPLC place any restrictions on the rocketry teams publishing the information resulting from their activities?

Absolutely not! In fact, to provide an abundance of evidence that teams ordinarily publish their results, and that those results are fundamental research, the CPLC requires all teams to publish at a regular cadence. The cadence is at least once per three months. Content that can be published for this purpose includes design documents, methodology, analysis, specifications, layout, simulation, software, CAD files, data, photos, videos, test results, procedures, manufacturing details, and more. Publication methods include posting to the public internet and submissions to academic research journals. All publications must benefit the greater scientific and engineering communities.

Do the ITAR require rocketry teams to get permission from DDTC before publishing their fundamental research?

No. In general, the ITAR require one to get permission from the US government before publishing technical data. (120.34(a)(7)). The ITAR, however, do not impose the same requirement on the publication of fundamental research. (120.34(a)(8)).

Should the rocketry teams have any concerns over ITAR compliance?

While the intent of the CPLC is for teams to broadly share the results of their fundamental research, and thus insure that the ITAR would not apply to what the teams release, there are still activities that may be subject to licensing requirements. Here are some examples:

- As defined above, fundamental research includes information that is ordinarily published and shared broadly in the scientific community. It does not include proprietary technical data related to defense articles. The fundamental research carve-out also does not apply to the inputs, i.e., the technical data used to create fundamental research. Therefore, to prevent the introduction of ITAR-controlled technical data or proprietary technical data into CPLC activities, CPLC prohibits teams from purchasing or using existing unpublished technical data or proprietary defense articles. Thus, the CPLC requires all the information that the rocketry teams rely upon to clearly be information already in the public domain, such as general engineering principles, published patents, textbooks, and other information available in libraries.

- Fundamental research is excluded from the definition of technical data because it is *information* resulting from fundamental research that is ordinarily published and shared broadly in the scientific community. The ITAR's definition of defense services, however, does not include an exclusion for the provision of defense services to foreign persons, in the US or abroad, regarding, for example, the development of defense articles, such as rockets and related items, even in the context of fundamental research. We realize this is a fine distinction – the fundamental research carve-out applies to *information* while the defense services controls apply to the *assistance* provided by US persons. Based on our understanding of State Department guidance, however,

rocketry teams may freely collaborate on their fundamental research activities with foreign students on US teams in the United States. Until we get further guidance from DDTC on its policies regarding defense services in the context of fundamental research activities, the rocketry teams are, however, not authorized to provide defense services to the international rocketry teams, whether in the US or abroad. Defense services include the furnishing of assistance and training to the international teams in the development or production of a rocket and certain components.

- The CPLC rockets are defense articles under Category IV of the USML. Some of their components will also be within the scope of Category IV. (The remaining components will be subject to the EAR's controls on rocket components and related technology.) Therefore, the rocketry teams are not authorized to export without any required US Government licenses their rocket and certain components outside of the US or import any defense articles from the international rocketry teams.

Can CPLC teams collaborate with each other in pursuit of the challenge?

Yes. In fact, as above, CPLC requires teams to collaborate. The fundamental research carve-out allows teams to freely share their fundamental research results, both between US institutions, including US institutions with foreign students, and between US and international institutions.

Will the Definity Project seek any additional guidance from DDTC related to the CPLC?

Yes. We understand that the restrictions on defense services related to the international rocketry teams may limit the collaboration with the international rocketry teams during the later stages of the CPLC. As noted above, we are aware of a favorable advisory opinion that suggests the DDTC's position is that the provision of defense services to foreign students in the US through fundamental research activities does not require a license. To ensure that our understanding is correct, we will support the Definity Project's efforts to obtain similar opinions from DDTC and will update the guidance to the CPLC rocketry teams accordingly.

Do the EAR impose additional restrictions on the release by CPLC rocketry teams of fundamental research to foreign persons in the US or abroad?

No. The EAR have jurisdiction over technology and software related to rockets and rocket components that are not subject to the ITAR. The EAR, however, include a fundamental research exclusion similar to the ITAR's fundamental research exclusion. Under the EAR, fundamental research means research in science, engineering, or mathematics, the results of which ordinarily are published and shared broadly within the research community, and for which the researchers have not accepted restrictions for proprietary or national security reasons. The EAR's fundamental research exclusion is broader in scope than the ITAR's fundamental research exclusion. Therefore, since the ITAR exclusion applies to the CPLC's research activities at issue in this memo, any information that would otherwise be subject to the EAR would also be excluded from EAR licensing requirements.

Are there any caveats to these FAQs?

DDTC has complete discretion over the interpretation of the ITAR. Thus, we cannot guarantee that it would come to the same conclusions as we or anyone else would on any topic involving the ITAR. As noted above we will be seeking formal confirmation in the form of an advisory opinion from DDTC of our understanding of its position that the provision of defense services in the context of fundamental

research does not require a separate authorization. Also, as a general matter, neither The Definity Project Inc., nor any of their affiliated persons or entities, have any liability arising from reliance on this opinion. This is so because there is not an attorney-client relationship between the teams and the Definity Project Inc. or the outside counsel who prepared this guidance document for the Definity Project Inc. to help CPLC teams understand the export control issues associated with their participation.

About the Authors of this Guidance

Thomsen and Burke LLP was established in 1947 and provides international trade and investment counsel for technology companies. Our primary focus is the national security-based controls affecting the aerospace, electronics, computers, information security, life sciences, and telecommunications industries. We also provide administrative support with respect to all facets of export administration and compliance under the applicable U.S. statutes and regulations and various multilateral export control regimes. Our Baltimore, MD and Washington, DC offices are located for easy access to government entities and technical advisory committees. Additional information on our firm can be found at https://t-b.com/about/.

Kevin Wolf is a partner in the international trade group of Akin Gump Strauss Hauer & Feld LLP. He reviewed and edited this guidance, and will assist in our planned request for an opinion from DDTC about the application of the ITAR's defense services controls in the context of fundamental research-related activities.

Jack Shelton is Co-Founder and Partner at Aegis Trade Law, and serves as outside general counsel for domestic and international businesses. Jack's background places a particular emphasis on serving importers, exporters, and the space, defense, and maritime industries.

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If you have any additional questions about this guidance, please do not hesitate to contact us via The Definity Project at contact@landerchallenge.space

Sincerely yours,

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