April 13, 2015

National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Avenue NW, Room 4725
Attn: UAS RFC 2015
Washington, DC 20230

Re: Docket No. 150224183-5183-01

To whom it may concern:

We are writing on behalf of the University of North Dakota's Unmanned Aircraft Systems Research Compliance Committee (UASRCC or Committee) to provide comments to the notice, *Privacy, Transparency, and Accountability Regarding Commercial and Private Use of Unmanned Aircraft Systems*.

These comments do not address all of the questions for consideration in the notice. Instead we have chosen to focus on the areas about which we are most knowledgeable and for which we are able to provide evidentiary support based on Committee policies and procedures and findings from our recent research into community standards and knowledge of unmanned aircraft systems (UAS). Comments have been organized to follow the order issues have been addressed in the notice.

Background on the Unmanned Aircraft Systems Research Compliance Committee
The Unmanned Aircraft Systems Research Compliance Committee was formed at the University of North Dakota in 2012 to provide guidance and input on the use of UAS in research practices across academic disciplines. The Committee is comprised of representatives from the University, local government, local emergency responders, and members who represent the community at large. For almost three years, the Committee has been debating issues of privacy, transparency, and appropriate use and storage of UAS data, and it is the knowledge we have gained and the lessons we have learned that we share with you in this document.

GENERAL
We will respond to two questions listed under the general section where we believe we have the most knowledge and experience.

2. Would it be helpful to establish three working groups with one focusing on privacy, one on transparency, and one on accountability? Should such groups work in serial or parallel?

Based on our experience, these issues are not exclusive and committees, if kept separate, should come together on a larger committee to assure cross-representation on these issues and to provide a holistic viewpoint. The UASRCC has spent a substantial amount of its time discussing privacy, transparency, and accountability and concluded that these areas are very inter-connected and are to be considered in

concert whenever review of a new research protocol is considered. Creating three separate committees, each charged with addressing a specific topic, will result in missed opportunities to conduct a holistic review of the unique challenges and opportunities inherent in UAS usage and will ensure additional work for committee members as they attempt to reconcile the findings of three committees into one all-encompassing policy document.

4. What existing best practices or codes of conduct could serve as bases for stakeholders' work?

The most useful best practice we can provide is the text of the UASRCC charter (July 1, 2014 version). This is a living and evolving document which is reviewed by the full Committee at least annually and modified to address emerging issues, policies, and processes identified by the Committee during protocol reviews.

University Committee Charter

Committee: Unmanned Aircraft Systems Research Compliance Committee

I.   **GENERAL ADMINISTRATION**

Committee Background History: The University of North Dakota has been involved in Unmanned Aircraft Systems (UAS) training and research for a number of years, and awards the only fully accredited degree in this discipline. As a leader in UAS research the University has been working with a number of public and private groups to study specific applications for UASs in the national air space. Recently, it has become clear that some of these applications may raise ethical issues particularly with respect to privacy. As a consequence of the proposed uses at the national level, various groups have issued position statements and the US Congress is set to take up the issue of privacy with respect to UAS usage. As a leader in UAS applications the University has held meetings to develop a plan to address the ethical issues related to UAS research associated with UND. The Committee outlined in this Charter is the University's response. It is based upon similar committees presently functioning under Federal regulations for human subject research, biological materials research, animal studies, and usage of recombinant DNA and is based to a large extent on community values.

UAS Research Background: The Unmanned Aircraft Systems (UAS) Center of Excellence performs research and development on UAS technologies, applications and human factors issues and encourages commercialization of new UAS-related products and services. The UAS Center of Excellence also focuses on education and training for UAS integration into the national airspace system.

Classification/Terms of Charter: The UAS Research Compliance Committee ("Committee") will be a standing committee of the Division of Research and Economic Development. The Charter will be reviewed annually by the Vice President for Research and Economic Development.

Formal Charges: The UAS Research Compliance Committee will review and approve all research using unmanned aircraft systems: 1) Conducted by any members of the University of North Dakota, including faculty, staff, and students; and 2) Conducted under the purview of the Northern Plains Unmanned Systems Authority. No research may be undertaken without prior approval of the Committee. The Committee will consider the ethical consequences of the proposed research and apply community standards in determining whether a research project may be approved. The Committee will determine whether a proposed research project can be approved as described, needs modification to be approved, or will be denied. If the Committee denies a research projects there is no appeal process. Any research project which the Committee determines needs modification may be approved following completion of the required modifications. Depending upon the potential risk of the proposed research, the research may be reviewed by an exempt, expedited, or full board process. The Vice President for Research and Economic Development may veto approved research if the research is not in the best interests of the University. The Director of Safety at the John D. Odegard School of Aerospace Sciences may also veto approved research if the research does not meet defined safety standards.

Reporting Channels/Procedures: The Committee will report to the Vice President for Research and Economic Development.

Relationship of the UAS Research Compliance Committee to Other University Committees: Research that has been reviewed and approved by the Committee may be subject to review and subsequent approval or disapproval by University officials or other Committees.

II.   UASRCC ORGANIZATION AND STRUCTURE

Membership: The Committee will consist of six (6) appointees representing the University, three (3) appointees representing emergency responders, three (3) appointees representing government, and three (3) appointees representing the community at large. The appointees representing the University may include but are not limited to faculty from Aviation/Aerospace Sciences, Criminal Justice, Philosophy/Religion, and Sociology. In the event of a vacancy, the Vice President for Research and Economic Development will cooperate with the Committee Chairperson in the appointment of a replacement as expeditiously as possible. In no event will one or more vacancies prevent the Committee from fulfilling its charge, provided that the University, emergency responders, government, and the community at large are each represented substantially as provided herein.

In addition, the Committee will have four (4) non-voting members including the Associate Vice President for Research and Economic Development, a coordinator from Research Development and Compliance, a representative from the University Police, and a representative from the Office of General Counsel.

Appointments: All members will be appointed in writing by the Vice President for Research and Economic Development.

Membership Terms: Committee members will be appointed for three (3) year terms with the possibility of subsequent reappointment.

Officers: Officers of the Committee will include a Chairperson and a Vice Chairperson.
   A.   Chairperson: The UASRCC Chairperson will be a faculty member at the University of North Dakota who is capable of managing the UASRCC and matters brought before it with fairness and impartiality. The UASRCC Chairperson must be an experienced member of the UASRCC with at least six (6) months of service on the Committee. The Chairperson is elected annually from the membership of the UASRCC to serve a one-year term of office. The number of consecutive terms that a Chairperson may serve is not limited.
   B.   Vice Chairperson: The UASRCC Vice Chairperson must be an experienced member of the UASRCC with at least six (6) months of service on the Committee. The Vice Chairperson is elected annually from the membership of the UASRCC to serve a one-year term of office. The number of consecutive terms that a Vice Chairperson may serve is not limited.

Subcommittees: The Committee Chairperson, with the approval of the Committee, may appoint standing subcommittees or ad hoc subcommittees. Each subcommittee shall be composed of at least three (3) members. The Chairperson may appoint non-Committee members to a subcommittee. Each standing or ad hoc subcommittee shall have those powers and that authority stipulated in the motion authorizing the subcommittee. Each standing or ad hoc subcommittee shall serve at the pleasure of the Committee.

III.   UASRCC FUNCTIONS AND OPERATIONS

Frequency of Meetings: The Committee will meet as necessary to complete review in a timely manner of all research projects involving UASs but not less than twice a year.

Research Submission Requirements: Investigators are required to submit a signed paper copy and a signed electronic copy of the UASRCC application at least two (2) weeks prior to a scheduled meeting. If the UASRCC Chairperson or Vice Chairperson determines that the submitted materials are not adequate, investigators may be required to submit additional information. No incomplete submissions will be reviewed by the UASRCC.

Notice of Meeting/Meeting Agenda and Support Materials: Notice of meetings will occur through announcements in the University Letter and Research Newsletter, and a meeting calendar will be available on the Committee website. Committee members will be notified through the office of Research Development & Compliance and will be sent all necessary supporting information concerning research proposals.

Committee Minutes: Minutes will be of sufficient detail to show attendance at the meeting; actions taken by the Committee; the vote on actions including the number of members voting for, against, and abstaining; and the basis for requiring changes in or disapproving research.

Committee Reports: Committee reports and recommendations will be prepared for and submitted to the Vice President for Research and Economic Development.

Document Management and Retention: The office of the Vice President for Research and Economic Development will retain all records regarding research project applications (regardless of whether it is approved) for at least three (3) years. For all applications that are approved and the research initiated, the Vice President for Research and Economic Development must retain all records regarding that research for at least three (3) years after completion of the research.

Meeting Quorum: A simple majority of voting members will constitute the necessary quorum for conduct of official business. Committee members who leave the room due to a conflict of interest cannot be counted towards quorum. If quorum is lost during the meeting, the Committee cannot conduct voting until it is restored.

Amendment of Charter: Should any amendments to this Charter be required, the Committee Chairperson or Vice Chairperson will work with the Committee in developing suitable language. Proposed changes will be submitted to the President for approval in a timely manner.

This University Committee Charter is effective as of July 1, 2014.

PRIVACY, TRANSPARENCY, AND ACCOUNTABILITY

Given our experience, we understand that separating these themes is not practical or advisable if positive policy solutions are the goal. We will comment on these themes as a whole rather than divide our comments by topic.

Community Perceptions of UAS

As the work of the UASRCC progressed, it became evident during a number of meetings that a clear picture of public sentiment was missing during research protocol deliberations. During the spring of 2014, a group of University of North Dakota social science researchers developed and implemented a preliminary study of community attitudes and perceptions of UAS. A representative sample of 647 residents (343 men and 304 women) in a 16-county region of northeastern North Dakota was surveyed by telephone to gain insight into the opinions and beliefs of the region's predominantly rural population.

Respondents did not identify personal privacy as their greatest concern: Airspace and ground safety were identified as the most pressing concerns. However, among respondents with a higher level of education, personal privacy concerns showed greater importance. Respondents also had a higher-than-expected understanding of UAS (which they identified by the more general term, drone) and their capabilities.

Respondents overwhelmingly supported using UAS for search and rescue operations, including looking for missing children or adults, assisting fire fighters, reviewing traffic accidents, and responding to disasters. Respondents were also very favorable toward a number of law enforcement uses of UAS, particularly in hostage situations, searching for criminal suspects, patrolling borders, and monitoring traffic patterns. Respondents were less supportive of law enforcement uses that involved traffic violations or monitoring traffic at major events or venues. Also, the support for detecting or identifying potential criminal activity was less than the support for finding already-identified suspects.

Given recent publicity surrounding proposals to use UAS for commercial deliveries, the survey asked respondents whether they supported use of UAS for deliveries. Respondents were overwhelmingly opposed to using UAS for commercial deliveries, including delivery of alcohol, food, and packages (in descending order of opposition). There was support for use of UAS in military operations, both domestic and international (strikes during war, within US borders, and intelligence and reconnaissance). Respondents indicated strong support for monitoring weather and climate, including fighting wildfires, notifying the public during weather emergencies, and assessing flood damage. While there was support for use of UAS for agricultural operations (respondents live in an agricultural-based economy), less support was evident for UAS use in chemical company operations in which corporate UASs might be gathering information about farmland usage.

Sources
Juntunen, C., Badahdah, A., Heitkamp, T., Nedegaard, R., Grey, S., Parson, L., & Forbes, A. (2014). *Community Attitudes toward the Use of UAS in Northeastern North Dakota* [White paper]. University of North Dakota. (Available upon request).

Juntunen, C. & Heitkamp, T. (2014, June 24). *Community Attitudes toward the Use of UAS in Northeastern North Dakota*. Paper presented at the Association for Unmanned Vehicle Systems International (AUVSI) Media Road Show, Grand Forks, ND.

UASRCC Application Form
The UASRCC research project application form is the primary vehicle the Committee uses when reviewing research. Like the charter, the application form is a constantly evolving document that is revised when Committee discussions of research protocols make it clear that information necessary to make a determination about a protocol isn't being captured. One instance when this became particularly evident occurred during discussions of data usage and storage. The original application form requested very basic information about the research mission and purpose and did not require a detailed discussion on data collection, use, and storage. The current version of the application form has addressed some of these gaps by requesting more detailed information from principal investigators to help inform discussions of research presented to the Committee.

The application form requests information about the type of data being collected, how data will be used, and how data will be stored. Each of these areas speaks to the notice's request for information on privacy and accountability. It became apparent when the Committee first began reviewing proposals that some of the data gathered may involve proprietary or legal issues which could trigger additional privacy concerns, and the application form was revised to request this information from principal investigators. Specifically, the application asks:

Are the data that will be gathered in this research:

- Trade secret, proprietary, commercial, or financial information, or any other information that you believe is confidential under North Dakota law?
- Law enforcement sensitive information?

Guidance on legal and proprietary issues is provided by Committee members who represent North Dakota University System General Counsel, the Grand Forks County State's Attorney's Office, as well as local law enforcement who provide valuable input into chain of custody issues when proposals involve law enforcement applications. Thus, it is particularly important to ensure the right voices are at the table from the beginning.

In addition to legal and proprietary considerations, the Committee also requests detailed information about the type of sensor systems that will be used during research flights and includes a description of the data each sensor system will collect. This provides the Committee with a comprehensive outline of all the research data that will be collected for each project.

Type(s) of Sensor Systems to be Utilized

For each of the following check yes or no. In the space provided, please provide a description of the maximum resolution/range available and the level of detail visible/audible at various heights. (Please note: You may be asked to provide examples of images, video stills, etc. taken from altitudes at which the UAS will be flown for this research.)

Digital camera: _____ Yes _____ No
Description:_____

Video camera: _____ Yes _____ No
Description:_____

Infrared camera: _____ Yes _____ No
Description:_____

Microphone: _____ Yes _____ No
Description:_____

Other (list type, name, and manufacturer):_____
Description:_____.

The UASRCC does not just focus its inquiries on the type of data being collected. A full explanation of data use, management, and storage is requested on the application form in order to ensure data are being used appropriately and stored securely, both important aspects of privacy considerations.

Type of Software to be Utilized in Handling, Management, and Use of Research Data

In the space provided, please provide a thorough description of the intended handling, management, and use of the research data and the software systems that will be used to support this work.

Data Management and Security

Data management and security must be considered both during and following the UAS operation. Please provide a detailed description of the type of data you will be recording during UAS operations. Include a listing of all research personnel who will have access to the data during UAS operations. If you will be keeping any research data beyond the UAS operation, please provide a detailed explanation of the data storage and access plan you will be using, including where and how data will be stored, how long data will be stored, who will have access to the data, and how data will be destroyed. If your organization has specific requirements for data storage, please include a copy of the organization's data management and security plan with this application.

Some of the most spirited discussions during Committee deliberations are regarding requirements for community notification of UAS research flights. The UASRCC considers community notification the most important aspect of UAS research flight transparency and mandates – at the minimum – usage of signs to notify residents whenever a UAS research flight is occurring (See Figure 1 below) and an explanation of where the signs will be located during research flights.

Figure 1: Sign used to notify community of UAS operations

The application also requests a description of any additional notifications principal investigators will utilize to inform communities about UAS research flights. While the Committee does not require additional notification beyond signage, it does strongly recommend and encourage investigators to utilize multiple notification options to ensure community members in the impacted areas are fully informed of UAS research flights.

What additional privacy safeguards will be in place during research flights?

□   Buffer zone (list approximate size of the buffer zone): _____

□   Community notifications other than required signage (telephone, newspaper, television, radio, etc.):_____

□   Other:_____

Conclusion

It is our hope that the work of the UASRCC over the past three years, as well as the findings from the research study on community attitudes toward UAS, will inform decision makers as they work through the complicated and interwoven issues surrounding UAS usage. While the Committee's focus is predominantly on academic research, we believe that issues of privacy, transparency, and accountability have universal importance and can be applied across disciplines and practices.

Thank you for the opportunity to comment on these important issues.

Sincerely,

Barry Milavetz, Ph.D.
Interim Vice President for Research
& Economic Development

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