

POLARIS PNT PBC (“Polaris”)
FCC OET Program Experimental License Application Submitted 1.25.2018
File No. 0008-EX-PN-2018
Attachment Regarding Applicant Eligibility

The relevant rule is the following:

Rule § 5.302 Eligibility.

Program experimental licensees may be granted to the following entities: a college or university with a graduate research program in engineering that is accredited by the Accreditation Board for Engineering and Technology (ABET); a research laboratory; a hospital or health care institution; a manufacturer of radio frequency equipment; or a manufacturer that integrates radio frequency equipment into its end product. Each applicant must meet the following requirements:

- (a) The radiofrequency experimentation will be conducted in a defined geographic area under the applicant's control;
- (b) The applicant has institutional processes to monitor and effectively manage a wide variety of research projects; and
- (c) The applicant has demonstrated expertise in radio spectrum management or partner with another entity that has such expertise.

Polaris PNT PBC and its Application listed above are qualified under §5.302 because:

(a) Under §5.302(a): The geographic area submitted in the application is under the sole control of the applicant, and the applicant’s sole owner Warren Havens: the building and grounds of 2649 Benvenue Avenue, Berkeley CA 94704, which is stated and depicted in the application.

(b) Under §5.302(b): Polaris has institutional purposes and processes to monitor and effectively manage the wide variety of research projects described in this Application. Polaris was formed for these purposes, shown in Its Certificate of Incorporation attached hereto as Exhibit A. The Polaris web pages further describe its purposes and this research: www.polarispnt.space. One of its radio-systems consultants is Robert Mawrey, PhD, under a contract attached hereto as Exhibit B which including his resume describing radio systems and monitoring expertise. Polaris owns and controls radio system testing equipment, and will obtain and control as is needed and useful additional equipment for these purposes and processes. See also ‘(c)’ below.

(c) Under §5.302(c): Polaris, including its principals and consultants, have demonstrated expertise in radio spectrum management, and also, as needed and useful, partner with other entities that have the same. This is reflected in ‘(b)’ above, and in FCC and other public records showing the Polaris President Warren Havens as manager of various FCC radio spectrum licenses and systems, and related research, in part described in Exhibit C hereto.

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Exhibit C

Regarding Polaris PNT PBC President Warren Havens as manager of FCC radio spectrum licenses and systems, and related research, the following are examples.

1. Mr. Havens is the sole author of and has a depth of knowledge in the radio-systems and methods described in the following websites and all of the contents but for the publishes materials by listed other sources used in these websites: www.polarispnt.space and www.terranautx.com.
2. Mr. Havens was the originator, a contributor to, and the grant provider to the University of California Berkeley Study on high accuracy location wireless. Copy at: https://people.eecs.berkeley.edu/~kannanr/assets/project_loc/CHALOCBA.pdf. The Acknowledgements refer to a gift from ATLAS Wireless, LLC that was formed and managed by Havens, of Berkeley California to support various FCC-licensed spectrum based programs.
3. Mr. Havens was invited to, and prepared and submitted the following presentation to, the National Public Safety Telecommunications Counsel on certain new digital radio technologies and systems. Copy at: <http://www.npstc.org/download.jsp?tableId=37&column=217&id=1094&file=20080618-Havens-TETRA-v2.pdf>
4. Mr. Havens is the originator and author of “Advanced Railroad Wireless Using PTC as a Foundation...”. January 2014. By Warren Havens involving the 'Skytel' companies he managed. Copy at: <https://ecfsapi.fcc.gov/file/7521064429.pdf>
5. Mr. Havens is the originator, commissioned, and contributed to the paper: “LTE Deployments in the LMS band for ITS Radio Communications and Location,” by Nishith D. Tripathi, Ph. D. Copy at: <https://wireless2.fcc.gov/UlsEntry/attachments/attachmentViewRD.jsp?applType=search&fileKey=96967609&attachmentKey=18943468&attachmentInd=applAttach>
As this paper states, it was commissioned by the 'Skytel' companies (listed in item 4 above) managed by Mr. Havens. This paper is in FCC docket 06-49 regarding the LMS radio service.
6. Mr. Havens prepared the radio-frequency and licenses partition and disaggregation design for the Amtrak "corridor" license using AMTS spectrum shown in FCC records. See FCC DA 15-287 and related granted assignment applications, attached below with the corridor map.
7. Mr. Havens is the originator, commissioned and contributed to the study and paper: “Nationwide High Accuracy Positioning Infrastructure and Services, Including for Intelligent Transportation Systems: Background, Technology, Uses, Developments and Challenges. April 2, 2010, by C. Rizos to Skybridge Spectrum Foundation... Berkeley California (“SkyTel”). Copy at: <https://www.scribd.com/document/31932756/Chris-Rizos-to-Sky-Tel-Nationwide-High-Accuracy-Positioning-Infrastructure-and-Services-GNSS-Terrestrial-Including-for-Intelligent-Transportation-S>
8. Mr. Havens is the originator, commissioned and contributed the paper: Wireless for Railroads, by Ron Lindsay, 2011. Copy at: <https://www.scribd.com/document/53478557/Wireless-for-Railroads-By-Ron-Lindsey-April-2011>