Defense Systems, Shipboard & Ground Systems Group, Great Neck, NY 11020

United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE

EXPERIMENTAL (Nature of Service)	K B 2 X B A (new) (Call Sign)
XC FX (Class of Station)	0089-EX-PL-87 (File Number)

NAME UNISYS CORPORATION

Windsor (Hartford) Connecticut Lat. 41 53 47 N; Long. 72 42 53 W.

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications.

Frequency MHz	Authorized Power (Watts)	Emission Designator
404.24	18 megawatts (ERP)	900KP0N
404.37	18 megawatts (ERP)	900KP0N

Frequency Tolerance: ± 0.005%

Operation: In accordance with Sec. 5.202(b) of the Commission's Rules.

Special Conditions:

(1) The station identification requirements of Section 5.152 of the commission's rules are waived.

(2) This authorization is issued for the express purpose of conducting experimental operations described in the related application and required by NOAA Contract No. NA-86-QA-C-101. of this radio station in any other manner or for any other purpose will constitute a violation of the privileges herein authorized.

(3) Except as subsequently authorized by the Commission, this radio station shall not be operated after the expiration date of the contract designated in the related application and enumerated above.

(4) Operations shall be coordinated with Jiom Bailey, Suitland, Md. Phone 301-763-4680.

This authorization is effective April 23, 1987
will expire 3:00 A.M. EST October 1, 1988

FEDERAL
COMMUNICATIONS
COMMISSION

Federal Communications Commission
Washington, D.C. 20554

Approved by OMB
3060-0065
Expires 1/31/87

APPLICATION FOR NEW OR MODIFIED RADIO STATION AUTHORIZATION UNDER PART 5 OF FCC RULES
EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)

1. Applicant's Name and Post Office address
(Give street, city, state, and ZIP Code. See Instruction No. 4)

UNISYS Corporation
Defense Systems
Shipboard and Ground Systems Group
Great Neck, N.Y. 11020

DO NOT WRITE IN THIS BLOCK

File No.
00089-EX-PL-87

FEB 2 1987

2.(a) Application for *(check only one box)*

☒ New Station ☐ Modification of existing authorization

2.(b) For Modification indicate below

File No.: Call Sign:

3. Application for modification indicate change in (check all that apply)

☐ Frequency ☐ Emission ☐ Power ☐ Location

☐ Other particulars *(describe below or in attached Exhibit No. _____)*

4. Particulars of Operation *(See instructions below)*

Frequency (State Whether kHz or MHz) (A)	POWER (B)	POWER (C)	POWER (D)	EMISSION (E)	MODULATING SIGNAL (μSEC) Pw	MODULATING SIGNAL (F) PRF	NECESSARY BANDWIDTH (kHz) (G)
404.37 MHZ	552w	18 Mw Peak	Mean	P9	3.33	96.66	900KHZ
404.37 MHZ	530w	18 Mw Peak	Mean	P9	3.33	100.69	900KHZ
404.24 MHZ	2.16 Kw	18 Mw Peak	Mean	P9	20	148.33	900KHZ
404.24 MHZ	2.07 Kw	18 Mw Peak	Mean	P9	20	154.51	900KHZ

(A) List each frequency or frequency band separately. (If more space is required, attach as Exhibit No. _____).
(B) Insert maximum R.F. output power at the transmitter terminals. Specify units.
(C) Insert maximum effective radiated power from the antenna (If pulsed emission specify peak power).
(D) Insert "MEAN" or "PEAK" (See definitions in Part 5).
(E) List each type of emission separately for each frequency. (See Section 2.201 FCC Rules.)
(F) Insert as appropriate for the type of modulation:
(1) the maximum speed of keying in bauds;
(2) maximum audio modulating frequency;
(3) frequency deviation of carrier;
(4) pulse duration and repetition rate.
For complex emissions, describe in detail in the space provided below.
(G) Describe how the necessary bandwidth was determined in space provided below.

At the 20 dB points

5(a). Proposed location of transmitter and transmitting antenna (Check only one box)

☒ FIXED/BASE ☐ MOBILE ☐ BASE & MOBILE

(b) If permanently located at a fixed location, give below

State	County	City or Town
CT	Hartford	Windsor

Number and street (or other indication of location)
Scotland Road, Windsor, Ct.

(d) If mobile, describe the exact area of operation

(c) Geographical coordinates exact to the nearest second

North Latitude	West Longitude
41° 53' 47"	72° 42' 53"

(e) Geographical coordinates of the approximate center of proposed area of operation (mobile applications)

North Latitude	West Longitude
° ' "	° ' "

6. Is a directional antenna *(other than radar)* used? ☒ Yes ☐ No (See exhibit #3 for details)

If "YES", give the following information:

(a) Width of beam in degrees at the half-power point 4°

(b) Orientation in horizontal plane _____ Antenna is oriented so that the beam is directed either

(c) Orientation in vertical plane _____ straight up, 15° to east from vertical, or 15° N from vertical

7. Is this authorization to be used for fulfilling the requirement of a government contract with an agency of the United States Government? ☒ Yes ☐ No

If "Yes", attach as EXHIBIT No. 1, a narrative statement describing the government project, agency, and contract number.

8. Is this authorization to be used for the exclusive purpose of developing radio equipment for export to be employed by stations under the jurisdication of a foreign government? ☐ Yes ☒ No

If "Yes", attach as EXHIBIT No. _____, the following information:

(a) The contract number and the name of the foreign government concerned.

9. Is this authorization to be used for providing communications essential to a research project. (The radio communication is not the objective of the research project). ☐ Yes ☒ No

If "Yes", attach as EXHIBIT No. _____, a narrative statement providing the following information:

(a) A description of the nature of the research project being conducted.

(b) A showing that the communications facilities requested are necessary for the research project involved.

(c) A showing that existing communications facilities are inadequate.

10. If all the answers to Items 7, 8, and 9, are "No", attach as EXHIBIT NO. _____, a narrative statement describing in detail the following:

(a) The complete program of research and experimentation proposed including description of equipment and theory of operation.

(b) The specific objectives sought to be accomplished.

(c) How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along line not already investigated.

11. (a) Give an estimate of the length of time that will be required to complete the program of experimentation proposed in this applications.

(b) If less than 2 years, give the length of time in months that the authorization requested in this application will be required.

4 years

12. List below transmitting equipment to be installed (if experimental, so state): (Experimental)

MANUFACTURER	TYPE	NO. OF UNITS
MMD INC. (transmitter) 500 Ellis St. Mountain View, CA. 94043	4273-16-0529	1
RDL INC. (Exciter) SE Corner 7th Ave & Freedley St. Conshohocken, PA. 19428	4273-16-0531	1

13. Is the equipment listed in Item 12 capable of station identification pursuant to Section 5.152?

☐ Yes ☒ No

14. Will the antenna extend more than 6 meters above the ground, or if mounted on an existing building will it extend more than 6 meters above the building, or will the proposed antenna be mounted on an existing structure other than a building?

☐ Yes ☒ No

If "Yes", give the following (See Instruction 9):

(a) Overall height above ground to tip of antenna is 1.3 meters.

(b) Elevation of ground at antenna site above mean sea level is 56 meters.

(c) Distance to nearest aircraft landing area is 22 kilometers.

(d) List any natural formations or existing man-made structures(hills, trees, water tanks, towers, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft and thereby minimize the aeronautical hazard of the antenna.

Trees All Around Site That Are Taller

(e) Submit as EXHIBIT No. 2, a vertical profile sketch of total structure (including supporting building, if any, giving heights in meters above ground for all significant features. Clearly indicate existing portion, noting particulars of aviation obstruction lighting already available.

15. Applicant is *(check only one box)*

☐ Individual ☐ Association ☐ Partnership ☒ Corporation
☐ Other *(describe below)*

16. Is applicant a foreign government or a representative of a foreign government?

☐ Yes ☒ No

17. Has applicant or any party to this application had any FCC station license or permit revoked or had any application for permit, license or renewal denied by this Commission?

☐ Yes ☒ No

If "Yes", attach as EXHIBIT No. _____, a statement giving call sign of license or permit revoked and relate circumstances.

18. Will applicant be owner and operator of station?

☒ Yes ☐ No

19. Give name, title, and telephone number (include area code) of person who can best handle inquiries pertaining to this application.

Norman Hassel
Program Manager Wind Profiler (516) 574-1291

20. List below all exhibits in numerical sequence and the item number of form requiring the exhibit identified.

EXHIBITS AND ITEM NO. OF FORM

Exhibit Number	Item No. of Form	Exhibit Number	Item No. of Form	Exhibit Number	Item No. of Form
1	7				
2	14e				
3	6 (& general)				

21. **CERTIFICATION**

ATTENTION: Read this certification carefully before signing this application.

THE APPLICANT CERTIFIES THAT:

(a) Copies of the FCC Rules Parts 2 and 5 are on hand; and
(b) Adequate financial appropriations have been made to carry on the program of experimentation which will be conducted by qualified personnel; and
(c) All operations will be on an experimental basis in accordance with Part 5 and other applicable rules, and will be conducted in such a manner and at such a time as to preclude harmful interference to any authorized station; and
(d) Grant of the authorization requested herein will not be construed as a finding on the part of the Commission

(1) that the frequencies and other technical parameters specified in the authorization are the best suited for the proposed program of experimentation, and

(2) that the applicant will be authorized to operate on any basis other than experimental, and

(3) that the Commission is obligated by the results of the experimental program to make provision in its rules including its table of frequency allocations for applicant's type of operation on a regularly licensed basis.

APPLICANT CERTIFIES FURTHER THAT:

(e) All the statements in the application and attached exhibits are true, complete and correct to the best of the applicant's knowledge; and

(f) The applicant is willing to finance and conduct the experimental program with full knowledge and understanding of the above limitations; and

(g) The applicant waives any claim to the use of any particular frequency or of the ether as against the regulatory power of the USA.

Signed and dated this 30th day of JANUARY, 19 87.

Name of Applicant UNISYS CORPORTION
(correspond with name given on page 1)

By K. MERL
(print) *(signature)*

Title CORPORATE VICE PRESIDENT

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND IMPRISONMENT. U.S. CODE, TITLE 18, SECTION 1001.

Check Appropriate Classification:
☐ Individual Applicant
☐ Member of Applicant Partnership
☒ Office of Applicant Corporation or Association
☐ Authorized Employee

NOTIFICATION TO INDIVIDUALS UNDER PRIVACY ACT OF 1974 AND THE PAPERWORK REDUCTION ACT OF 1980

Information requested through this form are authorized by the Communications Act of 1934, as amended, and specifically by Section 308 therein. The information will be used by Federal Communications Commission staff to determine eligibility for issuing authorizations in the use of the frequency spectrum and to effect the provisions of regulatory responsibilities rendered the Commission by the Act. Information requested by this form will be available to the public unless otherwise requested pursuant to Section 0.459 of FCC Rules and Regulations. Your response is required to obtain this authorization.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), and the Paperwork Reduction Act of 1980, P.L. 96-511, December 11, 1980, 44 U.S.C. 3507.

Exhibit No. 1 (From Item 7)

The system for which authorization is being sought is called Wind Profiler. The UNISYS Corporation has been selected by the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce to develop and manufacture Wind Profiler Systems under contract number NA-86-QA-C-101. UNISYS is converting NOAA performance/operability specifications into production equipment that will monitor the velocity and directional vector of the upper wind fields for weather analysis and predictions.