

Dear Sir/Madam

I am applying for a renewal/2-year extension of our existing FCC experimental license WD2XVR. For needed background, I am including below a fairly extensive FCC OETECH correspondence on this matter to date regarding my already 6-month effort to obtain a ULS license as directed in special condition #4 of WD2XVR. As directed, I have also recently spoken to Mr. Rodney Conway (FCC/WTB) about this matter.

Just a quick note of summary: it appears that our (and I presume everyone else's) existing HFR oceanographic equipment deployed in the U.S. does not have a Part 2-Subpart J equipment authorization (FCC ID number); rather the equipment is allowed under authority of the FCC Experimental (ELS) license. Order FCC-17-33 requires a shift from ELS to ULS (and to the new ITU bands) by March 29, 2022 and part 90.203 requires an FCC ID, thus the **FCC ID Number** is the catch 22 issue that is in need of timely resolution.

FYI, I'm only going through this now because upon updating my existing ELS earlier in the year to add 3 new HFR CODAR sites, the ELS came back approved but with a new condition at the end (#4) stating that it would not be renewed past its current 5-year end date of March 01, 2020 and that I needed to shift next year from ELS to ULS. So approximately 6-months ago I applied for 2 ULS licenses (each ULS license can only be for a maximum of 6 sites so our 10 sites required 2 ULS license submissions). To date these applications have been returned 3 times for varying bits of information (3rd return letter attached) but always requesting the FCC ID Number.

So at this point I see 2 options required for USF to continue to operate our existing HFRs past March 01, 2020 when our existing ELS expires in ~3 months. 1) This FCC ID Number issue will be resolved before then with our ULS licenses being issued prior, or 2) An ELS exception will be granted and we will get a 2-year ELS extension to 2022 while the FCC ID number issue is worked out. Pursuant to the latter and in consideration of the time already spent in ULS application, I am presently applying for a renewal/2-year extension of our ELS.

Let me know if you have any questions.

Thank you,

Cliff

Dr. Clifford R. Merz, PE

Program and HF Radar Operations Director, Coastal Ocean Monitoring and Prediction System (COMPS) (<http://comps.marine.usf.edu/>)

Past President of the University of South Florida Chapter of the National Academy of Inventors (NAI) (<http://www.research.usf.edu/nai/nai-usf-chapter.asp>)

University of South Florida
Sr. Scientific Research Ocean Engineer
140 Seventh Avenue South, MSL Room 136-M
St. Petersburg, FL 33701

(727) 553-3729 (Office)
(727) 553-1189 (Fax)
(727) 409-0770 (Mobile)
cmerz@usf.edu



Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid – Albert Einstein

From: oetech@fcc.gov <oetech@fcc.gov>
Sent: Friday, November 15, 2019 4:15 PM
To: Merz, Clifford <cmerz@usf.edu>
Subject: Response to Inquiry to FCC (Tracking Number 668624)

Inquiry on 09/16/2019 :

Good Afternoon.

I was forwarded to you by Doug Young of FCC's Experimental Licensing Branch. To preserve content I will cut and paste our correspondence as appropriate. I have contacted the manufactures of both the CODAR and WERA Oceanographic HF Radars and they were not able to help me with either the FCC ID Number and Emission Designator to use. I have looked through the FAQ on the www.fcc.gov/labhelp page and do not see an answer to my question. I hope you can assist me or direct me to a person that can.

Thank you,

Cliff Merz FRN 0014074991

Good afternoon Mr. Young,

I am still working on getting my Part 90 license going. I have consulted several times with the FCC Licensing Support Center and have received two notices of return from the FCC on my applications.

I am getting close but still am having an issue providing the correct FCC ID number for the equipment that I am proposing to use. Recently, I received the below email from the FCC Licensing Support Center directing me to contact the OET for this

information. So I am reaching out to you since you have helped me for many years and are familiar with my existing and long running experimental license, Call Sign: WD2XVR.

In my initial ULS application submission, I used the same emission designators as were used on my OET experimental license; namely 55K0P0N for my 4.9MHz CODAR HFR Seasonde Oceanographic High Frequency Radar (HFR) and 300KP0N for my ~12.7MHz WERA Oceanographic HFR.

This resulted in my first FCC notice of return stating that the:

- 1) Proposed ITU frequencies of 5.250 – 5.275 MHz had an authorized bandwidth of 25KHz and the 55K0P0N Emission Designator was for a bandwidth of 55KHz which extends outside the allowable bandwidth and cannot be used, please resubmit.
- 2) Proposed ITU frequencies of 13.450 – 13.550 MHz had an authorized bandwidth of 100KHz and the 300KP0N Emission Designator was for a bandwidth of 300KHz which extends outside the allowable bandwidth and cannot be used, please resubmit.

In the Part 90 application there is no specific place to identify the FCC ID number for the equipment that I am proposing to use and I have mentioned this to the FCC help desk personnel several times. After some work on my own I believe that it is part of the Emission Designator you input (see attached link https://wiki.radioreference.com/index.php/Emission_Designator), since if you check out the link you will find the 55K0P0N listed for CODAR Oceanographic Radars between 3.5 – 5 MHz (which I have) along with a listing for a 100KP0N for CODAR Oceanographic Radars between 12 – 14 MHz. I do not, however, find an Emission Designator for a CODAR Oceanographic Radar between 3.5 – 5 MHz with a 25KHz bandwidth nor anything listed for the WERA Oceanographic radar.

So I modified my ULS application with the following and resubmitted:

- 1) Proposed ITU frequencies of 5.250 – 5.275 MHz with an authorized bandwidth of 25KHz and a 25K0P0N Emission Designator.
- 2) Proposed ITU frequencies of 13.450 – 13.550 MHz with an authorized bandwidth of 100KHz and a 100KP0N Emission Designator.

While both Emission Designations were excepted in the application submission update, they resulted in my second return requesting me to again provide the FCC ID number for the equipment that I am proposing to use. So these Emission Designator's along with my rationale must be in error.

The FCC notice of return letters only provide the FCC Licensing Support Center phone number for me to contact for questions regarding this issue and they have subsequently directed me to OET.

I hope that you will be able to assist me as you have had in the past or will direct me to someone who can.

Thank you and have a great weekend.

Cliff

Dr. Clifford R. Merz, PE

Program and HF Radar Operations Director, Coastal Ocean Monitoring and Prediction System (COMPS) (<http://comps.marine.usf.edu/>)

Sr. Scientific Research Ocean Engineer

140 Seventh Avenue South, MSL Room 136-M

St. Petersburg, FL 33701

(727) 553-3729 (Office)

(727) 553-1189 (Fax)

(727) 409-0770 (Mobile)

cmerz@usf.edu

From: IT Service Desk <fccprod@midatl.service-now.com>

To: Merz, Clifford <cmerz@usf.edu>

Subject: FCC Help Case HD0000637006

The information you requested from the FCC can be found below in the body of the email.

If you have any questions contact us at (877) 480-3201.

Thank You!

Case Id: HD0000637006

Summary: Return Clarification

****Please do not reply back to this message. The e-mail address is configured for outgoing e-mail only.****

Dear Mr. Merz,

As we discussed on the phone you should use an emission designator that is consistent with the parameters listed on your equipment certification and it should be contained within the authorized frequency band. If you do not have the equipment certification for this please contact the Office of Engineering and Technology (OET) regarding this - (specifically, per FCC 17-33 requires that your equipment must be certified for use under Part 90 in accordance with 90.203).

If you have any further questions, or need additional information, please submit a help request at <https://www.fcc.gov/wireless/available-support-services> or call the FCC Licensing Support Center at (877) 480-3201.

Sincerely,

FCC Licensing Support Center

8:00 AM – 6:00 PM EST, M – F

Ref:MSG3484206

FCC response on 09/16/2019

What is your question regarding equipment authorization (certification)?

---Reply from Customer on 09/16/2019---

I'm not really sure of that answer.

As discussed above, I have had an experimental FCC license for >15 years, operating High Frequency (HF) Oceanographic Radars - manufactured by the company CODAR (5MHz SeaSonde HF system; <http://www.codar.com/>) and Helzel Messtechnik (~12.7 MHz WERA HF System; <https://helzel-messtechnik.de/>).

As required, I am now moving from an experimental license and FCC assigned frequencies to newly set ITU frequency bands under a ULS application. The FCC granting agency reviewing my application wants to know the FCC ID number for my existing and operating equipment along with the Emission Designator for the new bands I'm moving too.

I don't know what is meant by "equipment authorization (certification)". It sounds like it is related to the FCC ID Number and the Emission Designator. But then again it might be something else. If not, what would you say is the correct wording for my question on how/where to obtain the proper FCC ID Number and the Emission Designator for my existing and operating HF Oceanographic equipment?

FCC response on 10/04/2019

First have you contacted CODAR about your device having an FCC ID? From our investigation it appears that your existing equipment deployed in the U.S. does not have Part 2-Subpart J equipment authorization (FCC ID number); rather the equipment is allowed under authority of the ELS license. Part 90.203 requires an FCC ID due to Report and Order FCC-17-33 requiring a shift from ELS to ULS. Please contact Rodney Small at WTB for assistance on what is required for you to continue operating. Below are some excerpts from FCC-17-33 which pertain to your equipment.

FCC 17-33, docket no. 15-99, 32 FCC Rcd 2722

54. Oceanographic Radar Applications in the 4-44 MHz Range.

We allocate seven frequency bands (4.438-4.488 MHz, 5.25-5.275 MHz, 16.1-16.2 MHz, 24.45-24.65 MHz, 26.2-26.42 MHz, 41.015-41.665 MHz, and 43.35-44 MHz) to the radiolocation service (RLS) on a primary basis for Federal and non-Federal use, and allocate the 13.45-13.55 MHz band to the RLS on a secondary basis for Federal and non-Federal use.¹²²

We add footnotes to the U.S. Table that prohibit oceanographic radars transmitting in these bands from causing harmful interference to, or claiming protection from, existing and future stations in the incumbent fixed and mobile services.¹²³

We also raise to primary status the secondary mobile except aeronautical mobile service allocation in the 5.25-5.275 MHz band, so that existing and future stations in this service can also be protected from interference from oceanographic radars.

Next, we amend Part 90 of the rules by adding the oceanographic radar bands to the Radiolocation Service Frequency Table and take other associated actions that incorporate WRC-12's operational requirements for oceanographic radars and will allow licensees of existing experimental stations to apply for Part 90 licenses.¹²⁴ Finally, we require that all oceanographic radar licensees currently operating under Part 5 of the rules transition their operations to frequencies within an allocated band within five years of the effective date of this Report and Order.

FCC 17-33, docket no. 15-99, 32 FCC Rcd 2764

APPENDIX C

Final Regulatory Flexibility Certification

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3. Second, the Commission requires that oceanographic radars, which currently operate under experimental license authority, operate in accordance with the adopted Part 90 rules within five years of the effective date of this Report and Order. Based on our review of licenses in the Commission's Experimental Licensing System, the adopted rules will affect nine universities and one manufacturer. Based on information provided by the National Oceanic and Atmospheric Administration (NOAA), we believe that, in most cases, existing oceanographic radars can transition to the nearest allocated band without major hardware modification. We note that only two of these universities are private institutions (Cornell University and San

Francisco University) that meet the definition of small organization, see U.S.C. § 601(4). We further note that there “are 1,600 private, nonprofit institutions nationwide,” and the great majority of these are clearly small organizations. Therefore, we find that requiring oceanographic radars to operate under the adopted Part 90 rules will impact far less than one percent of private, nonprofit academic institutions that are small organizations. We also believe that the single licensee that is a manufacturer (CODAR Ocean Sensor, Ltd.) will be positively impacted because it has committed to “produce, sell, and support [oceanographic radars] that operate in all of the ITU allocated bands and conform to any local regulations.”

See National Oceanic and Atmospheric Administration, Summary of WRC-12 HF Radar Frequency Outcomes (Jan. 26, 2012) (“In most cases, transitioning to the nearest allocated band should not require major hardware modification”), http://www.ioos.noaa.gov/hfradar/summary_wrc_12outcomes.pdf.

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See “Outcome of the 2012 World Radio communication Conference: Oceanographic HF Radars Officially Recognized by ITU,” March 2012, by CODAR Ocean Sensors (http://www.codar.com/news_03_2012_2.shtml).

---Reply from Customer on 10/07/2019---

Thank you for your reply.

Yes, I contacted both CODAR and Helzel (German manufacturer of the WERA Oceanographic HFR's also in use here in the US) early on in this process and they were not familiar with the FCC ID number for their units

Thank you for the referral contact for Mr. Rodney Small at the WTB. As I am not familiar with the WTB, can you please provide me with his phone number and email address so I can contact him directly?

Regards,

Cliff Merz
727-553-3729 (office)
727-409-0770 (mobile)

FCC response on 11/15/2019

You may contact Wireless Communications at 202-418-0600 or submit a help request at <https://fccprod.service-now.com/auls?id=esupport>

Do not reply to this message. Please select the [Reply to an Inquiry Response](#)

