



Guidance Circular

GC No: 960.10(b)-1
Subject: Guidance for Licensees Submitting Data from Tier 3 Remote Sensing Systems for Evaluation
Date: April 27, 2022

Guidance Circulars (GC) are intended to provide guidance to entities subject to or potentially subject to the Land Remote Sensing Policy Act of 1992 (51 U.S.C. § 60101 *et seq.*) and the National Oceanic and Atmospheric Administration's (NOAA's) implementing regulations at 15 CFR Part 960. The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. The document is only intended to provide clarity to the public regarding existing requirements under the law or agency policies.

Applicable Statute: 51 U.S.C. § 60121, 60122

Applicable Regulations: 15 C.F.R. 960.10(b)

If you have suggestions for improving this GC, we invite you to provide feedback to NOAA's Commercial Remote Sensing Regulatory Affairs office (CRSRA) at crsra@noaa.gov, noting the number of the GC you are discussing in your email. Please note that responses by email are not anonymous and the entirety of the response, including the email address, attachments, and other supporting materials, may be disclosed pursuant to federal freedom of information law. Sensitive personal information, trade secrets, or financial information should not be included with the response.

Overview of Issue:

The Land Remote Sensing Policy Act of 1992 authorizes the Department of Commerce (delegated to NOAA) to license private entities to operate private remote sensing space systems, and prohibits the operation of remote sensing space systems without such a license.

The implementing regulations require categorization of licenses into one of these Tiers: Tier 1, Tier 2, or Tier 3.

If a system is categorized as Tier 3, there is the possibility that its license will include custom Tier-3 temporary conditions to meet National level concerns or obligations. Section 960.10(b) provides:

The Secretaries of Defense and State shall determine whether any temporary license conditions are necessary (in addition to the standard license conditions in § 960.8) to meet national security concerns or international obligations and policies of the United States regarding that system.

These temporary custom license conditions are designed to remain in place for one year, to give the Department of Defense or the Department of State time to mitigate any new concerns the system's novel data may present.

The one-year temporary license condition period begins on one of two dates, whichever comes first:

- When the licensee first delivers to NOAA unenhanced data suitable for evaluating the System's capabilities, under reasonable terms and conditions or other mutually agreed arrangement with the Department of Defense or the Department of State; or
- When the Department of Defense or the Department of State first obtains comparably suitable data from another source.

See 15 C.F.R. § 960.10(b). This one-year period can be extended up to two times under 15 C.F.R. § 960.10(e).

These regulations set the groundwork for licensees to submit data to NOAA so that the data and hence system performance can be verified and the one-year clock on temporary conditions can begin to count down to their removal.

This guidance circular explains how a licensee can deliver unenhanced data for evaluation from its licensed system. The licensee should prepare a complete data package that includes unenhanced data and associated metadata from the on-orbit system - or one that is equivalent, however it is left to NOAA as the regulator to determine data *suitability*. Specifically, this guidance circular will identify:

- The status of temporary conditions prior to and during examination;
- Instructions for submitting data from a licensed system;
- Data protection during evaluation;
- Elements that NOAA may consider in its evaluation of data from a licensed system; and
- An outline of the evaluation process.

1. Status of Temporary Conditions Prior To and During Examination

The temporary conditions for systems are in effect from the date the license is issued until NOAA determines the conditions are no longer required and a new license is issued. NOAA may determine the conditions are no longer required due to the expiration of temporary conditions, foreign data availability, or the implementation of mitigating factors that make the conditions obsolete.

2. Data Collection for Submission

NOAA's evaluation includes the examination of unenhanced remote sensing data (and associated metadata) for performance metrics such as, but not limited to, spatial resolution, spectral resolution, specific spectral coverage(s), revisit rate, persistent imaging, or non-earth-imaging (NEI).

A licensee submits unenhanced data for evaluation that demonstrates the instrument and/or constellation's performance. The data is usually collected after the first remote sensing instrument is on orbit and calibrated, or, for certain proliferated Low Earth Orbit (pLEO) constellations, when the constellation has achieved a revisit rate that meets or exceeds the threshold defined in the applicable Temporary condition. Licensees may submit data more than once for evaluation.

The government has selected specific locations for collection that enable evaluation of the performance of the remote sensing instrument. The licensee collects at least the minimum selection of data and or images that demonstrate the system's capability or capabilities addressed in the Temporary conditions. As NOAA evaluates whether the unenhanced data is suitable for evaluating the system's licensed capabilities, NOAA recommends licensees collect with performance consistent with their finest licensed resolution parameters, for example licensees with a Tier 3 Synthetic Aperture Radar (SAR) license should use full bandwidth and longest dwell. Please contact NOAA (crsra@noaa.gov) for the list of locations for collection and the instructions for use.

3. Data Formatting and Transfer

A. Data Format

Table 1 below provides the data type, file type and format for submission.

Table 1. File type and format for submission

Sensor type	Data type	File format	Metadata
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SAR	Level 1A Single Look Complex (SLC)	SLC: SICD NITF Phase History: CPHD	XML
Electro-optical (Panchromatic, Color, Multi- spectral, VIS, VNIR, IR)	Level 2A Minimally processed - unenhanced, unsharpen- ed, radiometric corrections applied	GEOTIFF or lossless JPEG2000 implementation	XML
Hyperspectral	Level 1A Minimally processed HSI data cube	ENVI or Spectral NITF Implementation Profile (SNIP)	XML
Other	Contact NOAA CRSRA	Contact NOAA CRSRA	XML

B. Data Transfer to NOAA

Transfer of data for evaluation from the licensee to NOAA, and storage of the data at NOAA, shall be performed in a manner consistent with any data protection requirements levied in the license temporary conditions and with protection of licensee proprietary information. The licensee will apprise NOAA when the transfer will occur and how to access the data, images and associated data intended for evaluation (encryption keys, etc.).

Table 2 below identifies the transfer process and protection for the different classes of data.

Table 2. Data Transfer Process and Protection Requirements

Class of Data	NOAA Secure FTP Site	Data Transmission Protocol	Data Storage (at NOAA)	Data Encryption
SWIR NTI or GEA Data	Address assignment in process	Secure ftp (sftp) with IPsec	Double encrypted on protected NOAA network	Double AES-256 or equivalent
Sensitive Data	Address assignment in process	Secure ftp (sftp) with IPsec	Encrypted on protected NOAA network	AES-256
Not Sensitive data	Address assignment in process	Secure ftp (sftp)	Encrypted on protected NOAA network	AES-256

4. Data Protection During Evaluation

NOAA will retain the flexibility to transfer the Licensee data, imagery and associated data to the DoD and IC partners for evaluation. Data will be marked and handled to protect proprietary and/or sensitive information as needed. The evaluations may be conducted in a DOD or IC facility. The data will not be disseminated to any party not directly involved in the evaluation and will not be used for any other purpose than the evaluation. Data will be deleted after completion of the evaluation.

If the government wishes to retain the data for additional assessment, they will seek such approval via completion of a separate end-user license agreement (EULA) with the licensee.

5. Evaluation Process

- A. NOAA, in consultation with the DOD and IC partners, will determine if the initial submitted data is sufficient to conduct the evaluation.
- B. If the data is not sufficient, NOAA will request additional data and or clarification from the licensee to allow the evaluation to proceed.
- C. When the evaluation is complete, the Licensee will be notified of the results. Due to the sensitive nature of the evaluation, only the final determination will be provided.
- D. If the evaluation confirms the data is unavailable from other sources, then the 1 year clock countdown will be defined as having started on the date when the complete data package was submitted to NOAA.
- E. If the evaluation confirms that the submitted data is not already available from other sources and is better than the licensed capabilities, CRSRA will discuss follow-up actions with the licensee for this situation, which may include submitting a license modification. Any license modification will initiate a review and could result in additional temporary conditions. The clock on the temporary conditions will be defined as having started on the date when the complete data package was submitted to NOAA.
- F. If the evaluation confirms that the data is already available from other sources, the clock will not start and the licensee may submit a license modification request to be considered for re-tiering.
- G. If the evaluation confirms that the submitted data is not available from other sources, but is less capable than the licensed capability, CRSRA will determine on a case-by-case basis whether it is appropriate to start the clock on the conditions as written. The licensee may submit a license modification request to reflect actual performance.

Opportunity for Feedback:

We welcome any feedback you may have about this GC. Please contact CRSRA at crsra@noaa.gov.