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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

15 CFR Part 960

[Docket No.: 200407-0101]

RIN 0648-BA15

Licensing of Private Remote Sensing Space Systems

AGENCY: National Environmental Satellite, Data, and Information Service (NESDIS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (Commerce).

ACTION: Final rule; request for comments.

SUMMARY: The Department of Commerce (Commerce), through the National Oceanic and Atmospheric Administration (NOAA), licenses the operation of private remote sensing space systems under the Land Remote Sensing Policy Act of 1992. NOAA's existing regulations implementing the Act were last updated in 2006. Commerce is now substantially revising those regulations, as described in detail below, to reflect significant changes in the space-based remote sensing industry since that time and to modernize its regulatory approach.

DATES: This rule has been classified as a major rule subject to Congressional review. The effective date is [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. However, at the conclusion of the Congressional review, if the effective date has been changed, Commerce will publish a document in the *Federal Register* to establish the actual effective date or to terminate the rule. Additionally,

Commerce will accept comments on this final rule until [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

ADDRESSES: You may send comments by the following methods:

Federal eRulemaking Portal: Go to: *www.regulations.gov* and search for the docket number NOAA-NESDIS-2018-0058. Click the "Comment Now!" icon, complete the required fields, and enter or attach your comments.

Mail: NOAA Commercial Remote Sensing Regulatory Affairs, 1335 East-West Highway, G101, Silver Spring, Maryland 20910.

Instructions: The Department of Commerce and NOAA are not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. All submissions received must include the agency name and docket number or RIN for this rulemaking. All comments received will be posted without change to *www.regulations.gov*, including any personal or commercially proprietary information provided.

FOR FURTHER INFORMATION CONTACT: Tahara Dawkins, Commercial Remote Sensing Regulatory Affairs, at 301-713-3385, or Glenn Tallia, NOAA Office of General Counsel, at 301-628-1622.

SUPPLEMENTARY INFORMATION: Article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty), provides that the activities of non-governmental entities require authorization and continuing supervision by states that are parties to the treaty. This responsibility falls to the United States (U.S.) Government with respect to the activities in outer space of private entities subject to U.S. jurisdiction.

In the Land Remote Sensing Policy Act of 1992, codified at 51 U.S.C. 60101 *et seq.* (Act), Congress authorized the Secretary of Commerce (Secretary) to fulfill this responsibility for private remote sensing space activities, by authorizing the Secretary to issue and enforce licenses for the operation of such systems. The Secretary's authority under the Act has been delegated to the NOAA Assistant Administrator for Satellite and Information Services. NOAA issues licenses under its regulations implementing the Act, found at 15 CFR part 960, most recently updated in 2006 and now replaced in their entirety with this final rule.

Through the National Space Council, this Administration recognizes that long-term U.S. national security and foreign policy interests are best served by ensuring that U.S. industry continues to lead the rapidly maturing and highly competitive private space-based remote sensing market. Towards that end, the Administration seeks to establish a regulatory approach that ensures the United States remains the "flag of choice" for operators of private remote sensing space systems.

The President signed Space Policy Directive-2, Streamlining Regulations on Commercial Use of Space (SPD-2), on May 24, 2018. This directive required Commerce to review its private remote sensing licensing regulations in light of SPD-2's stated policy and rescind or revise them accordingly. Commerce began that review by publishing an advance notice of proposed rulemaking (ANPRM) (83 FR 30592, June 29, 2018), seeking public comment on five topics related to the Act. Commerce received nine detailed responses and used that input to inform the drafting of the proposed rule, which Commerce issued last year (84 FR 21282, May 14, 2019).

Commerce's proposed rule laid out a detailed regulatory proposal that attempted to increase transparency and certainty, and to reduce regulatory burdens, without impairing essential governmental interests in preserving U.S. national security, protecting foreign policy interests, and adhering to international obligations. To meet these goals, the proposed rule included a two-category framework, where the license conditions applied to proposed systems were commensurate with the potential risk posed by such systems to the national security and international obligations and foreign policies of the United States. The proposed rule also provided for conducting a full interagency review and the potential for custom license conditions, but only when a proposed system was novel and in the higher risk category. Additionally, the proposed rule published many existing license conditions for the first time and provided a public process for periodically updating such conditions. This meant that the public had a new opportunity to shape the conditions through public comment, whereas in the past, the conditions would be known only to existing licensees and to the U.S. Government before being included in a new license. In short, the proposed rule brought the process for setting new, operational license conditions into the public rulemaking space for the first time, and proposed substantive changes that would help reduce the regulatory burden on licensees.

Commerce received 27 public comments on the proposed rule, and thanks all commenters for their time and consideration. While the public comments on the proposed rule generally supported increased transparency and the two-category system in theory, they nevertheless characterized the proposed rule as overly restrictive and a disincentive to operating in the United States. Despite the procedural benefits (increased transparency, certainty, and public input) that the proposed rule offered, the commenters explained that

the proposed rule did not deliver the desired dramatic substantive benefits—namely, immediately reducing the current regulatory restrictions and license conditions imposed on industry-leading remote sensing systems. For example, the proposed rule would have subjected the high-risk conditions (which, as drafted, were liberalized versions of existing conditions) to public scrutiny for the first time. But even with Commerce's liberalizations of these conditions, public commenters objected to the conditions' continued stringency and the permanency implied by including them in regulations. As another example, Commerce proposed an objective set of criteria that would distinguish low-risk systems from high-risk systems, as a means to provide predictability to potential applicants. Commenters objected to this approach, however, arguing that the criteria were far too conservative, resulting in almost all commercial systems being categorized as high-risk, and moreover that including such a specific list in regulations was too rigid an approach.

Commerce took these concerns very seriously and revised the proposed rule in two key ways in response, resulting in a dramatically less burdensome final rule. First, Commerce will retain the notion of categories of systems, but rather than categorizing systems by a set of objective criteria that could be incrementally modified through future rulemakings, Commerce will adopt a proposal made by several commenters and the Advisory Committee on Commercial Remote Sensing (ACCRES). Specifically, Commerce will categorize systems based on an analysis of whether the unenhanced data to be generated by the proposed system are already available in the United States or in other nations.

Second, Commerce will eliminate most of the permanent license conditions existing in current licenses, license appendices, and included in the proposed rule,

retaining only the bare minimum of permanent license conditions (generally only those required by the Act or other laws). Further conditions could be included in a license if, in Commerce's analysis, an application proposes to collect unenhanced data that are entirely novel (*i.e.*, unenhanced data are not available from any source). In this limited case, Commerce would work with the Department of Defense or the Department of State, as appropriate, and the applicant, to craft narrowly tailored license conditions that would be temporary. These temporary conditions would remain in effect for one to three years from the time the licensee begins operations. Such temporary conditions could be extended beyond three years, but only upon a request specifically from the Secretary of Defense or State.

This move to temporary license conditions for novel technologies would shift the burdens under the regulations. The 2006 regulations place burdens of protecting national security and international obligations on private remote sensing systems through extensive and permanent license conditions. Under this final rule, by contrast, temporary conditions are designed to allow the U.S. Government time to adapt its operations to the novel technology where possible. Unlike in 2006, foreign space-based capabilities are significant and constantly increasing, requiring the U.S. Government to adapt regardless of how it regulates U.S. systems. Commerce's approach recognizes this new reality and gives U.S. industry the best chance to continue to innovate and to lead this global market.

Commerce provides a more detailed explanation of its reasoning behind these and other changes to the proposed rule below. Commerce reiterates its gratitude to all persons who commented on the ANPRM and the proposed rule. These comments have been

invaluable as Commerce has assessed the best way to modernize and streamline these regulations.

GENERAL OVERVIEW

Problems with Existing Regulatory Approach

Under the existing regulations, license condition-setting procedures are largely outside of the public rulemaking process: license conditions are set through interagency discussions, without the opportunity for public comment, even when the conditions would apply to all systems. In addition to lacking transparency, this regulatory approach is based on the mechanism of relying on license conditions to address U.S. national security and international obligation and policy concerns: by imposing conditions on certain types of imagery produced by U.S. remote sensing systems, the expectation is that the restriction contributes to protection of the interests in question.

Initially, this combination of setting conditions through a non-public, application-specific process and including restrictive conditions in licenses to protect U.S. national security and meet international obligations was effective. The U.S. remote sensing industry was small and had limited foreign competition, so it was generally believed that there was little risk that the regulatory environment in the United States would disadvantage U.S. industry in relation to any foreign competitors. In addition, restricting the capabilities of U.S. industry through license conditions largely did protect national security, as it was often the only source of such data. But as time has passed, foreign commercial capabilities have emerged—at times, arguably, because U.S. regulations are too restrictive, resulting in some operators establishing their remote sensing businesses overseas.

To illustrate the dramatic changes that now motivate the Administration to take a different approach, Commerce provides the following statistics. When the Act was passed in 1992, there were no private remote sensing space systems. In 2006, when Commerce last updated its regulations, there were 25 U.S. licenses and roughly 29 non-U.S. systems. Today, there are 73 U.S. licenses held by 51 U.S. licensees, and over 80 U.S. licenses have been closed due to the system's end. Stated differently, Commerce issued roughly 25 licenses in the 14 years from the passage of the Act in 1992 until the last update to the regulations in 2006, but in the 14 years since that last update, Commerce has issued well over 100 licenses.

At the same time, since 2006, more than an estimated 250 non-U.S. remote sensing systems have either become operational or are planned (a figure that does not include foreign systems that are not public knowledge). Today, more than 40 countries other than the United States have remote sensing space systems. And since 2006, foreign remote sensing capabilities have extended to advanced phenomenologies such as synthetic aperture radar (SAR) and hyperspectral imaging (HSI), of which there are dozens of foreign systems each.

The pace of foreign competition has intensified, and Commerce anticipates that these trends will continue. Now, any U.S. company with a license restriction is at a disadvantage if a foreign competitor is not subject to the same restriction, all else being equal. The end result is that U.S. operators may not meet, let alone surpass, the capabilities of such foreign competitors. Moreover, even if Commerce loosens license restrictions as soon as it learns that foreign competitors have caught up to a restricted U.S. phenomenology, U.S. industry is guaranteed to be no better than tied for first place.

Take, for example, the U.S. SAR industry. Commerce license conditions prevent such licensees from imaging at finer than 0.5 meters impulse response (IPR), while some foreign competitors sell data at .24 meters IPR. Even a regulatory approach that allows U.S. licensees to sell data at .24 meters IPR would only let U.S. industry meet, not exceed, their foreign competition. This creates a market opportunity for foreign entities to sell data at finer than .24 meters IPR. The U.S. Government has no control over such foreign SAR systems and must adapt to protect its operations, making such a regulatory approach ultimately ineffective and counterproductive. This approach is also reactive: it presumes that the most highly capable U.S. remote sensing licenses should be conditioned until circumstances render the condition obsolete, rather than presuming that U.S. industry's capabilities should not be conditioned at the outset. This situation is likely to continue so long as the U.S. Government perpetuates current practices.

Such license conditions, of course, have a valid goal: most often, to protect national security. But Commerce cannot restrict the operation of non-U.S. remote sensing operators. Many national security conditions placed on U.S. remote sensing operators have become or will become ineffective due to uncontrollable foreign competition, and may have in fact encouraged such foreign competition. The emergence of intensifying and uncontrollable foreign competition requires reassessment of the way Commerce licenses remote sensing operators. Commerce believes that it must adapt its regulatory approach to be better able to respond to these changes and help ensure continued U.S. leadership in the global market for space-based remote sensing data.

Final Rule's Approach

As previewed above, two changes in the final rule, as compared with the proposed rule, take the development of foreign competition and commenters' concerns into account. First, the final rule categorizes applicants based on the availability of their unenhanced data from other sources. The proposed rule created categories, but would have instead grouped applicants based on an objective set of criteria that assessed the risk they would pose to national security. This worked under the assumption that remote sensing systems would be regulated so as to prevent them from causing harm to national security: the more risk a system posed to national security, the more restrictive its license would be. But in view of the development of foreign competition that is uncontrollable, regardless of its risk, the final rule takes a different approach to categorizing applicants. Based on suggestions from several commenters, the final rule categorizes applicants based on the degree to which the unenhanced data to be generated by their proposed system are already available (rather than based on the amount of risk they pose to national security).

- If an applicant proposes a system that is capable only of producing unenhanced data substantially the same as unenhanced data available from sources not regulated by Commerce, such as foreign sources, the system will be "Tier 1," and receive the bare minimum of conditions. This is because Commerce cannot prevent the harm that such systems might cause to national security, regardless of how strictly they are regulated, because substantially the same unenhanced data are available from sources outside Commerce's control.
- If an applicant proposes a system that is capable of producing unenhanced data that are substantially the same as unenhanced data available from U.S. sources

only, the system will be "Tier 2." As there is no foreign competition for that unenhanced data, a U.S. license restriction *could* be effective.

- If an applicant proposes a system that is capable of producing unenhanced data that are substantially the same as no available unenhanced data—that is, if the applicant has no competitors, foreign or domestic—the system will be "Tier 3," and more stringent controls logically may be applied.

Commerce will also consult with the Departments of Defense and State during the process of assigning a tier to ascertain whether there are national security or international obligations or policy concerns that would recommend a different tier than the tier resulting from the availability analysis.

In addition, the final rule makes a second philosophical change in response to commenters' stated concerns about the stringency of the operating conditions. Instead of formalizing the existing permanent operating conditions for low- and high-risk systems, the final rule eliminates almost all such permanent operating conditions. "Tier 1" systems (those which produce unenhanced data available from sources outside Commerce's control) will receive only those conditions required by statute and will not be required to comply with limited-operations directives (colloquially known as "shutter control" and referred to in the relevant interagency memorandum of understanding (MOU) as "modified operations"). This is because where the same capability exists outside the United States, a limited-operations directive would be less effective: even if all U.S. licensees complied fully with a directive restricting certain data, some foreign systems (lying beyond U.S. licensing jurisdiction) would be able to continue to generate such data without restriction. Therefore, Commerce will not require systems whose unenhanced

data capabilities are substantially the same as those of entities not licensed by Commerce (such as foreign entities) to comply with shutter control, or with any operational limitations including restrictions on non-Earth imaging (NEI), nighttime imaging, and the like.

In contrast, "Tier 2" systems (those with only U.S.-licensed competition) will receive the same minimal conditions as Tier 1, with the addition of one NEI requirement—to obtain the consent of the owner of any Artificial Resident Space Object (ARSO) orbiting the Earth and to notify the Secretary five days before conducting resolved imaging operations of the ARSO—and the requirement to comply with limited-operations directives. Where a certain capability exists only in systems subject to U.S. jurisdiction, a limited-operations directive applying to those licensees will be effective at restricting the dissemination of data. Therefore, to protect national security or meet international obligations, Commerce will continue to require these licensees to be prepared to comply with limited-operations directives.

Finally, with respect to the consent and notification requirement for resolved ARSO imaging, Commerce will reevaluate the necessity of such requirement in approximately two years, in consultation with the Department of Defense. Should such reevaluation conclude that the underlying national security concerns necessitating the requirement have been abated, Commerce will consider appropriate action, including a rulemaking to modify or remove the requirement.

The logic underlying this distinction between Tier 1 and Tier 2 means that these categories are not fixed. As soon as a non-U.S.-licensed entity (such as a foreign commercial entity) has the capability to collect unenhanced data substantially the same as

a Tier 2 system, the Secretary may re-categorize the system as Tier 1, removing the requirements addressing the resolved imaging of ARSO and to comply with limited-operations directives. This makes sense because where foreign competition exists, these requirements would be less effective for the type of data at issue.

Finally, the final rule creates a third tier of systems, as requested by several commenters. Tier 3 systems are those having a completely novel capability, such that no foreign or U.S. entity can produce substantially the same unenhanced data. Tier 3 systems will have the same standard conditions as Tier 2, including the requirements addressing resolved imaging of ARSO and to comply with limited-operations directives, but will also have the potential for temporary, custom license conditions. As provided in the final rule, these temporary conditions will be developed by the Department of Defense or State, as appropriate, and then carefully analyzed by Commerce in consultation with the applicant to determine compliance with legal requirements. These temporary conditions will last only one year (generally starting from initial spacecraft operations), with the possibility of two one-year extensions if the Department requesting the condition meets a burden of proof, following review by Commerce and notification of licensees. The only possible extension beyond three years is if the Secretary of Defense or State requests an additional extension. The authority to request additional extensions may not be delegated below the Secretary of Defense or State.

Temporary conditions on Tier 3 systems shift away from primarily protecting national security by restricting the capabilities of U.S. private remote sensing systems indefinitely, and toward ensuring that the U.S. Government takes timely action to mitigate any harm that could result from remote sensing operations where possible. These

temporary restrictions are intended to provide the U.S. Government time to adopt measures to mitigate the harm. Then, once the temporary restriction expires, the system can operate unimpeded by those temporary restrictions, and the U.S. Government will have learned how to protect itself from new technology that, in time, is likely to spread to foreign operators, out of Commerce's control.

Apart from any temporary conditions on Tier 3 systems and the consent and notification requirements for resolved ARSO imaging and limited-operations directives for Tiers 2 and 3, there are no permanent operating conditions. Previously required operating conditions specifically addressing SAR, night-time imaging (NTI), short-wave infrared (SWIR), and other capabilities, are no longer in the rule and will not be automatically included in licenses (except if warranted as a temporary condition for a Tier 3 license). NEI conditions are eliminated for Tier 1 systems, eliminated for unresolved NEI, and greatly reduced for Tiers 2 and 3. Licensees will be free, therefore, to operate under the minimal conditions found in § 960.8 for Tier 1 systems, and in §§ 960.9 and 960.10 for Tier 2 and Tier 3 systems, respectively.

To illustrate how this approach would work, imagine a hypothetical applicant seeking to operate a SAR system. Under the previous (2006) regulations, the applicant would have waited up to 120 days (or more, if the U.S. Government required additional review time), then received a license including conditions restricting its SAR operations in terms of data downlink locations, resolution thresholds, and the like. The applicant, then licensee, would have been guaranteed no prior notice of these conditions. Under the proposed rule, by contrast, the applicant would have known that it would be categorized as "high-risk" due to its SAR capabilities; it would have been able to read the SAR

conditions in the public rulemakings; and it would have received its license in 90 days. But under the final rule, the applicant's system would likely be categorized as Tier 1 (if it was capable of producing unenhanced data substantially the same as foreign unenhanced data) or Tier 2 (if it was capable of producing unenhanced data that are only available from U.S. sources regulated by Commerce). Accordingly, the license would contain *no* permanent operational conditions restricting its SAR operations. The licensee would only be under the obligation to comply with the consent and notification requirements for resolved ARSO imaging and a limited-operations directive, if it were categorized as Tier 2. Its SAR operations, otherwise, would be unencumbered by regulation.

The final rule also reduces other regulatory burdens. For example, regarding cybersecurity: under the existing regulations, there are requirements relating to data uplink, downlink, transmission, and storage, and licensees are required to complete, update, and comply with lengthy data protection plans. The proposed rule would have required encryption and industry best practices for protection of tracking, telemetry, and control (TT&C) for all licensed systems; with higher level encryption and protection for both TT&C and mission data transmissions, along with completion of a National Institute of Standards and Technology (NIST) Cybersecurity Framework for "high-risk" systems. Under the final rule, the only cybersecurity requirements are that licensees operating spacecraft with propulsion affirm that they have measures in place to ensure positive control of those spacecraft; and for Tier 2 and 3 systems, if a limited-operations directive is issued, the licensee will be required to protect data as specified in the directive, which may include encrypting satellite TT&C and mission data transmissions. Commerce notes that this license condition requires the immediate ability to encrypt data and

transmissions in the event of a limited-operations directive. This means that, during an inspection or investigation, Commerce may require a demonstration of the licensee's ability to immediately come into compliance with this requirement, as though a shutter control order had just been issued. But at all other times when a directive has not been issued, the licensee will be free to protect their data as they see fit, in accordance with their own, self-developed plan to manage cybersecurity risk. This shift in approach recognizes that Commerce cannot continue to place the burden of mitigating national security risks posed by data largely on licensees, and also that licensees already have market incentives to protect their data and operations from interference.

While Commerce is not mandating a specific approach to licensees' self-developed plan to manage cybersecurity risk, the following are best practice factors licensees should consider when developing one:

- Incorporating design features and operational measures, consistent with satellite constellation size, sophistication, and propulsion, that protect against current and evolving malicious cyber threats that can disrupt, deny, degrade, or destroy their systems and data. This should include the ability to:
    - Prevent unauthorized access to the system,
    - Identify any unauthorized access,
    - Ensure positive control of spacecraft with propulsion at all times, and
    - Where practicable, use encryption for all communications to and from the on-orbit components of the system related to tracking, telemetry, and control.

In short, the final rule represents a philosophical shift away from a purely risk-based approach. No longer will the U.S. Government assess systems based on the risk they may pose to national security and burden them accordingly to protect against such risk. Nor will the U.S. Government place conditions on licensees when a source of substantially the same unenhanced data exists outside Commerce's control. Instead, the U.S. Government will shift more of the burden of protecting national security to itself, focusing on mitigating the risk posed by the global remote sensing industry. This will help effectuate the President's policy in SPD-2 of encouraging American leadership in space: American industry will never be restricted more than foreign competition. In addition, this new approach will provide additional incentive to the U.S. Government to change its own operations to minimize the risk from growing domestic and foreign remote sensing capabilities.

Other Alternatives

Commerce considered other alternatives to the approach it took in the final rule. One such alternative was to proceed with the substance of the proposed rule. However, many commenters noted that the proposed rule appeared so rigid as to actually set the commercial remote sensing industry back—perhaps even by decades. Commerce understood based on these comments that a significant change to the substance of the rule was needed.

One way of attempting to create such a significant change would have been to incrementally shift the proposed rule to a more industry-favorable position. For example, Commerce could have adjusted the objective considerations in the proposed rule's § 960.6, which described the difference between low- and high-risk systems. Commerce

could have set a less conservative threshold for low-risk systems, as some commenters suggested. In addition, Commerce could have adjusted the permanent license conditions in the proposed rule's §§ 960.13 and 960.20, making them less stringent. However, both of these changes would have further enshrined the risk-based approach that the final rule rejects, and required regular, repeated updates through future rulemaking processes to keep up with changes in foreign competition, imaging technologies, risks, and mitigation techniques.

Other Major Changes

In addition to the shift in how Commerce categorizes and conditions the operation of systems described above, Commerce made additional important changes to the proposed rule. Commerce was not required to make these changes due to its interpretation of the Act, but has chosen to do so based on public comments and to advance the Administration's policy objectives. These are described in greater detail in the Subpart-by-Subpart Overview below, but include:

- Defining remote sensing such that the final rule applies only to systems in orbit of the Earth, capable of producing imagery of the Earth, and clearly excluding instruments used for mission assurance or other technical purposes;
- Defining the scope of remote sensing space systems under this final rule, such that Commerce's requirements apply to the remote sensing instrument and only those additional components that support its operation, receipt of unenhanced data, and data preprocessing, excluding higher-level processing and data storage;
- Eliminating the possibility of conditions imposed unilaterally by Commerce on a licensee after license issuance (colloquially known as "retroactive conditions");

- Reducing the timeline for application review to 60 days for all systems, regardless of categorization; and
- Clarifying definitions and expectations, most notably related to foreign investment and agreements.

For space-based activities not requiring a license from Commerce under this final rule, Commerce continues to consider a more comprehensive space regulatory regime for space activities not currently addressed by federal regulatory frameworks. Vice President Pence has directed the Secretary to "report to the President, through the National Space Council staff, on the authorization of commercial space operations not currently regulated by any other Federal agency; and, in coordination with the Secretary of Transportation, provide a roadmap to enable all current and evolving United States commercial space activities to receive authorization under appropriate Federal regulatory frameworks."[1] This report will incorporate this final rule's parameters and provide insight into ensuring that U.S. space operations are, in conformity with treaty obligations, authorized and continuously supervised.

Summary

In summary, Commerce believes the final rule advances the policy of SPD-2 in three areas compared to the previous (2006) regulations. As in the proposed rule, (1) the processes in the final rule are more transparent and more compliant with the Administrative Procedure Act. Additionally, based on public comment on the proposed rule, under the final rule (2) applicants and licensees are categorized into tiers based on

[1] "Recommendations Approved by the National Space Council to President Trump," National Space Council (Aug. 20, 2019) available at: *https://www.space.commerce.gov/secretary-ross-remarks-from-6th-national-space-council-meeting/*.

unenhanced data availability, rather than a risk assessment; and (3) permanent license conditions are set at an absolute minimum, primarily only those needed to comply with statutory requirements, and only in very narrow circumstances can further conditions be added—which must be temporary. This third group of changes modernizes the remote sensing licensing regime by ensuring that the U.S. Government takes more responsibility for safeguarding U.S. national security, rather than continuing to place this burden largely on the U.S. remote sensing industry. Commerce anticipates that these changes will unleash U.S. innovation and allow it to compete in the global remote sensing industry.

RESPONSE TO COMMENTS

Commerce received 27 comments on the proposed rule. These comments originated from industry groups; commercial entities who are currently licensed and will be subject to the final rule; commercial entities who are not licensed or who will not likely be subject to the final rule; academics; an anonymous commenter; and two individual commenters. Commerce thanks each of these commenters, as well as those who commented on the earlier ANPRM, for their time and input.

Many comments were broadly in agreement on desired changes to the proposed rule. As a result, in the interest of clarity, Commerce will not lay out comments one-by-one and respond to them individually. Instead, Commerce has responded to the general tenor of comments above, including the major changes to the final rule that respond to the comments. Below, Commerce describes the final rule's provisions of note. This description includes, where appropriate, responses to comments. Furthermore, as mentioned above, Commerce welcomes further comments on this final rule with

comment period in the 30-day period following publication and before this rule becomes effective.

SUBPART-BY-SUBPART OVERVIEW

SUBPART A—GENERAL

Subpart A sets out the purpose, jurisdictional scope, grandfathering mechanisms, and definitions for the final rule. The following provisions are of particular note.

Section 960.1 Purpose

As suggested by a commenter, this section emphasizes Commerce's goal in issuing the final rule: ensuring U.S. industry continues to lead the global remote sensing market.

960.2 Jurisdiction

Section 960.2(a): The Secretary's jurisdiction attaches in two ways: (1) when the operation of a system occurs within the United States, and (2) when a U.S. person operates a system (see definitions of "operate," "private remote sensing space system," and "U.S. person" in § 960.4). Thus, a non-U.S. person falls under the Secretary's jurisdiction by operating within the United States, and a U.S. person falls within the Secretary's jurisdiction when they operate a system (no matter where they operate it). In response to comments, Commerce has changed the title of this definition from "U.S. citizen" to "U.S. person," and has added lawful permanent residents.

Section 960.2(b): Commerce created a list of technical capabilities that it has determined should be exempt from this regulation based on policy and other

considerations. Instruments used primarily for mission assurance purposes or other technical purposes are not considered remote sensing instruments under this final rule; therefore, a system that contains only such instruments will not require a Commerce license. Public commenters appreciated the proposed rule's attempt to exempt certain technical capabilities from the definition of "remote sensing," but the details of that exemption confused some readers. In response, Commerce removed the portion of the definition of "remote sensing" in the proposed rule that would have exempted certain cameras from the rule's jurisdiction. Instead, to achieve the desired effect of reducing the scope of this final rule's application, Commerce created this paragraph including a nonexclusive list of exceptions. These exceptions are focused on the actual use of the instrument (*e.g.*, mission assurance), rather than the instrument's objective description.

Many of these capabilities are found on space systems that are already regulated by another Federal agency, including the Federal Aviation Administration for instruments on launch vehicles and the Federal Communications Commission for instruments on communications satellites. As noted earlier, Commerce is continuing, separately from this final rule, to work with the National Space Council toward a comprehensive authorizing regime to facilitate space commerce, including non-traditional space activities not currently regulated by another Federal agency.

Section 960.3 Application to Existing Licensees, "Grandfathering"

Many commenters requested clarification of the grandfathering provisions. Commenters also requested, variously, that the new final rule only apply to existing licensees in part, or apply only to the extent that the licensee so desired, or apply only to

the extent that the final rule was more favorable to the licensee than the status quo. Commerce has attempted to provide the public the assurances they asked for by clarifying that the Secretary will retain any applicable waivers or modifications in a new license. Also, the final rule provides 30 days in which the licensee can object to their new draft license. Commerce's decision to replace a license with a new one is appealable. It will be incumbent upon each licensee to specify which conditions, if any, they object to, as part of this process. Examples:

- A licensee with an existing Commerce license would receive a new license on the effective date. The new license would reflect the licensee's tier and include all applicable conditions. The licensee would have 30 days from the delivery of this new license to object to this new license.
- A licensee with an existing license containing waivers or amendments would receive a new license on the effective date. The new license would carry over any waivers or amendments that would still be relevant under the final rule. For example, if the licensee had a waiver from a specific NEI requirement, and that requirement is found in the standard conditions in this final rule, the waiver would carry over into the new license. However, if the licensee had a waiver from one or more of the NTI conditions, the waiver would likely not be applicable simply because the new license would contain no permanent NTI conditions, as permanent NTI conditions are not found in the standard conditions in this final rule.
- A licensee whose system no longer falls under the final rule will receive a notification that their Commerce license has been terminated as moot. Of course,

this termination does not mean that the former licensee is prohibited from any activity or that it is not subject to any regulation by the U.S. Government; instead, it means that the system's activities no longer require a Commerce license.

Section 960.4 Definitions

Anomaly: in response to commenters, Commerce narrowed the definition of "anomaly" to events that "could indicate a significant technical malfunction or security threat," and clarified that anomalies "include any significant deviation from the orbit and data collection characteristics of the system." This narrowed definition is intended to reduce licensees' burdens by eliminating the requirement to report minor anomalies.

Available: this definition affects the categorization of licenses into tiers (see § 960.6(a)) and the license condition implementing the Kyl-Bingaman Amendment (see § 960.8(a)(9)). It is intended to be akin to the existing Kyl-Bingaman standard as articulated in the 2006 final rule (71 FR 24473, April 25, 2006), but modified slightly. Under this final rule when the term "available" is used by itself, Commerce will deem something to be "available" if it is readily and consistently obtainable by an entity other than the U.S. Government or a foreign government—but not necessarily only from commercial sources. For example, if certain unenhanced data (see "unenhanced data" definition) are routinely made available from a foreign government to the general public (for example, Copernicus Sentinel data), Commerce would deem that they are available. Note that, under the Kyl-Bingaman condition found at § 960.8(a)(9), the data must be available specifically from commercial sources, because the Kyl-Bingaman Amendment requires this. Section 1064, Public Law 104-201.

Days: In response to comments, Commerce removed the definition of "days." Commerce intends that references to "days" throughout the rule will now refer to the ordinary meaning of a calendar day. Under the proposed rule, any number of days shorter than ten days referred to working days (*i.e.*, not counting weekends and holidays). Because all days are now calendar days, Commerce lengthened some of the shorter time periods in the final rule. For example, in § 960.8, reporting periods of five (working) days under the proposed rule are now seven (calendar) days under the final rule.

Material fact: Many commenters were confused by the proposed rule's "material fact" definition. Under the proposed rule and in the final rule, Commerce intends that a "material fact" is *any* fact contained in the application or license. This definition is broad because Commerce is only requesting information that is critically important in the application (see Appendix A), and will only carry over critically important information into the license (see Appendix C). In other words, all facts are material, because Commerce will not request any immaterial facts. But because every fact in the application and license is critically important, every one of those facts—if changed—will require a license modification.

Some commenters asked Commerce to change "material fact" to "a fact the Secretary relied upon in issuing the license." Commerce disagrees with this suggestion because it would make it subjective when a license modification is required. The licensee cannot know what facts the Secretary relied upon. Commerce hopes that this revised definition is clear: to determine whether a fact is material (and therefore whether changing it after license issuance will require a license modification), simply review your license to confirm whether the fact is included therein. If it is, it is a material fact.

Memorandum of Understanding or MOU: In response to comments raising concerns about the potential for the U.S. Government to amend the MOU without notice-and-comment rulemaking, Commerce has clarified in this definition that "MOU" refers only to the version of the MOU that was signed on April 25, 2017, which is included as appendix D to the final rule. Even if the U.S. Government amends the MOU at some later date, those amendments would have no effect on this final rule absent a rulemaking, because Commerce will continue to use the 2017 version for all purposes under this rule. Furthermore, it is important to note that if any terms of the MOU conflict with this rule, the definition clarifies that the rule will govern.

Operate: Commerce narrowed the definition of "operate" to clarify which activities qualify. The revised definition makes clear that the entity with decision-making authority over the remote sensing instrument's functioning is operating the system. This would include the entity deciding what to image and how to accomplish the desired imaging, but not an individual or service provider merely implementing those commands. This is true regardless of how the commands technically pass to the satellite. In most cases, Commerce anticipates that the instrument owner will be the one who operates, but this may not always be the case.

In addition, Commerce intends that activities such as operating a ground station as a service or operating a spaceborne platform as a service, without more, are not "operating" a remote sensing space system. Examples:

- Company A operates a ground station in the United States. Company B owns a spacecraft with a remote sensing instrument. Through a contract, Company B uses Company A's ground station to send command and control communications to

and from Company B's spacecraft. Company B is operating the remote sensing system and would require a license, but Company A would not require a Commerce license.

- Company C operates a spacecraft that does not conduct remote sensing. Through a contract, Company C hosts Company D's remote sensing instrument on the same spacecraft. Company D decides what to image with its remote sensing instrument. Commands are sent to Company C for uplink, and unenhanced data are routed back to Company D through Company C's system. Company D is operating the remote sensing system and would require a license, but Company C would not require a Commerce license.

Private remote sensing space system or system: The proposed rule contained separate definitions for "remote sensing instrument," "remote sensing space system," and "private remote sensing space system." Of these, in the interests of clarity and simplicity, the final rule contains only "private remote sensing space system or system." Of particular note, this definition retains the proposed rule's requirement that the system not be owned by an agency or instrumentality of the U.S. Government (which would not be "private"). It makes clear that every private remote sensing space system consists, at the very least, of a remote sensing instrument (see below). Nothing can be considered a system without such an instrument. A ground station or satellite bus without a remote sensing instrument is not a system.

The definition covers remote sensing instruments that are capable of conducting remote sensing (see "remote sensing" definition) and are not otherwise excluded from this rule due to being used primarily for technical or mission assurance purposes (see §

960.2(b)). The definition also limits the scope of the system: it includes components that support the remote sensing instrument's operation, plus receipt of unenhanced data (see "unenhanced data" definition); and data preprocessing. This is intended to capture the ground stations from which the remote sensing instrument is commanded, as well as ground stations where data are initially received, but not facilities that conduct only higher-level data processing or storage. This is also intended to capture items such as the satellite bus and all components through which commands and unenhanced data flow, because all these components relate directly to the remote sensing instrument and to remote sensing.

Finally, this definition retains the proposed rule's clarification that the system may include components that are owned or managed by persons or entities other than the licensee. To clarify in response to comments, Commerce intends this to mean that a ground station operated as a service by a third party will be part of a licensed system if it sends operational commands or receives unenhanced data, but it will not constitute a system on its own, and operating it alone will not constitute "operating" (see "operate" definition). If a licensee chooses to use third parties for some of its operations, it will be responsible for ensuring that those third parties comply with any relevant license conditions (such as through contract terms). If the licensee is unable to do so, then it may not use that third party to support its licensed system. Commerce notes that, due to the dramatic reduction in the number of license conditions, the practical effect of this requirement to ensure third-party compliance with license conditions is minimal. This approach allows maximum flexibility for licensees to contract with the growing number of providers of ground station services, cloud processing, hosted payloads platforms, etc.,

but does not encourage such use as a means to evade regulation or disadvantage entities that choose to conduct those activities themselves.

Remote sensing: After considering public comments and pertinent policy considerations, this definition now applies only to (1) remote sensing conducted when in orbit of the Earth, rather than in orbit of any celestial body; and (2) to collecting data that can be processed into imagery of the surface features of the Earth. This definition is based on the definition of "land remote sensing" found at 51 U.S.C. 60101(4). Therefore, systems that can only produce data that cannot be processed into Earth-surface imagery are not required to obtain a license under this final rule. For example, a system in Earth orbit designed to conduct NEI would likely be conducting remote sensing for the purpose of this rule, because the instruments used for such missions typically are capable of collecting data that can be processed into imagery of the surface features of the Earth. Please see "Jurisdiction," § 960.2, for technical capabilities that are specifically not licensed under this final rule.

Significant or substantial foreign agreement: In response to comments, Commerce clarifies that this definition is intended to cover only foreign agreements the execution of which would add or otherwise change material facts (see "material fact" definition and explanation above) and therefore would already require a license modification. In other words, this definition is intended to articulate that "significant or substantial foreign agreement" are only agreements that, when executed, will change something about the license.

Some commenters misunderstood the proposed rule's wording, believing that it meant that a change in any fact involving a foreign country (even a low-value data sale to

a foreign country) would require a license modification due to this definition. Commerce has changed the wording of this definition to attempt to eliminate this confusion. The rewording is intended to carry out the proposed rule's intent: that something is a significant or substantial foreign agreement only if its execution would add or otherwise change a material fact. This definition is intended to reduce licensees' compliance burdens by requiring only one process—license modification—rather than including a separate process for review of foreign agreements that do not add or otherwise change material facts.

Some commenters requested that Commerce create a list of favorable nations, transactions with which would not require a significant or substantial foreign agreement process. Commerce disagrees because of the likelihood that national security or foreign policy concerns would outpace Commerce's ability to update this list. One commenter noted that the Act requires only a notification—not a license modification—for a significant or substantial foreign agreement. But as explained above, Commerce has effectively collapsed the significant or substantial foreign agreement process with the license modification process, such that there are *no* significant or substantial foreign agreements that do not separately require a license modification. Commerce believes that it cannot further reduce this regulatory burden. Examples:

- Licensee contracts with a foreign company or government to sell unenhanced data, to be delivered through a cloud service provider. The license (as shown in appendix C) does not list recipients of unenhanced data, whether foreign or within the United States. Therefore, this contract is not a significant or substantial foreign agreement because it does not require a license modification. The

Licensee can sign the contract without any approval by or notification to Commerce.

- Licensee contracts with a foreign company or government to sell unenhanced data, to be delivered directly to a ground station at the foreign entity's location. The license lists the location of ground stations that receive unenhanced data. If the license does not already list this ground station, delivering unenhanced data to it would require approval of a license modification. Therefore, it is technically a significant or substantial foreign agreement. However, practically speaking, it would be processed as a license modification request, regardless of whether the ground station in question is foreign or domestic.

Unenhanced data: this definition, based on the definitions of "unenhanced data" and "data preprocessing" in the Act, attempts to capture all data that are unique to remote sensing operators, including basic imagery products, rather than higher-level products and analyses that could be created by third parties who are not conducting remote sensing themselves. This applies to the definitions of "operate" and "remote sensing space system;" the categorization process in § 960.6; and the Kyl-Bingaman condition found in § 960.8(a)(9), having the effect of limiting the scope of those definitions.

U.S. person: Some commenters requested that Commerce define "U.S. person" rather than "U.S. citizen." Commerce has made this change. Commerce makes a distinction between "person" and "U.S. person." As defined in this part, a "person" includes anyone, whether foreign or domestic and including juridical persons, who is not the U.S. Government. A "person" is required to obtain a license from Commerce to operate a private remote sensing space system in the United States.

By contrast, a "U.S. person" is a United States national, either natural or juridical. A "U.S. person" must obtain a license from Commerce to operate anywhere in the world, inside or outside the United States. The definition of "U.S. person" does *not* limit who may apply for and receive a license from Commerce. Any person who desires to operate a system from within the United States is eligible to apply for a license. "U.S. person," instead, only determines who must obtain a license from Commerce to operate anywhere outside the United States.

SUBPART B—LICENSE APPLICATION SUBMISSION AND CATEGORIZATION

Subpart B contains application and license review procedures, and the analysis the Secretary will use for assigning systems to a tier. The following provisions are of particular note.

Section 960.5 Application submission

Section 960.5(d): In response to comments, Commerce included a seven-day time limit on the Secretary's review of whether an updated application constitutes a new application. If it does, the application review timeline begins afresh.

Section 960.6 Application categorization

Section 960.6(a): In response to comments and as discussed in detail in the General Overview section above, Commerce eliminated the technical criteria in the proposed rule (which separated "low-risk" systems from "high-risk" systems) in favor of criteria based solely on unenhanced data availability. Commerce refers to the resulting groups as "tiers," partly due to commenters who suggested that the proposed rule's category names were pejorative, but primarily because the new tier system is not based on risk. A major benefit of this approach is that the tier determination in the final rule is a

quintessentially commercial question suited to the Secretary of Commerce. Accordingly, under the final rule, the Secretary makes the determination of the appropriate category, and will consult with other agencies, as appropriate, to resolve a difficult categorization. The Secretary of Defense or State may notify the Secretary of Commerce if they disagree with Commerce's determination of availability, including taking into account matters of national security or international obligations or policies not considered in availability, but such notification must be sent by an official at least as senior as an Assistant Secretary.

This approach to categorization is also akin to some commenters' request for applications to be "deemed granted" if they proposed to collect data that were already available; under the final rule, these applications will be Tier 1, receive minimal conditions (see § 960.8), and the Secretary may only deny them if there is a high degree of evidence that they are not eligible for a license (see § 960.7(a)). Finally, this tier determination is appealable after the license is granted (because making it appealable before license grant, as some commenters requested, would unduly slow the application review process, which is quite short (see § 960.7)).

Section 960.6(a)(1): Tier 1 consists of systems which, in the Secretary's analysis, have the capability to collect unenhanced data substantially the same (see definition of "substantially the same" in § 960.4 and discussion below) as unenhanced data already available from entities not licensed under this part. If the Secretary determines that unenhanced data outside the Secretary's control are available, and a proposed system's unenhanced data will be substantially the same (in a holistic sense) as that available data, the Secretary will categorize the system as Tier 1. Primarily, the Secretary will examine

what unenhanced data are available from foreign sources when making this determination. More details about the Secretary's analysis are below.

Capability: the Secretary's determination will focus on the system's capability, rather than its business plans or planned mission. For example, if a system's technical specifications demonstrate that it is capable of collecting unenhanced data at 1 meter spatial resolution, but the application states that the operator plans only to collect data at 5 meters spatial resolution, the Secretary will evaluate the system as though it were planning to collect its best technical capability (1 meter data).

Unenhanced data: The Secretary's analysis under § 960.6(a) looks to the system's ability to collect unenhanced data, including preprocessed data and basic imagery products, rather than any processed data or products that will be possible to create with the unenhanced data (see "unenhanced data" definition in § 960.4). For example, if a foreign remote sensing space system produces imagery with a spatial resolution of 5 meters, but when combined with data from non-space based sources it can result in imagery with a spatial resolution of 1 meter, the Secretary would consider the spatial resolution of 5 meters for the characterization analysis in § 960.6.

Substantially the same: The Secretary will use a holistic approach when comparing data, taking into account factors such as the spatial resolution, temporal resolution (how frequently data collected over a given spot on the Earth will be available), spectral bands used, collection volume, etc. (see "substantially the same" definition in § 960.4). In other words, the Secretary's inquiry is whether the unenhanced data are a market substitute for unenhanced data from other sources, rather than the risk-

focused question of whether the unenhanced data pose the same national security risks as other data.

Available: When considering the availability of unenhanced data outside the Secretary's control, the Secretary will consider whether they are "readily and consistently obtainable by an entity or individual other than the U.S. Government or a foreign government" (see definition of "available" at § 960.4, and discussion above). For purposes of Tier 1, Commerce will consider whether such an entity or individual is able, readily and consistently, to obtain unenhanced data from sources outside the Secretary's control, including foreign sources. This standard is intended to capture arm's-length transactions—essentially, where unenhanced data are available on the open market on ordinary commercial terms. Commerce will perform a thorough analysis using all information at its disposal, and broadly welcomes information from U.S. Government agencies and others to inform this analysis. Commerce also invites applicants to include evidence of the availability of relevant data along with their application (see Appendix A).

Section 960.6(a)(2): Tier 2: the analysis for whether a system is Tier 2 is similar as the analysis for Tier 1; please see above for discussion of the terms "capable," "unenhanced data," "substantially the same," and "available." However, a system is Tier 2 if the Secretary determines that it is capable of producing unenhanced data substantially the same as unenhanced data available only from systems licensed under this part. In other words, Tier 2 will consist only of Commerce-licensed remote sensing systems. Where a certain capability exists only among this group, it belongs in Tier 2 (see discussion of Tier 2 license conditions below) because a restriction placed on this group,

such as a limited-operations directive, could effectively limit all access, globally, to such data.

Section 960.6(a)(3): Tier 3: Like with Tiers 1 and 2, the Secretary will determine whether a system is Tier 3 based on whether it is capable of producing unenhanced data substantially the same as otherwise available unenhanced data (see above discussions about those terms). Tier 3 consists of systems that are capable of producing unenhanced data that are not available from any sources. Essentially, Tier 3 consists of entirely novel capabilities. These must be treated differently than systems from which unenhanced data are already available (whether only from Commerce-controlled entities or otherwise), because the U.S. Government is unlikely to have had a chance yet to evaluate how to mitigate any risks the new capability will pose (see discussion below on § 960.10). Note that this does not mean that no such data exist—merely that they are not available as defined in this final rule. For example, if such data only exist due to another Tier 3 system, and that Tier 3 system is still operating under a temporary license condition (see discussion of § 960.10) that prohibits all dissemination of certain data, then a new system proposing to produce such data would also be Tier 3, because the only other such data in the world are not "available." However, as soon as such data are "available" due to the expiration of the temporary condition, then the production of that data would no longer make a system Tier 3. All such systems would become Tier 2. Note also that a system's novelty (and therefore its categorization in Tier 3) is tied only to its unenhanced data. A system cannot be categorized as Tier 3 simply because the combination of its unenhanced data with other data, or the post-processing of its unenhanced data, would result in novel

products. Commerce will look only to whether the system's unenhanced data alone are not substantially the same as any unenhanced data available anywhere in the world.

Section 960.6(c): The shift to "tiers" is also responsive to commenters who raised the concern that Commerce would not be able to update the technical categorization criteria in the proposed rule frequently enough to keep up with technological advances. As this paragraph demonstrates, the tiers in the final rule are dynamic and do not require rulemaking updates to reflect technological advances. Instead, as explained in this paragraph, systems will automatically move to lower-numbered tiers as the unenhanced data they are capable of producing become available. For example, a system might belong in Tier 2 if it is capable of collecting unenhanced SWIR data at 10 meters spatial resolution, and the only other 10-meter unenhanced SWIR data in the world are available only from U.S. remote sensing licensees. As soon as a system outside the Secretary's control (most likely a foreign remote sensing space system) makes substantially the same 10-meter SWIR unenhanced data available, this licensee would receive a Tier 1 license under the procedures in this paragraph. The licensee would no longer be required to comply with limited-operations directives. However, if the reverse happens (a system is Tier 1 due to a single foreign competitor producing the same unenhanced data, but the foreign competitor goes out of operation), the Tier 1 license would *not* become a Tier 2 license. The dynamic nature of this adjustment goes only in the direction of reducing the burdens to industry.

See § 960.13 for a discussion of how a system's tier may change to a higher-numbered tier if the Secretary grants the licensee's voluntary request for a license modification. Note, too, that it is possible that a license application that is significantly

altered such that it is deemed withdrawn and refiled under § 960.5(d) may be categorized into a different tier (including a higher tier) than the original application.

SUBPART C—LICENSE APPLICATION REVIEW AND LICENSE CONDITIONS

Subpart C contains the standard for license grants and denials; license conditions that will apply to each tier, including how temporary license conditions will be set; compliance and monitoring; license modification and waiver procedures; and details about how licenses are terminated. The following provisions are of particular note.

Section 960.7 License grant or denial

Describes the application review process, which is now generally the same for all applications.

Section 960.7(a): Consistent with public comment, a presumption of approval applies equally to all applications. Applications are granted or denied based on the Secretary's determination whether the applicant will comply with all legal obligations, and applicants are presumed to comply unless the Secretary has specific, credible evidence to the contrary. The Secretary cannot deny a license based on the capabilities of the proposed system or any determination of risk to national security.

Section 960.7(b): Consistent with public comment, the Secretary will make a grant or denial determination on all applications within 60 days. If no determination is made within that time, the applicant can request a determination, which must be provided within three days unless the Secretary and applicant agree to extend the review period in unusual circumstances.

Section 960.8 Standard license conditions for all tiers

This section contains conditions that will be included in licenses for all tiers of systems. It primarily consists of those required to be included in licenses by the Act or other law.

Section 960.8(a)(3): One commenter raised privacy and civil liberty concerns regarding the condition requiring the licensee to provide unenhanced data of a government's territory to that government, noting the potential use of such data. The Act requires Commerce to include this condition, so Commerce cannot lawfully omit this condition. Commerce also notes that the origin of this is a resolution adopted in 1986 by the United Nations General Assembly: "Principles Relating to Remote Sensing of the Earth from Outer Space."

Commenters were split on the proposed rule's decision not to designate any data under 51 U.S.C. 60121(e), which resulted in licensees not being required to make any unenhanced data available to the Department of the Interior before deleting any such data. One suggested that the requirement under the existing regulations (that all data must be made available before deletion) is not burdensome and should be retained, while others disagreed. Commerce is choosing to keep the proposed rule's approach designating no data required to be offered, but to avoid any confusion, Commerce removed the standard condition found in the proposed rule. Licensees will not be required to notify Commerce or offer unenhanced data to Interior before purging such data. Commerce believes there is a burden to requiring licensees to store and archive data that they may not otherwise wish to retain, and to seek permission before purging it. However, licensees may offer to donate such data, especially archived data, if they so

choose. Commerce can provide any interested licensees with appropriate contacts at the Department of the Interior.

Section 960.8(a)(4): The ANPRM raised the issue of whether Commerce should require liability insurance, perhaps as an alternative to specifying acceptable means of satellite disposal in the regulations, as either option would address the U.S. Government's policy of minimizing orbital debris and reduce the U.S. Government's potential liability for damages caused by licensees under the Convention on International Liability for Damage Caused by Space Objects. In response to ANPRM comments, the proposed rule did not require liability insurance. While one commenter noted that the proposed rule, by not requiring licensees to obtain liability insurance, places risk on the U.S. Government and taxpayers, other commenters supported the decision to require compliance with generally accepted disposal guidelines instead.

However, as a commenter noted, nearly all Commerce-licensed systems are also licensed by the Federal Communications Commission (FCC), and FCC licenses already address orbital debris and disposal issues in a comprehensive manner (and are in the process of being revised, subject to a separate public rulemaking process (84 FR 4742, February 19, 2019)). To avoid duplicative regulation, Commerce has opted to defer to FCC license requirements regarding orbital debris and spacecraft disposal, and therefore there is no longer any license condition requiring specific orbital debris or spacecraft disposal practices in this final rule, and Commerce licenses will not include any such condition. § 960.8(a)(4) simply contains the text required by the Act: that "upon termination of operations under the license, [the licensee shall] make disposition of any satellites in space in a manner satisfactory to the President." Commerce clarifies that,

until further updates, the disposition manner satisfactory to the President is to follow the relevant FCC license.

Note, however, that Commerce may issue guidance or undertake a separate, narrow rulemaking to revise this license condition as future developments may warrant.

Section 960.8(a)(5): Commerce consolidated all reporting requirements into one condition and increased the time to report to seven days. As noted above, Commerce revised the definition of anomaly in response to comments so fewer anomalies would fall under this condition and require reporting.

Section 960.8(a)(7): In response to a comment, all systems now require only annual certification of the continued accuracy of material facts in the license, as opposed to semiannual reporting as required for some systems in the proposed rule. See discussion of § 960.14 for more details about this certification.

Section 960.8(a)(8): The rule retains the possibility of physical site inspections, but does not require them. It now provides a minimum of 48 hours' notice, but does not require any prior evidence to suggest non-compliance or risk, as some commenters requested. This is an important tool to ensure compliance. Commerce disagrees with comments suggesting that physical inspections are always outdated and cost-ineffective, but Commerce will continually evaluate whether particular inspections are necessary. Note that in response to comments, Commerce greatly restricted the definition of a system, which has the effect of limiting the facilities that could be subject to inspection. For example, because data storage facilities are now excluded from the definition of a system, if system data are stored in a commercial cloud, Commerce will not require the ability to inspect those physical data centers.

Section 960.8(a)(9): In response to comments, the rule does not specify a resolution threshold for imagery over the State of Israel. Instead, Commerce will regularly evaluate the resolution available from commercial sources, using the definition of "available" found in this part, and specify the requirement in the *Federal Register*. Commerce encourages the public to provide evidence of data available from commercial sources of the State of Israel at a resolution finer than our latest *Federal Register* notice. At the time of issuance of this final rule, the latest such notice sets this resolution threshold at 2 meters spatial resolution (83 FR 51929, October 15, 2018).

Section 960.9 Additional standard license conditions for Tier 2 systems

Tier 2 systems have no conditions restricting the operation of the system apart from the requirements to: (1) obtain the written consent of the owner of an Artificial Resident Space Object (ARSO) before conducting resolved imaging of the ARSO and providing the Secretary notification five days in advance of such imaging and, (2) comply with limited-operations directives. The proposed rule contained significantly restrictive conditions on specific types of imaging, including NTI, SWIR, and SAR. Future updates to the regulations could have revised or removed some of these restrictions, but also could have added new restrictions for other imaging types. Commenters were strongly opposed to these conditions as they applied to high-risk systems in the proposed rule. Accordingly, Commerce has removed them altogether. There are no permanent conditions restricting any imaging techniques in this final rule. Furthermore, because Commerce has previously licensed all of the above techniques, all such systems would either be Tier 1 or Tier 2 and therefore have no possibility of additional conditions, unless

they produce unenhanced data that are novel in some way, in which case they would be categorized as Tier 3.

Section 960.9(a)(1): To ensure compliance if a limited-operations directive is issued in an emergency, Tier 2 systems must be capable of encrypting telemetry tracking and control and data specified in the limited-operations directive. Tier 2 systems must also be capable of implementing other best practice measures to prevent unauthorized access to the system. For the purposes of complying with this condition, however, such encryption and other measures need not be active in the absence of a current limited-operations directive, so long as the system can immediately comply with a directive when it is issued. Note that during an inspection or investigation, Commerce may require the licensee to demonstrate that sufficient encryption and other measures could become active immediately as though a limited-operations directive had just been issued. If the licensee is unable to demonstrate this ability, the licensee would be out of compliance with this condition even absent a real-world limited-operations directive. Through this structure, Commerce is striking a balance between some commenters' request that Commerce not require specific encryption, and the legitimate need to encrypt sensitive data in the event of a national-security emergency.

It is Commerce's understanding, at the time of this writing, that encryption of data in some or all cases cannot be turned on and off. Therefore, Commerce believes that, in those cases, licensees will in practice be required to encrypt data at all times; otherwise, they will not be able to turn encryption on immediately in the event of a limited-operations directive, which means they would already be in violation of this license

condition. However, Commerce welcomes updated information about the technical capabilities in this area.

While some comments supported the proposed rule's approach requiring National Institute of Standards and Technology (NIST)-approved encryption, one commenter suggested this was overly prescriptive. Commerce believes that this approach provides some benchmark of what encryption will be acceptable during an emergency, which provides a "safe harbor" for licensees who want to ensure that their preparation for a limited-operations directive will suffice. However, Commerce notes that applicants and licensees can always seek a waiver or modification if they prefer to take a different approach. Also in response to comments, Commerce will no longer require completion of a NIST Cybersecurity Framework document, and industry best practice is relative to the system operator's business size. Nonetheless, Commerce has provided some best practice factors above in the preamble to this final rule for licensees to consider regarding cybersecurity.

Section 960.10 Additional standard and temporary license conditions for Tier 3 systems

In addition to the standard license conditions in § 960.9 applicable to Tier 2, Tier 3 systems will need to comply with possible temporary conditions. This section describes the process for imposing such temporary conditions.

Section 960.10(b): The first step in setting a temporary license condition on a Tier 3 system is Commerce's notification to the Secretaries of Defense and State. The notified Secretaries will have 21 days from that notification to craft any temporary conditions. This limited time frame will avoid the long delays that have regularly occurred during the review of applications for novel phenomenologies. Importantly, the temporary condition

must be designed to expire within one year from the date the Secretary obtains data suitable for evaluating the system's capabilities (generally, the date of initial operating capabilities). As explained above, temporary conditions are designed to give the U.S. Government an opportunity to mitigate the risk it foresees from novel technology; Commerce anticipates that one year will be sufficient, in many cases, to allow the U.S. Government to understand how to mitigate such risk (see discussion of § 960.10(e) for information about extensions).

Section 960.10(c): Commerce will not simply impose the Secretary of Defense or State's proposed temporary condition directly in a Tier 3 license. Instead, this paragraph lays out the stringent criteria and process through which Commerce will evaluate the proposed condition. The relevant criteria include considerations of applicable law, with the intent to ensure that the condition is as narrowly tailored to the risk as possible. Also, this paragraph specifies that Commerce will consult with the Secretary requesting the condition and with the applicant or licensee. This consultation is aimed at resulting in the least restrictive possible temporary condition. Of particular note, the paragraph considers whether the applicant or licensee can mitigate the concern another way: this is intended to give the applicant or licensee an opportunity to creatively alter their technical or business plan, if possible, to avoid the identified risk.

Section 960.10(e): Commerce recognizes that, in some cases, an extension of the temporary condition beyond one year may be necessary. However, Commerce also recognizes that indefinite extensions would render temporary conditions effectively permanent, meaning that applicants would have no certainty that the conditions will actually expire at some point and allow them to fully exploit their system's capabilities.

This paragraph attempts to strike an appropriate balance between those concerns. It sets out stringent requirements for Commerce to extend a temporary condition at the request of the Secretary of Defense or State. These requirements include notification no less than 60 days before the expiration of the condition (to give licensees fair notice of a potential extension) and a showing of the necessity of continuing the condition under paragraph (c). If Commerce finds these requirements are met, it may extend the temporary condition for one year. With the exception of a request specifically from the Secretary of Defense or State and the requisite showing of need, Commerce may not grant more than two one-year extensions. Therefore, a temporary condition will, absent an approved Secretarial request, last for an absolute maximum of three years. Commerce anticipates that no more than three years should be needed for the U.S. Government to take necessary steps to protect itself from a new technology. Even if the U.S. Government is unable to mitigate to the level it would like to, by this point, it is likely that foreign capabilities would be under development, and allowing temporary conditions to possibly become permanent would only encourage the development of such foreign capabilities.

Section 960.10(f): Some comments raised concerns with the number of times in the proposed rule that Commerce would consult with the Secretaries of Defense and State, because each consultation required any disagreement to be resolved via the MOU, potentially resulting in prolonged delays. Due to the philosophical changes described above, Commerce does not need to consult with other agencies under the final rule nearly as often as it would under the proposed rule. Moreover, most of the consultations that remain do not require interagency concurrence. Temporary conditions, as discussed further below, are a unique exception that require the expertise and authority of the

Departments of Defense and State. Accordingly, § 960.10(e) is the sole provision to use the MOU's complete interagency dispute resolution procedures in the final rule. Note that § 960.6(b) uses the MOU's interagency dispute resolution procedures as well, but only the higher level procedures, and only after an Assistant Secretary has asked the Secretary to reconsider a system categorization.

Section 960.11 No additional conditions

This confirms that neither Commerce nor the Departments of Defense or State may impose any conditions on a system other than those described in §§ 960.8, 960.9, 960.10, and temporary conditions developed pursuant to the process in § 960.10. Therefore, existing conditions (including Geographic Exclusion Areas, license appendices, and Data Protection Plan requirements) will not automatically or permanently be included in any license. This inability to impose any additional conditions also includes a ban on "retroactive" conditions (that is, conditions required by the U.S. Government after license issuance, other than due to a licensee's voluntary request for a license modification), which is consistent with many comments which indicated the possibility of such conditions were very harmful to individual companies, investment, and the reputation of the U.S. business environment. The Act still contains an authority for retroactive conditions: 51 U.S.C. 60147(d) allows Commerce to require the Secretary of Defense to reimburse a licensee for imposing a technical modification. However, because § 960.11 now prohibits Commerce from imposing any retroactive conditions, the question of reimbursing licensees for any such conditions is moot.

Note that additional conditions may be necessary if a licensee voluntarily requests a license modification, and the modification would require the system's re-categorization

to Tier 3, which can involve temporary conditions (see § 960.13(b)). But in that case, the licensee will have an opportunity to withdraw or revise the modification request if the licensee wishes to avoid any such conditions.

Section 960.12 Applicant-requested waiver before license issuance

For clarity, Commerce moved these provisions into their own section, whereas the proposed rule included them along with the standard license conditions for low- and high-risk conditions. On a related note, some commenters requested that Commerce eliminate the provision that certain standard conditions in the proposed rule could not be waived. Commerce notes that those conditions were largely ones that were required by the Act (51 U.S.C. 60122) or other law, so Commerce may not have the authority to waive them. Nevertheless, Commerce now addresses this issue in § 960.12 by requiring the Secretary to determine, before granting a waiver (or perhaps adjusting a condition, rather than waiving it altogether), that granting the waiver or adjustment would not violate the Act or other law. Consequently, Commerce has removed the distinction between inherently waivable and non-waivable conditions.

Section 960.13 Licensee-requested modifications after license issuance

This section contains the process for requesting a modification to a license. Such a modification could be to change a material fact in the license or to amend a license condition. As described in the definitions, "waiver" will exclusively refer to a request to amend a license condition prior to license issuance, while "modification" will refer to a request to amend the text of the license after license issuance.

Section 960.14 Routine compliance and monitoring

Commerce notes that the minimal compliance and monitoring requirements in this section are intended to streamline, to the greatest extent possible, all paperwork burdens for licensees. But licensees must understand how critical it is to comply with this requirement carefully. Once each year, licensees will be required to certify that each material fact in their license remains true (see "material fact" definition in § 960.4). The annual certification is not a substitute for a license modification request; instead, if a material fact is no longer true at the time of the annual certification, the licensee is already out of compliance with the requirement to obtain approval for a license modification prior to a change in any material fact (see § 960.16(d)).

SUBPART D—PROHIBITIONS AND ENFORCEMENT

Subpart D contains prohibitions and enforcement mechanisms. The following provisions are of particular note.

Section 960.16 Prohibitions

Section 960.16(a): This clarifies that a person (whether an individual or a legal entity; see definition of "person" in § 960.4) is prohibited from operating a remote sensing space system (see definition of "private remote sensing space system" in § 960.4) without a Commerce license, if (1) the person operates a system from a location within the United States, regardless of their nationality, or (2) the person is a U.S. person (see definition of "U.S. person" in § 960.4) who operates a system from any location.

Section 960.16(d): This clarifies that a licensee must not only refrain from violating license conditions (per § 960.16(b)), but must also obtain approval of a license modification before taking any action that would change a material fact in the license. For example, the location of the system's mission control center is a material fact

included in the license template in appendix C. Prior to changing the location from the one listed in the license, the licensee must obtain approval of a license modification. Failing to do so violates the prohibition described in this paragraph.

Section 960.17 Investigations and enforcement

This provision simply notes Commerce's statutory investigation and enforcement authorities without restating them. These authorities include conducting investigations, issuing civil penalties, seizing objects pursuant to a warrant, and seeking an injunction from a U.S. district court to terminate, modify, or suspend licenses in order to investigate, penalize noncompliance, and prevent future noncompliance.

SUBPART E—APPEALS REGARDING LICENSING DECISIONS

Subpart E describes administrative appeals. The following provisions are of particular note.

Section 960.18 Grounds for adjudication by the Secretary

This provision describes the types of actions subject to administrative appeal and the legal grounds for appeal of those actions.

Section 960.18(c): One commenter expressed concern with the exception for an appeal "to the extent that there is involved a military or foreign affairs function of the United States." This exception, however, is required by the Administrative Procedure Act, 5 U.S.C. 554(a)(4). To clarify, a person may appeal an action that involves such a function, but any portion of the appeal that involves that function cannot be considered during the appeal. For example, the rationale for a temporary license condition under § 960.10 may involve a military function. A licensee may appeal to determine whether Commerce followed the correct administrative procedures, such as those in § 960.10, and

considered the factors in paragraph (c), but the appellant could not appeal the military rationale itself.

Per multiple comments, Commerce has added the categorization of the system and the Secretary's failure to make a final determination on an application or modification request to the list of actions subject to appeal.

Section 960.19 Administrative appeal procedures

This provision describes the process for appealing one of the actions described in § 960.18.

APPENDICES

The appendices include (A) a sample application, (B) application instructions, (C) a sample license, and (D) the MOU.

Appendix A: Application

Note that all responses to questions in this application constitute material facts (see definition of "material fact" at § 960.4, and discussion of the importance of material facts in the preamble sections describing §§ 960.14 and 960.16 above).

In response to comments, Commerce dramatically increased the threshold for reporting foreign ownership: the proposed rule required reporting of *any* foreign ownership, but the final rule requires only the reporting of foreign ownership interests of 10 percent or greater, and only if the overall U.S. ownership is not at least 50 percent. Examples:

- Company A is 51 percent owned by a U.S. entity and 49 percent owned by a foreign entity. Company A does not need to list the foreign entity in its

application (but it would need to list the U.S. entity, as it is a single owner with greater than 50 percent ownership).

- Company B is 40 percent owned by U.S. entities, and twelve foreign entities own 5 percent each. Although Company B is below majority U.S. ownership, none of the foreign owners have at least 10 percent ownership, so Company B does not need to list the foreign entities in its application.
- Company C is 25 percent owned by U.S. entities, 25 percent owned by foreign entity X, and ten other foreign entities own 5 percent each. Company C must report only foreign entity X.
- Company D is 40 percent owned by two different U.S. entities, and 10 percent owned by six different foreign entities. Company D must report those six foreign entities.

Because the final rule does not use the objective criteria the proposed rule used to categorize systems as low- or high-risk, Commerce will no longer consider whether there is "no" foreign investment when categorizing applicants. Many commenters raised concerns with this criterion. Instead, as discussed above, Commerce will only consider the availability of substantially the same unenhanced data when categorizing applicants. To aid this analysis, the application includes a number of questions about the technical capabilities of the proposed system.

Because the scope of the definition of "private remote sensing space system" (see § 960.4) is greatly reduced, the application now requests much less information about downstream components of the system. For example, there is no need to report the location of or any other details about any cloud storage facilities.

Appendix C: Sample License

As with the application, all facts included in the license will be material facts. Any deviation from these material facts requires approval of a license modification request.

Appendix D: 2017 Memorandum of Understanding (MOU)

Commerce appreciated the comments raising concerns about the frequent use of the MOU's dispute resolution and escalation procedures in the proposed rule. Due to these comments, and due to the dramatically decreased role of interagency consultation in the final rule, the final rule uses the MOU's dispute resolution procedures only twice: in § 960.10, and in an abbreviated manner in § 960.6. Under all other circumstances, Commerce will make regulatory determinations, consulting with another agency as appropriate, as specified in the rule. Please also see the discussion of the refined definition of "MOU" in § 960.4.

OTHER COMMENTS

Some commenters requested that Commerce address privacy concerns. However, such concerns are outside the scope of the Act. These requests are better addressed to Congress.

Some commenters asked for an explicit statement that Commerce would respect the protections afforded under the Freedom of Information Act for proprietary information. Commerce understands the concern, but wishes to reassure the public that regardless of any explicit statement in the final rule, Commerce will follow all legal requirements to protect trade secrets and commercial proprietary information. Commerce believes that it is superfluous to say so in the final rule.

Conversely, at least two commenters asked Commerce to make applications and licenses publicly available. Due to the risk of exposing proprietary information, Commerce cannot make full applications or licenses available. Additionally, due to the philosophical approach that the rule should impose as few requirements on licensees as possible, Commerce will not require licensees to prepare publicly releasable summaries. However, Commerce may make non-privileged summaries of licensed systems available in its discretion.

CLASSIFICATION

Background

Commerce has evaluated whether this rule is a logical outgrowth of the proposed rule as required by the Administrative Procedure Act (APA, 5 U.S.C. 500 *et seq.*). Commerce has also examined the impacts of this rule as required by E.O. 12866 on Regulatory Planning and Review (September 30, 1993), E.O. 13563 on Improving Regulation and Regulatory Review (January 18, 2011), E.O. 13771 on Reducing Regulation and Controlling Regulatory Costs (January 30, 2017), the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), the Paperwork Reduction Act (PRA,44 U.S.C. 3501 *et seq.*), the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*), the Unfunded Mandates Reform Act (2 U.S.C. 1531 *et seq.*), E.O. 13132 (August 10, 1999), E.O. 13175 (November 9, 2000), and the Congressional Review Act (5 U.S.C. 801 *et seq.*).

Logical Outgrowth—APA

Commerce acknowledges that some of the changes between the proposed rule and the final rule may appear dramatic to some. However, Commerce believes that the

changes are logical outgrowths of the proposed rule, as required by the APA. The APA's logical outgrowth requirement is directed at ensuring that the public had adequate notice of the final rule that could result from a proposed rule, so that the public had an opportunity to comment on all matters. As a result, a final rule is a logical outgrowth of a proposed rule if the public should have anticipated that certain changes were possible.

In this case, the two most significant changes between the proposed rule and the final rule are: (1) the elimination of nearly all permanent operational license conditions, and (2) the revised approach to categorizing systems. Importantly, Commerce specifically called attention to these two areas and requested comment on them. The proposed rule's preamble reads: "Of particular note, Commerce seeks feedback on the proposed rule's criteria used to distinguish between low- and high-risk systems, and the standard license conditions proposed for low- and high-risk systems, respectively (including cost of complying with such conditions and suggested alternative approaches)." 84 FR 21283.

As for the first major change, removing most operational conditions: public comments were in nearly unanimous agreement that the proposed rule's operational conditions were too stringent. Commerce believes that it was foreseeable that Commerce might remove these proposed conditions, and courts have recognized that it is always foreseeable that an agency may drop a portion of a proposed rule. See *Mid Continent Nail Corp.* v. *United States*, 846 F.3d 1364, 1374 (Fed. Cir. 2017).

The second major change was from categorizing systems into high-risk and low-risk categories, based on an objective set of technical criteria to evaluate risk, to the final rule's approach of categorizing systems into tiers based on commercial availability. Commerce believes that this change was foreseeable to commenters. First, several

commenters, including NOAA's Advisory Committee on Commercial Remote Sensing, specifically requested this change, which suggests that the public in fact foresaw that possibility.

Moreover, this change may appear larger than it truly is from an APA perspective: under both the proposed rule's and final rule's approach, Commerce would treat categories of licensees proportionally, in a predictable, uniform way. Under the proposed rule, Commerce proposed to do this by looking only to risk: the logic was that a system should have conditions commensurate to the amount of risk that the system posed to U.S. Government. But commenters pointed out that the U.S. Government would act illogically if it looked at U.S. systems in a vacuum, not considering the capabilities of comparable systems abroad. As a result, some commenters suggested categorizing systems based on commercial availability, and Commerce accepted this suggestion.

This approach does not abandon the consideration of risk. Instead, the final rule logically tailors the U.S. Government's consideration of risk to those types of capabilities that the U.S. Government can uniquely control. Specifically, the final rule distinguishes between Tiers 1 (no exclusive U.S. control) and 2 (exclusive U.S. control) systems, and it creates Tier 3 (exclusive U.S. control over completely novel capability), recognizing the potential for unforeseeable risk posed by truly novel systems. In other words, the new tiering approach is conceptually derived from the proposed rule's risk-focused approach, but it is informed by public comment and results in a rational outcome, wherein the categories (now called tiers) are tied to the amount of control over a system that the U.S. Government realistically can exert. Therefore, Commerce believes that this change, like

the changes to the permanent operating conditions, is a logical outgrowth of the proposed rule.

The other, more minor, changes in the draft final rule as compared with the proposed rule are all the direct result of public comment. For example, Commerce reduced the scope of its jurisdiction over remote sensing in the orbit of celestial bodies other than Earth; scoped down the definition of "anomaly;" and scoped down the definition of "remote sensing" and "remote sensing space system." All of these changes were specifically requested by public comments to the proposed rule, as invited by the proposed rule. Commerce believes that these changes, therefore, were reasonably foreseeable and meet the requirements of logical outgrowth.

For these reasons, Commerce believes that the final rule represents a logical outgrowth of the proposed rule. However, because Commerce recognizes that the final rule is substantially revised from the proposed rule, Commerce is issuing this final rule as a final rule with comment period. This will provide 30 days for additional public comment. After this point, assuming the public does not provide comments that justify further revising the final rule, the final rule will go into effect after 60 days from publication.

Regulatory Planning and Review—E.O.s 12866 and 13563

E.O.s 12866 and 13563 direct agencies to assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). Section 3(f) of E.O. 12866 defines a "significant regulatory action" as an action that is likely to result in a rule (1) having an

annual effect on the economy of $100 million or more in any single year, or adversely and materially affecting a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local or tribal governments or communities (also referred to as "economically significant"); (2) creating a serious inconsistency or otherwise interfering with an action taken or planned by another agency; (3) materially altering the budgetary impacts of entitlement grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raising novel legal or policy issues arising out of legal mandates, the President's priorities or the principles set forth in the E.O. This rule is significant under E.O. 12866.

E.O. 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The E.O. directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. Commerce has developed this rule in a manner consistent with these requirements.

This rule is consistent with E.O. 13563, and in particular with the requirement of retrospective analysis of existing rules, designed "to make the agency's regulatory program more effective or less burdensome in achieving the regulatory objectives." The final rule is dramatically less burdensome for the regulated community because it eliminates most permanent license conditions and makes any specialized license

conditions temporary. Additionally, it greatly reduces paperwork burdens and associated administrative costs. For example, while the proposed rule required much of the regulated community to file a certification of compliance biannually, the final rule only requires such filing annually.

Commerce believes that there is substantial information demonstrating the need for and consequences of the proposed action because it has engaged with the industry and the public in recent years, including through ACCRES, to study changes in the industry. Through direct contact with the remote sensing space industry, ACCRES, and other fora, Commerce is well informed about the growth in the industry and the challenges imposed by the existing regulations. Commerce also sought public input on the proposed rule to obtain even more information about the need for and consequences of its proposed course of action. Commerce has incorporated the public comments to the greatest extent feasible to reduce the regulatory burden.

Commerce believes that the rule will reduce the monetary and non-monetary burdens imposed by the regulation of remote sensing. Moreover, Commerce believes that the potential benefits to society resulting from the rule are large relative to any potential costs, primarily because it is the longstanding policy of the United States to endeavor to keep the United States as the world leader in the strategic remote sensing industry. Because the final rule is structured to ensure that U.S. remote sensing licensees cannot be subject to greater burdens than their foreign counterparts, Commerce believes that the final rule will promote this policy.

In Commerce's view, the benefit to society of this regulatory program is that it promotes the growth and continued innovation of the U.S. remote sensing industry,

which is a significant component of the U.S. commercial space sector. Another benefit to society is to preserve long-term U.S. national security, which is admittedly difficult to quantify. Due to the national security benefits that accrue, it is critical that the most innovative and capable remote sensing systems be licensed to do business from within the United States. A regulatory approach that is less burdensome to industry and thereby encourages businesses not to leave the United States, therefore, is a benefit to U.S. national security. In addition, a regulatory approach that encourages potential foreign operators of private remote sensing systems to choose to be licensed in and operate from the United States also significantly benefits U.S. national security.

Commerce believes that the rule will result in no incremental costs to society as compared with the status quo. Generally, the costs to society that might be expected from regulations implementing the Act would be additional barriers to entry in the remote sensing field, and increased costs to operate in this industry. However, the rule takes a significantly lighter regulatory approach than the existing regulations, eliminating most permanent license conditions, and increases certainty, transparency, and predictability, while still allowing Commerce to preserve U.S. national security and observe international obligations as required by the Act. For these reasons, Commerce believes that the benefits of the proposed rule vastly outweigh its costs, which are expected to be reduced by the rule.

E.O. 13771

As described in the preamble, the rule dramatically decreases regulatory burdens. For example, the rule eliminates most license conditions, and makes all license-specific license conditions temporary. It also decreases administrative burdens associated with

compliance, such as by eliminating much of the paperwork burden (see below section on Paperwork Reduction Act impacts) and by decreasing the amount and frequency of reporting requirements. Accordingly, Commerce has determined that the rule is a deregulatory action under E.O. 13771.

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), whenever a Federal agency is required to publish a notice of rulemaking for any proposed rule, it must prepare a regulatory flexibility analysis (RFA) that describes the effect of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). Accordingly, Commerce has prepared the below RFA for this rule.

This RFA describes the economic impact this rule is anticipated to have on small entities in the space-based remote sensing industry (NAICS 336414, defined as having fewer than 1,250 employees). A description of the reasons for the action, the objectives of and legal basis for this action are contained in the preamble. The reporting, recordkeeping, and compliance requirements are described in the Paperwork Reduction Act analysis below and the Subpart-by-Subpart Overview. Commerce does not believe there are other relevant Federal rules that duplicate, overlap, or conflict with this rule.

At the time of the last issuance of a final rule on this subject, Commerce found that the rule would not have a significant economic impact on a substantial number of small entities due to the "extraordinary capitalization required" to develop, launch, and operate a private remote sensing space system. Since that time, significant technological developments have greatly reduced these costs: for example, such developments have resulted in reduced costs to launch partly due to greater competition, and small satellites

have become cheaper to produce due to standardization. These changes and others have enabled small businesses, universities, secondary and elementary school classes, and other small entities to enter this field. Based on an analysis of the last decade's license applications and an attempt to project those trends into the future, Commerce estimates that several dozen and up to a couple hundred small entities may be affected by this rule in the years to come.

Commerce received public comment on the question of whether economic benefits would accrue to small businesses under the proposed rule. A major difference between the proposed rule and the final rule is that the proposed rule would have categorized entities not based on whether their unenhanced data are available, but based on the objective risk they posed to national security. The objective criteria for this analysis in the proposed rule were so stringent that, according to public comment, very few businesses (including small businesses) would have benefited from the light regulatory touch of the proposed rule's "low risk" category. Commerce has taken into account these public comments, and believes that the final rule will be much more economically advantageous for small businesses than the proposed rule would have been.

Commerce has attempted to minimize the economic impact to small businesses in its final rule. Most notably, Commerce will evaluate applicants and licensees on the basis of whether the unenhanced data their system can collect is substantially the same as unenhanced data otherwise available, and not under the control of Commerce. If it is, Commerce will treat that system with a very light regulatory touch, applying the bare minimum of regulatory requirements. For example, if an applicant proposes to collect panchromatic imagery at a spatial resolution of 2 meters, and substantially the same

unenhanced data are available from foreign sources on the open market Commerce will treat that system as "Tier 1," resulting in the system being granted a license with very few conditions and regulatory requirements. Commerce anticipates that most small businesses will fall into this category. Therefore, Commerce anticipates that small businesses will receive a significant economic benefit under this rule, as compared with the status quo.

Even if small businesses operate systems that would be categorized as Tier 2 or Tier 3 under the final rule, the majority of them will nevertheless receive significant benefits compared to the status quo. These systems will receive the same bare minimum license conditions as those categorized as Tier 1, with the addition of the consent and notification requirement for conducting resolved ARSO imaging and requirement to comply with limited-operations directives, and some associated requirements to be able to protect sensitive data. Additionally, Tier 3 licensees may receive temporary, system-specific license conditions. As compared with the status quo, even systems such as these will have far fewer regulatory requirements.

Commerce considered five alternatives to the proposed rule. The first four alternatives, none of which garnered support in the public comments, were to:

1. Retain the status quo and not update the regulations;
2. Retain the bulk of the existing regulations and edit them in minor ways only to account for technological changes since 2006;
3. Repeal the status quo regulations and not replace them, instead relying solely on the terms of the Act; or
4. Update the status quo regulations to provide an expanded role for the Departments of Defense and State, and the Office of the Director of National Intelligence, in

recognition of the threat to national security posed by some of the latest technological developments.

A fifth alternative became clear after the proposed rule: Commerce could have gone forward with the proposed rule's approach of categorizing systems based on risk and imposing permanent license conditions. However, that approach would have been less responsive to public comment, which favored a lighter regulatory touch and more flexible categorization of systems (not based on objective technical criteria).

Paperwork Reduction Act

This rule contains a revised collection-of-information requirement subject to the Paperwork Reduction Act (PRA, 44 U.S.C. 3501 *et seq.*) that will modify the existing collection-of-information requirement that was approved by OMB under control number 0648-0174 in January 2017. This revised requirement will be submitted to OMB for approval along with the rule.

Public reporting burden for this requirement is estimated to average: 15 hours for the submission of a license application; 1 hour for the submission of a notification of each deployment to orbit; 1 hour for the submission of notification of a system anomaly or disposal; 1 hour for notification of financial insolvency; 1 hour for a license modification request (if the licensee desires one); and 2 hours for an annual compliance certification. Commerce estimates that this burden is less than a fifth of the existing paperwork burden (an estimated 21 hours compared with 110). It is also less than the proposed rule's collection-of-information requirement, because the Cybersecurity Framework is no longer required, and all systems must only complete one annual

compliance certification (whereas under the proposed rule, high-risk systems had to complete two certifications each year).

The public burden for this collection of information includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Regardless of any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

For ease of comparison between the existing, proposed rule's, and final rule's paperwork burdens, Commerce provides the following table:

Table 1

Document	Existing burden (hrs)	Proposed rule (hrs)	Final rule (hrs)
Application	40	20	15
Data Protection Plan	23	n/a	n/a
Cybersecurity Framework	n/a	10	n/a
License Amendment (Modification)	10	1	1
Public summary	2	n/a	n/a
Foreign agreement notification	2	n/a	n/a

Completion of Pre-ship review	1	n/a	n/a
Information when Spacecraft Launches or Deploys; Disposal of Spacecraft; Detection of Anomaly; or Financial Insolvency or Dissolution,	8	5	5
Orbital Debris Mitigation Standard Practices Plan	Comparable to existing part of application	10	n/a
Planned Information Purge	2	n/a	n/a
Operational Quarterly Report	3	n/a	n/a
Semiannual Compliance Certification (high-risk only)	n/a	2	n/a
Annual compliance audit (certification)	8	2	2
Annual Operational audit	10	n/a	n/a
Total	110	48	21

National Environmental Policy Act

Publication of this rule does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement is not required.

Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of $100 million or more as described in UMRA, 2 U.S.C. 1531-1538, and does not significantly or uniquely affect small governments.

E.O. 13132: Federalism

This action does not have federalism implications, as specified in E.O. 13132 (64 FR 43255, August 10, 1999).

E.O. 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications as specified in E.O. 13175 (65 FR 67249, November 9, 2000).

Congressional Review Act (CRA)

This action is subject to the CRA, 5 U.S.C. 801 *et seq.*, and Commerce will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects in 15 CFR Part 960

Administrative practice and procedure, Confidential business information, Penalties, Reporting and record keeping requirements, Satellites, Scientific equipment, Space transportation and exploration.

Dated: May 13, 2020.

Stephen Volz,

Assistant Administrator for Satellite and Information Services, National Oceanic and Atmospheric Administration, Department of Commerce.

For the reasons set forth above, 15 CFR part 960 is revised to read as follows:

PART 960—LICENSING OF PRIVATE REMOTE SENSING SPACE SYSTEMS

Subpart A—General

Sec.

Subpart B—License Application Submission and Categorization

Subpart C—License Application Review and License Conditions

Subpart D—Prohibitions and Enforcement

Authority: 51 U.S.C. 60124.

Subpart A—General

§ 960.1 Purpose.

(a) The regulations in this part implement the Secretary's authority to license the operation of private remote sensing space systems under the Land Remote Sensing Policy Act of 1992, as amended, codified at 51 U.S.C. 60101 *et seq.*, and are intended to promote continued U.S. private sector innovation and leadership in the global remote sensing industry.

(b) In carrying out this part, the Secretary takes into account the following considerations:

(1) Technological changes in remote sensing;

(2) Non-technological changes in the remote sensing space industry, such as to business models and practices;

(3) The relative burden to licensees and benefits to national security and international policies of license conditions;

(4) Changes in the methods to mitigate risks to national security and international policies;

(5) International obligations of the United States;

(6) The availability of data from sources in other nations;

(7) The remote sensing regulatory environment in other nations; and

(8) The potential for overlapping regulatory burdens imposed by other U.S. Government agencies.

§ 960.2 Jurisdiction.

(a) The regulations in this part set forth the requirements for the operation of private remote sensing space systems within the United States or by a U.S. person.

(b) Instruments used primarily for mission assurance or other technical purposes, including but not limited to navigation, attitude control, monitoring spacecraft health, separation events, or payload deployments, such as traditional star trackers, sun sensors, and horizon sensors, shall not be subject to this part.

(c) In the case of a system that is used for remote sensing and other purposes, as determined by the Secretary, the scope of the license issued under this part will not extend to the operation of instruments that do not support remote sensing.

(d) The Secretary does not authorize the use of spectrum for radio communications by a private remote sensing space system.

§ 960.3 Applicability to existing licenses.

(a) After reviewing each license existing prior to [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*], on [INSERT

DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*], the Secretary will either:

(1) Replace the existing license with one developed in accordance with this part, retaining any applicable waivers and modifications; or

(2) If the Secretary determines that an existing licensee no longer requires a license under this part the Secretary will notify the existing licensee that the license is terminated.

(b) The replacement license or termination determination will be effective 30 days after delivery by the Secretary to existing licensees. Existing licensees who object to their existing license being replaced or terminated must notify the Secretary in writing within those 30 days, and specify their objection in the notification.

§ 960.4 Definitions.

For purposes of this part, the following terms have the following meanings:

Act means the Land Remote Sensing Policy Act of 1992, as amended, codified at 51 U.S.C. 60101, *et seq.*

Anomaly means an unexpected event or abnormal characteristic affecting the operations of a system that could indicate a significant technical malfunction or security threat. Anomalies include any significant deviation from the orbit and data collection characteristics of the system.

Appellant means a person to whom the Secretary has certified an appeal request.

Applicant means a person who submits an application to operate a private remote sensing space system.

Application means a document submitted by a person to the Secretary that contains all the information described in appendix A of this part.

Available means readily and consistently obtainable by an entity or individual other than the U.S. Government or a foreign government.

Ground sample distance or *GSD* refers to the common measurement for describing the spatial resolution of unenhanced data created from most remote sensing instruments, typically measured in meters. A resolution "finer than" X meters GSD means the resolution is a number lower than X. For example, 5 meters GSD is finer than 10 meters GSD.

In writing or *written* means written communication, physically or electronically signed (if applicable), transmitted via email, forms submitted on the Secretary's website, or traditional mail.

License means a license granted by the Secretary under the Act.

Licensee means a person to whom the Secretary has granted a license under the Act.

Material fact means a fact an applicant provides in the application, or a fact in Parts C or D of a license.

Memorandum of Understanding or *MOU* means the April 25, 2017 version of the "Memorandum of Understanding Among the Departments of Commerce, State, Defense, and Interior, and the Office of the Director of National Intelligence, Concerning the Licensing and Operations of Private Remote Sensing Satellite Systems," which is included as appendix D of this part. In the event that any provisions of the MOU conflict with this part, this part shall govern.

Modification means any change in the text of a license after issuance.

Operate means to have decision-making authority over the functioning of a remote sensing instrument. If there are multiple entities involved, the entity with the ultimate ability to decide what unenhanced data to collect with the instrument and to execute that decision, directly or through a legal arrangement with a third party such as a ground station or platform owner, is considered to be operating that system.

Person or *private sector party* means any entity or individual other than agencies or instrumentalities of the U.S. Government.

Private remote sensing space system or *system* means an instrument that is capable of conducting remote sensing and which is not owned by an agency or instrumentality of the U.S. Government. A system must contain a remote sensing instrument and all additional components that support operating the remote sensing instrument, receipt of unenhanced data, and data preprocessing, regardless of whether the component is owned or managed by the applicant or licensee, or by a third party through a legal arrangement with the applicant or licensee.

Remote sensing means the collection of unenhanced data by an instrument in orbit of the Earth which can be processed into imagery of surface features of the Earth.

Secretary means the Secretary of Commerce, or his or her designee.

Significant or substantial foreign agreement means a contract or legal arrangement with a foreign national, entity, or consortium involving foreign nations or entities, only if executing such contract or arrangement would require a license modification under § 960.13.

Subsidiary or affiliate means a person who directly or indirectly, through one or more intermediaries, controls or is controlled by or is under common control with, the applicant or licensee.

Substantially the same means that one item is a market substitute for another, taking into account all applicable factors. When comparing data, factors include but are not limited to the data's spatial resolution, spectral bandwidth, number of imaging bands, temporal resolution, persistence of imaging, local time of imaging, geographic or other restrictions imposed by foreign governments, and all applicable technical system factors listed in the application in appendix A of this part.

Unenhanced data means the output from a remote sensing instrument, including imagery products, which is either unprocessed or preprocessed. Preprocessing includes rectification of system and sensor distortions in data as it is received directly from the instrument in preparation for delivery to a user, registration of such data with respect to features of the Earth, and calibration of spectral response with respect to such data, but does not include conclusions, manipulations, or calculations derived from such data, or a combination of such data with other data.

U.S. person means:

(1) Any individual who is a citizen or lawful permanent resident of the United States; and

(2) Any corporation, partnership, joint venture, association, or other entity organized or existing under the laws of the United States or any State, the District of Columbia, Puerto Rico, American Samoa, the United States Virgin Islands, Guam, the

Northern Mariana Islands, and any other commonwealth, territory, or possession of the United States.

Waiver means any change from the standard license text in § 960.8, § 960.9, or § 960.10, which change is included in a license upon license issuance, in response to a request by the applicant pursuant to § 960.12.

Subpart B—License Application Submission and Categorization

§ 960.5 Application submission.

(a) Before submitting an application, a person may consult informally with the Secretary to discuss matters under this part, including whether a license is likely to be required for a system.

(b) A person may submit an application for a license in accordance with the specific instructions found in appendix B of this part. The application must contain fully accurate and responsive information, as described in appendix A of this part. Responses an applicant provides to each prompt in the application constitute material facts.

(c) Within seven days of the submission, the Secretary shall determine, after consultation with the Secretaries of Defense and State, whether the submission is a complete application meeting the requirements of appendix A of this part. If the submission is a complete application, the Secretary shall immediately notify the applicant in writing. If the submission is not a complete application, the Secretary shall inform the applicant in writing of what additional information or clarification is required to complete the application.

(d) If any information the applicant submitted becomes inaccurate or incomplete at any time after submission to the Secretary but before license grant or denial, the

applicant must contact the Secretary and submit correct and updated information as instructed by the Secretary. The Secretary will determine whether the change is significant. If the Secretary determines that the change is significant, the Secretary will notify the applicant within seven days of receipt of the correct and updated information that the revision constitutes a new application submission under paragraph (b) of this section, and that the previous application is deemed to have been withdrawn.

(e) Upon request by the applicant, the Secretary shall provide an update on the status of their application review.

§ 960.6 Application categorization.

(a) Within seven days of the Secretary's notification to the applicant under § 960.5(c) that the application is complete, the Secretary shall determine, after consultation with the Secretaries of Defense and State as appropriate, the category for the system as follows:

(1) If the application proposes a system with the capability to collect unenhanced data substantially the same as unenhanced data already available from entities or individuals not licensed under this part, such as foreign entities, the Secretary shall categorize the application as Tier 1;

(2) If the application proposes a system with the capability to collect unenhanced data substantially the same as unenhanced data already available, but only from entities or individuals licensed under this part, the Secretary shall categorize the application as Tier 2; and

(3) If the application proposes a system with the capability to collect unenhanced data not substantially the same as unenhanced data already available from any domestic or foreign entity or individual, the Secretary shall categorize the application as Tier 3.

(b) If the Secretary of Defense or State disagrees with the Secretary's determination in paragraph (a) of this section, the Secretary of Defense or State may notify the Secretary and request the Secretary's reconsideration. Such a request for reconsideration may not be delegated below the Assistant Secretary level. If the Secretary of Defense or State disagrees with the Secretary's reconsideration decision, the Secretary of Defense or State may appeal that tier categorization pursuant to the interagency dispute resolution procedures in Section IV(B) of the MOU, but only at the Advisory Committee on Private Remote Sensing Space Systems level or higher. The Secretary shall categorize the system in accordance with the decision resulting from such MOU procedures.

(c) The system shall remain in the tier assigned to it under paragraph (a) in this section until such time as the Secretary determines, after consultation with the Secretaries of Defense and State as appropriate, that the system belongs in a lower-numbered tier due to the advancement of non-U.S. commercial remote sensing capabilities or due to other facts, or until the Secretary grants the licensee's request for a license modification that results in re-categorization under § 960.13. When the Secretary determines that a lower-numbered tier is appropriate due to reasons other than a modification under § 960.13, the Secretary will notify the applicant or licensee in writing that the system falls under a lower-numbered tier than the one previously assigned under this section. Upon receiving

that notification, the applicant or licensee will be responsible for complying only with the license conditions applicable to the new tier.

Subpart C—Application Review and License Conditions

§ 960.7 License grant or denial.

(a) Based on the Secretary's review of the application, the Secretary must determine whether the applicant will comply with the requirements of the Act, this part, and the license. The Secretary will presume that the applicant will comply, unless the Secretary has specific, credible evidence to the contrary. If the Secretary determines that the applicant will comply, the Secretary shall grant the license.

(b) The Secretary shall make the determination in paragraph (a) of this section within 60 days of the notification under § 960.5(c), and shall notify the applicant in writing whether the license is granted or denied.

(c) If the Secretary has not notified the applicant whether the license is granted or denied within 60 days, the applicant may submit a request that the license be granted. Within three days of this request, the Secretary shall grant the license, unless the Secretary determines with specific, credible evidence that the applicant will not comply with the requirements of the Act, this part, or the license, in which case the Secretary will deny the license, or the Secretary and the applicant mutually agree to extend this review period.

§ 960.8 Standard license conditions for all tiers.

All licenses granted under this part shall specify that the licensee shall:

(a) Comply with the Act, this part, the license, applicable domestic legal obligations, and the international obligations of the United States;

(b) Operate the system in such manner as to preserve the national security of the United States and to observe international obligations and policies, as articulated in the other conditions included in this license;

(c) Upon request, offer to the government of any country (including the United States) unenhanced data collected by the system concerning the territory under the jurisdiction of such government without delay and on reasonable terms and conditions, unless doing so would be prohibited by law or license conditions;

(d) Upon termination of operations under the license, make disposition of any satellites in space in a manner satisfactory to the President;

(e) Notify the Secretary in writing of each of the following events, no later than seven days after the event:

(1) The launch and deployment of each system component, to include confirmation that the component matches the orbital parameters and data collection characteristics of the system, as described in Part D of the license;

(2) Each disposal of an on-orbit component of the system;

(3) The detection of an anomaly; and

(4) The licensee's financial insolvency or dissolution;

(f) Request and receive approval for a license modification before taking any action that would change a material fact in the license;

(g) Certify that all material facts in the license remain accurate pursuant to the procedures in § 960.14 no later than October 15th of each year;

(h) Cooperate with compliance, monitoring, and enforcement authorities described in the Act and this part, and permit the Secretary to access, at all reasonable

times and with no shorter notice than 48 hours, any component of the system for the purpose of ensuring compliance with the Act, this part, and the license; and

(i) Refrain from disseminating unenhanced data, or processed data or products derived from the licensee's system, of the State of Israel at a resolution finer than the resolution most recently specified by the Secretary in the *Federal Register* as being available from commercial sources.

§ 960.9 Additional standard license conditions for Tier 2 systems.

If the Secretary has categorized the system as Tier 2 under § 960.6, the license shall specify that the licensee shall comply with the conditions listed in § 960.8 and further shall comply with the following conditions until the Secretary notifies the licensee that the system belongs in a lower-numbered tier:

(a) Comply with limited-operations directives issued by the Secretary, in accordance with a determination made by the Secretary of Defense or the Secretary of State pursuant to the procedures in Section IV(D) of the MOU, that require licensees to temporarily limit data collection and/or dissemination during periods of increased concerns for national security and where necessary to meet international obligation or foreign policy interests; and:

(1) Be able to comply with limited-operations directives at all times. This includes:

(i) the ability to implement National Institute of Standards and Technology-approved encryption, in accordance with the manufacturer's security policy, wherein the key length is at least 256 bits, for communications to and from the on-orbit components

of the system related to tracking, telemetry, and control and for transmissions throughout the system of the data specified in the limited-operations directive; and

(ii) Implementing measures, consistent with industry best practice for entities of similar size and business operations, that prevent unauthorized access to the system and identify any unauthorized access in the event of a limited-operations directive;

(2) Provide and continually update the Secretary with a point of contact and an alternate point of contact for limited-operations directives; and

(3) During any such limited-operations directive, permit the Secretary to immediately access any component of the system for the purpose of ensuring compliance with the limited-operations directive, the Act, this part, and the license.

(b) Conduct resolved imaging of other artificial resident space objects (ARSO) orbiting the Earth only with the written consent of the registered owner of the ARSO to be imaged and with notification to the Secretary at least five days prior to imaging. For purposes of this paragraph (b), "resolved imaging" means the imaging of another ARSO that results in data depicting the ARSO with a resolution of 3 x 3 pixels or greater.

§ 960.10 Additional standard and temporary license conditions for Tier 3 systems.

(a) If the Secretary has categorized the system as Tier 3 under § 960.6, the license shall specify that the licensee shall comply with the conditions listed in § 960.8 and further shall comply with the following conditions until the Secretary notifies the licensee that the system belongs in a lower-numbered tier for which the following conditions are not required:

(1) Comply with limited-operations directives issued by the Secretary, in accordance with a determination made by the Secretary of Defense or the Secretary of

State pursuant to the procedures in Section IV(D) of the MOU, that require licensees to temporarily limit data collection and/or dissemination during periods of increased concerns for national security and where necessary to meet international obligations or foreign policy interests; and:

(i) Be able to comply with limited-operations directives at all times. This includes:

(A) The ability to implement National Institute of Standards and Technology-approved encryption, in accordance with the manufacturer's security policy, wherein the key length is at least 256 bits, for communications to and from the on-orbit components of the system related to tracking, telemetry, and control and for transmissions throughout the system of the data specified in the limited-operations directive; and

(B) Implementing measures, consistent with industry best practice for entities of similar size and business operations, that prevent unauthorized access to the system and identify any unauthorized access in the event of a limited-operations directive;

(ii) Provide and continually update the Secretary with a point of contact and an alternate point of contact for limited-operations directives; and

(iii) During any such limited-operations directive, permit the Secretary to immediately access any component of the system for the purpose of ensuring compliance with the limited-operations directive, the Act, this part, and the license.

(2) Conduct resolved imaging of other artificial resident space objects (ARSO) orbiting the Earth only with the written consent of the registered owner of the ARSO to be imaged and with notification to the Secretary at least five days prior to imaging, or as may otherwise be provided in a temporary license condition developed under paragraphs

(b) and (c) of this section. For purposes of this paragraph (a)(2), "resolved imaging" means the imaging of another ARSO that results in data depicting the ARSO with a resolution of 3 x 3 pixels or greater.

(3) Comply with any temporary license conditions developed in accordance with paragraphs (b) and (c) of this section until their specified expiration date, including any extensions of the expiration date.

(b) To determine whether additional temporary license conditions are necessary, the Secretary shall notify the Secretaries of Defense and State of any system categorized as Tier 3 under § 960.6. 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. Within 21 days of receiving the notification, the Secretary of Defense or State shall notify the Secretary of any such conditions and the length of time such conditions should remain in place, which shall not exceed one year from the earlier of either when the licensee first delivers unenhanced data suitable for evaluating the system's capabilities to the Secretary (under reasonable terms and conditions or other mutually agreed arrangement with the Secretary of Defense or State), or when the Secretary of Defense or State first obtains comparably suitable data from another source, unless the length of such condition is extended in accordance with paragraph (e) of this section.

(c) The Secretary shall review the notification from the Secretary of Defense or State under paragraph (b) of this section and aim to craft the least restrictive temporary license condition(s) possible, before the expiration of the 60-day application review

period under § 960.7(b). In crafting such conditions the Secretary shall consult, as appropriate, with the Secretaries of Defense and State and the applicant or licensee, to determine whether the proposed condition would be consistent with applicable laws. In making this determination, the Secretary shall consider whether:

(1) The risk addressed by the proposed condition is specific and compelling;

(2) The proposed condition would be effective against the risk;

(3) The proposed condition addresses only the data proposed to be collected that are not available from any domestic or foreign source;

(4) The U.S. Government cannot currently mitigate the risk without the proposed condition;

(5) The U.S. Government cannot address the risk by some less restrictive means than the proposed condition; and

(6) The applicant or licensee can mitigate the risk by taking alternative action.

(d) When considering the factors under paragraphs (c)(1) through (6) of this section, the Secretary shall accept as final the determinations made by the Secretary of Defense or State as appropriate, in such Secretary's notification to the Secretary of the need for such conditions. If the Secretary determines that a condition proposed by the Secretary of Defense or State would be consistent with applicable law, the Secretary shall include such condition in the license, absent any elevation of a dispute under paragraph (f) of this section.

(e) The Secretary will notify the Secretaries of Defense and State 90 days before the expiration of a temporary condition imposed under this section. If, within 30 days after such notification, either the Secretary of Defense or State notifies the Secretary that

an extension is needed, the Secretary shall consult with the Secretary of Defense or State about the ongoing need for the temporary condition. The Secretary may extend the expiration date of the temporary condition for a maximum of one year, and may extend the condition no more than two times unless requested by the Secretary of Defense or State. The authority to request such additional extensions shall not be delegated by the Secretary of Defense or State. Therefore, absent a request specifically from the Secretary of Defense or State, any temporary condition may exist for no more than a total of three years. The Secretary shall grant an extension if the Secretary determines that:

(1) The Secretary requesting the extension has shown that the considerations in paragraph (c) of this section justify an extension; and

(2) The Secretary has notified the affected licensee no less than 60 days before the expiration of the temporary condition that an extension is being sought.

(f) If, at any point during the procedures in this section, the Secretary, the Secretary of Defense, or the Secretary of State objects to any determination, they may elevate the objection pursuant to the interagency dispute resolution procedures in Section IV(B) of the MOU.

§ 960.11 No additional conditions.

No other conditions shall be included in a license granted under this part, or imposed in such a license after the license has been issued, except in accordance with the provisions of § 960.13 or § 960.17.

§ 960.12 Applicant-requested waiver before license issuance.

As part of the application, the applicant may request that any condition listed in § 960.8, § 960.9, or § 960.10 be waived or adjusted. The Secretary may approve the request

to waive or adjust any such condition if the Secretary determines, after consultation with the Secretaries of Defense and State as appropriate, that the Secretary may waive or adjust the condition without violating the Act or other law, and:

(a) The requirement is not applicable due to the nature of the applicant or the proposed system;

(b) The applicant will achieve the goal in a different way; or

(c) There is other good cause to waive or adjust the condition.

§ 960.13 Licensee-requested modification after license issuance.

(a) The licensee may request in writing that the Secretary modify the license after the license is issued. Such requests should include the reason for the request and relevant supporting documentation.

(b) If the Secretary determines that the requested modification of a license would result in its re-categorization from Tier 1 to Tier 2 under § 960.6, the Secretary shall notify the licensee that approval would require issuance of the conditions in § 960.9, and provide the licensee an opportunity to withdraw or revise the request.

(c) If the Secretary determines that the requested modification of a license would result in its re-categorization from Tier 1 or 2 to Tier 3 under § 960.6, the Secretary shall consult with the Secretaries of Defense or State, as appropriate, to determine whether approval of the request would require additional temporary conditions in accordance with the procedures in § 960.10. If so, the Secretary shall notify the licensee that approval would require such additional temporary conditions, and provide the licensee an opportunity to withdraw or revise the request.

(d) The Secretary shall approve or deny a modification request after consultation with the Secretaries of Defense and State as appropriate, and shall inform the licensee of the approval or denial within 60 days of the request, unless the Secretary and the applicant mutually agree to extend this review period.

§ 960.14 Routine compliance and monitoring.

(a) Annually, by the date specified in the license, the licensee will certify in writing to the Secretary that each material fact in the license remains accurate.

(b) If any material fact in the license is no longer accurate at the time the certification is due, the licensee must:

(1) Provide all accurate material facts;

(2) Explain the reason for any discrepancies between the terms in the license and the accurate material fact; and

(3) Seek guidance from the Secretary on how to correct any errors, which may include requesting a license modification.

§ 960.15 Term of license.

(a) The license term begins when the Secretary transmits the signed license to the licensee, regardless of the operational status of the system.

(b) The license is valid until the Secretary confirms in writing that the license is terminated, because the Secretary has determined that one of the following has occurred:

(1) The licensee has successfully disposed of, or has taken all actions necessary to successfully dispose of, all on-orbit components of the system, and is in compliance with all other requirements of the Act, this part, and the license;

(2) The licensee never had system components on orbit and has requested to end the license term;

(3) The license is terminated pursuant to § 960.17; or

(4) The licensee has executed one of the following transfers, subsequent to the Secretary's approval of such transfer:

(i) Ownership of the system, or the operations thereof, to an agency or instrumentality of the U.S. Government; or

(ii) Operations to a person who is not a U.S. person and who will not operate the system from the United States.

Subpart D—Prohibitions and Enforcement

§ 960.16 Prohibitions.

Any person who operates a system from the United States and any person who is a U.S. person shall not, directly or through a subsidiary or affiliate:

(a) Operate a system without a current, valid license for that system;

(b) Violate the Act, this part, or any license condition;

(c) Submit false information, interfere with, mislead, obstruct, or otherwise frustrate the Secretary's actions and responsibilities under this part in any form at any time, including in the application, during application review, during the license term, in any compliance and monitoring activities, or in enforcement activities; or

(d) Fail to obtain approval for a license modification before taking any action that would change a material fact in the license.

§ 960.17 Investigations and enforcement.

(a) The Secretary may investigate, provide penalties for noncompliance, and prevent future noncompliance, by using the authorities specified at 51 U.S.C. 60123(a).

(b) When the Secretary undertakes administrative enforcement proceedings as authorized by 51 U.S.C. 60123(a)(3) and (4), the parties will follow the procedures provided at 15 CFR part 904.

Subpart E—Appeals Regarding Licensing Decisions

§ 960.18 Grounds for adjudication by the Secretary.

(a) In accordance with the procedures in this subpart, a person may appeal the following adverse actions for adjudication by the Secretary:

(1) The denial of a license;

(2) The categorization of a system in a tier;

(3) The failure to make a final determination on a license grant or denial or a licensee's modification request within the timelines provided in this part;

(4) The imposition of a license condition;

(5) The denial of a licensee-requested license modification; and

(6) The replacement of an existing license with a license granted under § 960.3(a)(1) or termination of an existing license under § 960.3(a)(2).

(b) The only acceptable grounds for appeal of the actions in paragraph (a) of this section are as follows:

(1) The Secretary's action was arbitrary, capricious, or contrary to law; or

(2) The action was based on a clear factual error.

(c) No appeal is allowed to the extent that there is involved the conduct of military or foreign affairs functions.

§ 960.19 Administrative appeal procedures.

(a) A person wishing to appeal an action specified at § 960.18(a) may do so within 21 days of the action by submitting a written request to the Secretary.

(b) The request must include a detailed explanation of the reasons for the appeal, citing one of the grounds specified in § 960.18(b).

(c) Upon receipt of a request under paragraph (a) of this section, the Secretary shall review the request to certify that it meets the requirements of this subpart and chapter 7 of title 5 of the United States Code. If it does, the Secretary shall coordinate with the appellant to schedule a hearing before a hearing officer designated by the Secretary. If the Secretary does not certify the request, the Secretary shall notify the person in writing that no appeal is allowed, and this notification shall constitute a final agency action.

(d) The hearing shall be held in a timely manner. It shall provide the appellant and the Secretary an opportunity to present evidence and arguments.

(e) Hearings may be closed to the public, and other actions taken as the Secretary deems necessary, to prevent the disclosure of any information required by law to be protected from disclosure.

(f) At the close of the hearing, the hearing officer shall recommend a decision to the Secretary addressing all factual and legal arguments.

(g) Based on the record of the hearing and the recommendation of the hearing officer, and after consultation, as appropriate, with the Secretaries of Defense and State in decisions implicating national security and international obligations and policy, respectively, the Secretary shall make a decision adopting, rejecting, or modifying the

recommendation of the hearing officer. This decision constitutes a final agency action, and is subject to judicial review under chapter 7 of title 5 of the United States Code.

Appendix A to Part 960—Application Information Required

To apply for a license to operate a remote sensing space system under 51 U.S.C. 60101, *et seq.* and this part, you must provide:

1. Material Facts: Fully accurate and responsive information to the following prompts under "Description of Applicant (Operator)" and "Description of System." If a question is not applicable, write "N/A" and explain, if necessary.

2. Affirmation: Confirm by indicating below that there will be, at all times, measures in place to ensure positive control of any spacecraft in the system that have propulsion, if applicable to your system. Such measures include encryption of telemetry, command, and control communications or alternative measures consistent with industry best practice.

3. Your response to each prompt below constitutes a material fact. If any information you submit becomes inaccurate or incomplete before a license grant or denial, you must promptly contact the Secretary and submit correct and updated information as instructed by the Secretary.

Part A: Description of Applicant (Operator)

1. General Applicant Information

a. Name of Applicant (entity or individual):

b. Location and address of Applicant:

c. Applicant contact information (for example, general corporate or university contact information):

d. Contact information for a specific individual to serve as the point of contact with Commerce:

e. Contact information for a specific individual to serve as the point of contact with Commerce for limited-operations directives, if different than main point of contact, in the event that the applicant will receive a license in Tier 2 or Tier 3:

f. Place of incorporation and, if incorporated outside the United States, an acknowledgement that you will operate your system within the United States and are therefore subject to the Secretary's jurisdiction under this part:

2. Ownership interests in the Applicant:

a. If there is majority U.S. ownership: report any domestic entity or individual with an ownership interest in the Applicant totaling at least 50 percent:

b. If there is not majority U.S. ownership: report all foreign entities or individuals whose ownership interest in the Applicant is at least 10 percent:

c. Report any ownership interest in the Applicant by any foreign entity or individual on the Department of Commerce's Bureau of Industry and Security's Denied Persons List or Entity List or on the Department of the Treasury's Office of Foreign Asset Control's Specially Designated Nationals and Blocked Person List:

3. Identity of any subsidiaries and affiliates playing a role in the operation of the System, including a brief description of that role:

Part B: Description of System

1. General System Information

a. Name of system:

b. Brief mission description:

2. Remote Sensing Instrument(s) parameters

a. Sensor type (Electro Optical, Multi-Spectral (MSI), Hyperspectral (HSI), Synthetic Aperture Radar (SAR), Light Detection and Ranging (LIDAR), Thermal Infrared (TIR), etc.):

b. Imaging/frame rate in Hertz; pulse repetition frequency for SAR or LIDAR:

c. Spatial resolution in meters (show calculation for the anticipated finest ground spatial distance (GSD), impulse response (IPR), or other relevant appropriate unit of resolution):

d. Spectral range in nanometers:

e. Collection volume in area per unit time per spacecraft: provide an estimate of the maximum number of square kilometers of which the system can provide data/imagery per hour or per minute. If this is a fast-framing system, consider each recorded frame as a separate image collected:

f. Ability of the remote sensing instrument to slew, point, or digitally look off-axis from the x, y, and z axes of travel:

3. If any entity or individual other than the Applicant will own, control, or manage any *remote sensing instrument* in the System:

a. Identity and contact information of that entity or individual:

b. Relationship to Applicant (i.e., operating under Applicant's instructions under a contract):

4. Spacecraft Upon Which the Remote Sensing Instrument(s) is (are) Carried

a. Description:

b. Estimated launch date(s) in calendar quarter:

c. Number of spacecraft (system total and maximum in-orbit at one time):

d. For each spacecraft, provide the following (or if an entire constellation will have substantially the same orbital characteristics, provide these values for the entire constellation and note whether or not all spacecraft will be evenly spaced)

i. Altitude range in kilometers:

ii. Inclination range in degrees:

iii. Period (time of a single orbit):

iv. Longitude of the ascending node:

v. Eccentricity:

vi. Argument of perigee:

vii. Propulsion (yes/no). (If "yes," you must complete the affirmation in the beginning of this application):

viii. Ability of the spacecraft to slew, point, or digitally look off-axis from the x, y, and z axes of travel:

5. If any entity or individual other than the Applicant will own, control, or manage any *spacecraft* in the System

a. Identity and contact information of that entity or individual:

b. Whether that entity or individual is a U.S. person:

c. Relationship to Applicant (i.e., operating under Applicant's instructions under a contract):

6. Ground Components

a. Location of Mission Control Center(s) with the ability to operate the system, including where commands are generated:

b. Location of other Ground Station components of the system, meaning facilities that communicate commands to the instrument or receive unenhanced data from it, and facilities that conduct data preprocessing:

c. If any entity or individual other than the Applicant will own, control, or manage any *mission control center(s)* with the ability to operate the System

i. Identity and contact information of that entity or individual:

ii. Relationship to Applicant (i.e., operating under Applicant's instructions under a contract):

7. Information Applicable to Multi-Spectral Imaging (MSI) and/or Hyper-Spectral Imaging (HSI). Applicants must complete this section only if the response in Part B section 2.a. is "MSI" and/or "HSI."

a. Number of spectral bands:

b. Individual spectral bandwidths (to include range of the upper and lower ends of each spectral band in nanometers):

8. Noise Equivalent Target (NET). Applicants must complete this section only if the response in Part B 2.c. is 5 meters or less, and the answer in Part B section 2.a. is neither "SAR" nor "LIDAR." NET is the primary parameter used by the U.S. Government to describe an Electro Optical sensor's light sensitivity performance for a target at the same distance from the sensor as is specified as the minimum operating altitude in Part B section 4.d.i. If NET cannot be calculated, simply report the expected minimum detectable ground target radiance in watts:

9. Information Applicable to Light Detection and Ranging (LIDAR) if used for remote sensing. Responses should include the calculations used to derive the reported parameters. Applicants must complete this section only if the response in Part B section 2.a. is “LIDAR.”

a. Type (linear scanning or flash LIDAR (Geiger)):

b. Laser wavelength and pulse frequency:

c. Laser pulse width:

d. Spectral linewidth:

e. Z/Elevation accuracy in meters:

10. Information Applicable to Synthetic Aperture Radar (SAR). Applicants must complete this section only if the response in Part B section 2.a. is “SAR.”

a. Azimuth resolution (ground plane):

b. Range resolution (ground plane):

c. SAR Signal-To-Noise Ratio (SNR):

d. Polarization Capability (i.e. dual polarization, quad polarization):

e. Complex data: Preservation of phase history data in standard format? (yes/no):

f. Center frequency:

g. Squint and Graze angles (include maximum and minimum), or other parameters that determine the size and shape of the area of regard of the sensor collection footprint at the ground:

11. Information Applicable to Thermal Infrared (TIR). TIR is defined as collecting in the spectral range of 3.0–5.0 and/or 8.0-12.0-micrometers. Applicants must complete this section only if the response in Part B section 2.a. is “TIR.”

a. Estimated relative thermometric accuracy in degrees Kelvin (+/- x degrees of actual):

b. Noise Equivalent Differential Temperature (NEDT), or if NEDT cannot be calculated, simply provide the expected temperature sensitivity in terms of minimum resolvable temperature difference in degrees[1]:

Part C: Requests for Standard License Condition Waivers or Adjustments

Standard license conditions are listed at §§ 960.8. 960.9, and 960.10 for Tier 1, Tier 2, and Tier 3 systems, respectively. If requesting that any of these be waived or adjusted, please identify the specific standard license condition and explain why one of the following circumstances applies:

1. The requirement is not applicable due to the nature of the Applicant or the proposed system;

2. The Applicant will achieve the goal in a different way; or

3. There is other good cause to waive or adjust the condition.

OPTIONAL:

You may submit evidence of the availability of unenhanced data that is substantially the same as unenhanced data you propose to produce with your system. The Secretary will take any such evidence into account, in addition to other evidence of availability, when determining the appropriate tier for your system under § 960.6.

Appendix B to Part 960—Application Submission Instructions

[1]NEDT (noise equivalent differential temperature) is the key figure of merit which is used to qualify midwave (MWIR) and longwave (LWIR) infrared cameras. It is a signal-to-noise figure which represents the temperature difference which would produce a signal equal to the camera's temporal noise. It therefore represents approximately the minimum temperature difference which the camera can resolve. It is calculated by dividing the temporal noise by the response per degree (responsivity) and is usually expressed in units of milliKelvins. The value is a function of the camera's f/number, its integration time, and the temperature at which the measurement is made.

A person may apply to operate a private remote sensing space system by submitting the information to the Secretary as described in appendix A of this part. This information can be submitted in any one of the following three ways:

1. Complete the fillable form at the Secretary's designated website, presently at *www.nesdis.noaa.gov/crsra*.

2. Respond to the prompts in appendix A of this part and email your responses to *crsra@noaa.gov*.

3. Respond to the prompts in appendix A of this part and mail your responses to: Commercial Remote Sensing Regulatory Affairs, 1335 East-West Highway SSMC-1/G-101, Silver Spring, MD 20910.

Appendix C to Part 960—License Template

Part A: Determination and License Grant

1. The Secretary determines that [licensee name], as described in Part C, will comply with the requirements of the Act, the regulations at this part, and the conditions in this license.

2. Accordingly, the Secretary hereby grants [licensee name] (hereinafter "Licensee"), as described in Part C, this license to operate [system name] (hereinafter "the System"), as described in Part D, subject to the terms and conditions of this license. This license is valid until its term ends in accordance with § 960.15. The Licensee must request and receive approval for a license modification before taking any action that would contradict a material fact listed in Part C or D of this license.

3. The Secretary makes this determination, and grants this license, under the Secretary's authority in 51 U.S.C. 60123 and regulations at this part. This license does not

authorize the System's use of spectrum for radio communications or the conduct of any non-remote sensing operations that are proposed to be undertaken by the Licensee. This license is not alienable and creates no property right in the Licensee.

Part B: License Conditions

The Licensee (Operator) must, at all times:

[Depending upon the categorization of the application as Tier 1, 2, or 3, Commerce will insert the applicable standard license conditions, found at § 960.8, § 960.9, and/or § 960.10, and, for a Tier 3 license, any applicable temporary conditions resulting from the process in § 960.10, in this part of the license.]

Part C: Description of Licensee

Every term below constitutes a material fact. You must request and receive approval of a license modification before taking any action that would contradict a material fact.

1. General Licensee Information

a. Name of Licensee (entity or individual):

b. Location and address of Licensee:

c. Licensee contact information (for example, general corporate or university contact information):

d. Contact information for a specific individual to serve as the point of contact with Commerce:

e. If Tier 2 or Tier 3, contact information for a specific individual to serve as the point of contact with Commerce for limited-operations directives, if different than main point of contact:

f. Place of incorporation and, if incorporated outside the United States, confirmation that the Licensee acknowledged as part of the application that the Licensee will operate its system within the United States and is therefore subject to the Secretary's jurisdiction under this part:

2. Identity of any subsidiaries and affiliates playing a role in the operation of the System, including a brief description of that role:

Part D: Description of System

1. General System Information

a. Name of system:

b. Brief mission description:

2. Remote Sensing Instrument(s) parameters

a. Sensor type (Electro Optical, Multi-Spectral (MSI), Hyperspectral (HSI), Synthetic Aperture Radar (SAR), Light Detection and Ranging (LIDAR), Thermal Infrared (TIR), etc.):

b. Imaging/frame rate in Hertz; pulse repetition frequency for SAR; or number of looks for LIDAR:

c. Spatial resolution in meters:

d. Spectral range in nanometers:

e. Collection volume in area per unit time per spacecraft: an estimate of the maximum number of square kilometers of which the system can provide data/imagery per hour or per minute:

f. Ability of the remote sensing instrument to slew, point, or digitally look off-axis from the x, y, and z axes of travel:

3. If any entity or individual other than the Licensee will own, control, or manage any *remote sensing instrument* in the System:

a. Identity and contact information of that entity or individual:

b. Relationship to Licensee (i.e., operating under Licensee's instructions under a contract):

4. Spacecraft Upon Which the Remote Sensing Instrument(s) is (are) Carried

a. Description:

b. Estimated launch date(s) in calendar quarter:

c. Number of spacecraft (system total and maximum in-orbit at one time):

d. For each spacecraft:

i. Altitude range in kilometers:

ii. Inclination range in degrees:

iii. Period (time of a single orbit):

iv. Longitude of the ascending node:

v. Eccentricity:

vi. Argument of perigee:

vii. Propulsion (yes/no):

viii. Ability of the spacecraft to slew, point, or digitally look off-axis from the x, y, and z axes of travel:

5. If any entity or individual other than the Licensee will own, control, or manage any *spacecraft* in the System

a. Identity and contact information of that entity or individual:

b. Whether that entity or individual is a U.S. person:

c. Relationship to Licensee (i.e., operating under Licensee's instructions under a contract):

6. Ground Components

a. Location of Mission Control Center(s) with the ability to operate the system, including where commands are generated:

b. Location of other Ground Station components of the system, meaning facilities that communicate commands to the instrument or receive unenhanced data from it, and facilities that conduct data preprocessing:

c. If any entity or individual other than the Licensee will own, control, or manage any *mission control center(s)* with the ability to operate the System

i. Identity and contact information of that entity or individual:

ii. Relationship to Licensee (i.e., operating under Licensee's instructions under a contract):

7. Information Applicable to Multi-Spectral Imaging (MSI) and/or Hyper-Spectral Imaging (HSI).

a. Number of spectral bands:

b. Individual spectral bandwidths (to include range of the upper and lower ends of each spectral band in nanometers):

Appendix D to Part 960—Memorandum of Understanding

Memorandum of Understanding Among the Departments of Commerce, State, Defense, and Interior, and the Office of the Director of National Intelligence, Concerning the Licensing and Operations of Private Remote Sensing Satellite Systems. April 25, 2017.

I. Authorities and Roles

This Memorandum of Understanding (MOU) is undertaken pursuant to the National and Commercial Space Programs Act, 51 U.S.C, 60101 *et seq.* ("the Act"), 15 CFR part 960, National Security Presidential Directive 27 (NSPD-27), and Presidential Policy Directive-4 PPD-4) ("applicable directives"), or to any renewal of, or successor to, the Act and the applicable directives.

The principal Parties to this MOU are the Department of Commerce (DOC), Department of State (DOS), Department of Defense (DOD), and Department of the Interior (DOI). The Office of the Director of National Intelligence (ODNI) and the Joint Chiefs of Staff (JCS) provide supporting advice pertaining to their areas of expertise. The Secretary of commerce is responsible for administering the licensing of private remote sensing satellite systems pursuant to the Act and applicable directives, and fulfills this responsibility through the National Oceanic and Atmospheric Administration (NOAA). For remote sensing issues, the Act also grants the authority to the Secretary of State to determine conditions necessary to meet international obligations and foreign policies, and to the Secretary of Defense to determine conditions necessary to meet the national security concerns raised by any remote sensing license application submitted pursuant to the Act and applicable directives, or to any amendment, renewal, or successor thereto. In addition, pursuant to this MOU, NOAA shall also consult with the Director of National Intelligence (DNI) for the views of the Intelligence Community (IC) and with the Chairman of the Joint Chiefs of Staff for the views of the DOD joint operational community.

II. Purpose

The purpose of this MOU is to establish the interagency consultation process for adjudicating remote sensing licensing actions, and the consultation process for the interruption of normal commercial operations pursuant to the Act and applicable directives.

III. Policy

In consultation with affected departments and agencies, including the DNI and JCS, the Secretary of Commerce will impose constraints on private remote sensing systems when necessary to meet the international obligations, foreign policy concerns, and/or national security concerns of the United States, and shall accord with the determinations of the Secretary of State and the Secretary of Defense, and with applicable laws and directives. Procedures for implementing this policy are established below, with each Party to this MOU separately establishing and documenting its internal timelines and decision authorities below the Cabinet level.

IV. Procedures for Department/Agency Review

A. Consultation During Review of Licensing Actions

Pursuant to the Act and applicable directives, or to any renewal thereof or successor thereto, the Secretary of Commerce shall review any application and make a determination within 120 days of receipt of such application. If final action has not occurred within such time, then the Secretary shall inform the applicant of any pending issues and of actions required to resolve them. The DOC will provide copies of requests for licensing actions to DOS, DOD, DOI, ODNl, and JCS within 3 working days. Each of these entities will inform DOC, through NOAA, of the office of primary responsibility, including primary and backup points of contact, for license action coordination.

(1) DOC will defer its decision on licensing requests until the other reviewing agencies have had a reasonable time to review them, as provided in this section. Within 10 working days of receipt, if DOS, DOD, DOI, ODNI, or JCS wants more information or time to review, then it shall notify, in writing, DOC/NOAA (a) of any additional information that it believes is necessary to properly evaluate the licensing action, or (b) of the additional time, not to exceed 10 working days, necessary to complete the review. This notification shall state the specific reasons why the additional information is sought, or why more time is needed.

(2) After receiving a complete license package, including any additional information that was requested as described above, DOS, DOD, DOI, ODNI and JCS will provide their final recommendations on the license package within 30 days, or otherwise may request from DOC/NOAA additional time necessary to provide a recommendation. If DOS determines that imposition of conditions on the actions being reviewed is necessary to meet the international obligations and foreign policies of the United States, or DOD determines that imposition of conditions are necessary to address the national security concerns of the United States, the MOU Party identifying the concern will promptly notify, in writing, DOC/NOAA and those departments and agencies responsible for the management of operational land imaging space capabilities of the United States. Such notification shall: (a) Describe the specific national security interests, or the specific international obligations or foreign policies at risk, if the applicant's system is approved as proposed; (b) set forth the specific basis for the conclusion that operation of the applicant's system as proposed will not preserve the identified national security interests or the identified international obligations or foreign policies; and (c) either specify the

additional conditions that will be necessary to preserve the relevant U.S. interests, or set forth in detail why denial is required to preserve such interests. All notifications under this paragraph must be in writing.

B. Interagency Dispute Resolution for Licensing Actions

(1) Committees. The following committees are established, described here from the lowest level to the highest, to adjudicate disagreements concerning proposed commercial remote sensing system licenses.

(a) Operating Committee on Private Remote Sensing Space Systems. An Operating Committee on Private Remote Sensing Space Systems (RSOC) is established. The Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator shall appoint its Chair. Its other principal members shall be representatives of DOS, DOD, and DOI, or their subordinate agencies, who along with their subject matter experts, can speak on behalf of their department or agency. Representatives of the ODNI and the JCS shall participate as supporting members to provide independent advice pertaining to their areas of expertise. The RSOC may invite representatives of United States Government departments or agencies that are not normally represented in the RSOC to participate in the activities of that Committee when matters of interest to such departments or agencies are under consideration.

(b) Advisory Committee on Private Remote Sensing Space Systems. An Advisory Committee on Private Remote Sensing Space Systems (ACPRS) is established and shall have as its principal members the Assistant Secretary of Commerce for Environmental Observation and Prediction, who shall be Chair of the Committee, and Assistant Secretary representatives of DOS, DOD, and DOI. Appointed representatives of ODNI

and JCS shall participate as supporting members to provide independent advice pertaining to their areas of expertise. Regardless of the department or agency representative's rank and position, such representative shall speak at the ACPRS on behalf of his/her department or agency. The ACPRS may invite Assistant Secretary level representation of United States Government departments or agencies that are not represented in the ACPRS to participate in the activities of that Committee when matters of interest to such departments or agencies are under consideration.

(c) Review Board for Private Remote Sensing Space Systems. The Board shall have, as its principal members, the Under Secretary of commerce for Oceans and Atmosphere, who shall be Chair of the Board, and Under Secretary or equivalent representatives of DOS, DOD, and DOI. The Director of National Intelligence and Chairman of the Joint Chiefs of Staff shall be represented at an appropriate level as supporting members to provide independent advice pertaining to their areas of expertise. The Board may invite the representatives of United States Government departments or agencies that are not represented on the Board, to participate in the activities of the Board when matters of interest to such departments or agencies are under consideration.

(2) Resolution Procedures.

(a) If, following the various intra-departmental review processes, the principal members of the RSOC do not agree on approving a license or on necessary conditions that would allow for its approval, then the RSOC shall meet to review the license application. The RSOC shall work to resolve differences in the recommendations with the goal of approving licenses with the least restrictive conditions needed to meet the international obligations, foreign policies, or national security concerns of the United

States. If the issues cannot be resolved, then the Chair of the RSOC shall prepare a proposed license that reflects the Committee's views as closely as possible, and provide it to the principal members of the RSOC for approval. The proposed license prepared by the RSOC chair shall contain the conditions determined necessary by DOS or DOD. Principal members have 5 working days to object to the proposed license and seek a decision at a higher level. In the absence of a timely escalation, the license proposed by the RSOC Chair will be issued.

(b) If any of the principal Parties disagrees with the proposed license provided by the RSOC Chair, they may escalate the matter to the ACPRS for resolution, Principal Parties must escalate the matter within 5 working days of such a decision. Escalations must be in writing from the principal ACPRS member, and must cite the specific national security, foreign policy, or international obligation concern. Upon receipt of a request to escalate, DOC will suspend any further action on the license action until ACPRS resolution. The ACPRS shall meet to review all departments' information and recommendations, and shall work to resolve interagency disagreements. Following this meeting, the Chair of the ACPRS shall, within 11 working days from the date of receiving notice of escalation, provide the reviewing departments a proposed license that contains the conditions determined by DOS or DOD. Within 5 working days of receipt of the proposed license, an ACPRS principal member may object to the prepared license and seek to escalate the matter to the Review Board. In the absence of an escalation within 5 working days, the license prepared by the ACPRS Chair will be issued.

(c) If any of the principal Parties disagrees with the license prepared by the ACPRS Chair, it may escalate the matter to the Review Board for resolution. Principal

Parties must escalate the matter within 5 working days of such a decision. Escalations must be in writing from the principal Review Board member, and must cite the specific national security, foreign policy, or international obligation concern. Upon receipt of a request to escalate, DOC will suspend any further action on the license action until Review Board resolution. The Review Board shall meet to review information and recommendations that are provided by the ACPRS, and such other private remote sensing matters as appropriate. The Chair of the Board shall provide reviewing departments and agencies a proposed license within 11 working days from the date of receiving notice of escalation. The proposed license prepared by the Review Board chair shall contain the conditions determined necessary by DOS or DOD. If no principal Parties object to the proposed license within 5 working days, it will be issued.

(d) If, within 5 working days of receipt of the draft license, a principal Party disagrees with any conditions imposed on the license, that Party's Secretary will promptly notify the Secretary of Commerce and the other principal Parties in writing of such disagreement and the reasons therefor, and a copy will be provided to the Assistant to the President for National Security Affairs and the Assistant to the President for Science and Technology.

(e) Upon notification of such a disagreement, DOC will suspend further action on the license that would be inconsistent with the Secretary of State or the Secretary of Defense determination. If the Secretary of Commerce believes the limits defined by another Secretary are inappropriate, then the Secretary of Commerce or Deputy Secretary shall consult with his or her counterpart in the relevant department within 10 working days regarding unresolved issues. If the relevant Secretaries are unable to resolve any

issues, the Secretary of Commerce will notify the Assistant to the President for National Security Affairs, who, in coordination with the Assistant to the President for Science and Technology, will seek to achieve consensus among departments and agencies, or failing that, by referral to the President. All efforts will be taken to resolve the dispute within 3 weeks of its submission to the Assistant to the President for National Security Affairs and the Assistant to the President for Science and Technology.

C. Interagency Dispute Resolution Concerning Other Commercial Remote Sensing Matters

Nothing in this MOU precludes any Party to this MOU from addressing through other appropriate channels, consistent with the Act and applicable directives, any matter regarding commercial remote sensing unrelated to (1) adjudicating remote sensing licensing actions, or (2) the interruption of normal commercial operations. Such matters may be raised using standard coordination processes, including by referral to the Assistant to the President for National Security Affairs, who, in coordination with the Assistant to the President for Science and Technology, will seek to achieve consensus among the departments and agencies, or failing that, by referral to the President, when appropriate.

D. Consultation During Review of Interruption of Normal Commercial Operations

(1) This section establishes the process to limit the licensee's data collection and/or distribution where necessary to meet international obligations or foreign policy interests, as determined by the Secretary of State, or during periods of increased concern for national security, as determined by the Secretary of Defense in consultation with the Director of National Intelligence and the Chairman of the Joint Chiefs of Staff. DOC will

provide DOS, DOD, ODNI, and JCS copies of licensee correspondence and documents that describe how the licensee will comply with such interruptions of its commercial operations.

(2) Conditions should be imposed for the smallest area and for the shortest period necessary to protect the international obligations and foreign policies or national security concerns at issue. Alternatives to prohibitions on collection and/or distribution shall be considered as "modified operations," such as delaying or restricting the transmission or distribution of data, restricting disseminated data quality, restricting the field of view of the system, obfuscation, encryption of the data, or other means to control the use of the data, provided the licensee has provisions to implement such measures.

(3) Except where urgency precludes it, DOS, DOD, DOC, ODNI and JCS will consult to attempt to come to an agreement concerning appropriate conditions to be imposed on the licensee in accordance with determinations made by DOS or DOD. Consultations shall be managed so that, in the event an agreement cannot be reached at the staff level, sufficient time will remain to allow the Secretary of Commerce to consult personally with the Secretary of State, the Secretary of Defense, the Director of National Intelligence, or the Chairman of the Joint Chiefs of Staff as appropriate, prior to the issuance of a determination by the Secretary of State, or the Secretary of Defense, in accordance with (4) below. That function shall not be delegated below the Secretary or acting Secretary.

(4) After such consultations, or when the Secretary of State or the Secretary of Defense, specifically determines that urgency precludes consultation with the Secretary of Commerce, the Secretary of State shall determine the conditions necessary to meet

international obligations and foreign policy concerns, and the Secretary of Defense shall determine the conditions necessary to meet national security concerns. This function shall not be delegated below the Secretary or acting Secretary.

(5) The Secretary of State or the Secretary of Defense will provide to the Secretary of Commerce a determination regarding the conditions required to be imposed on the licensees. The determination will describe the international obligations, specific foreign policy, or national security interest at risk. Upon receipt of the determination, DOC shall immediately notify the licensees of the imposition of limiting conditions on commercial operations. Copies of the determination and any implementing DOC action will be provided promptly to the Assistant to the President for National Security Affairs and the Assistant to the President for Science and Technology.

(6) If the Secretary of Commerce believes the conditions determined by another Secretary are inappropriate, he or she will, simultaneous with notification to, and imposition of such conditions on, the licensee, so notify the Secretary of State or the Secretary of Defense, the Assistant to the President for National Security Affairs, and the Assistant to the President for Science and Technology. The Assistant to the President for National Security Affairs, in coordination with the Assistant to the President for Science and Technology, may initiate as soon as possible a Principals-level consultative process to achieve a consensus or, failing that, refer the matter the President for decision. All efforts will be taken to resolve the disagreement within 7 working days of its submission to the Assistant to the President for National Security Affairs and the Assistant to the President for Science and Technology.

E. Coordination Before Release of Information Provided or Generated by Other United States Government Departments or Agencies

Before releasing any information provided or generated by another department or agency to a licensee or potential licensee, to the public, or to an administrative law judge, the agency proposing the release must consult with the agency that provided or generated the information. The purpose of such consultations will be to review the propriety of any proposed release of information that may be privileged or restricted because it is classified, pre-decisional, deliberative, proprietary, or protected for other reasons. No information shall be released without the approval of the department or agency that provided or generated it unless required by law.

F. No Legal Rights

No legal rights or remedies, or legally enforceable causes of action, are created or intended to be created by this MOU.

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