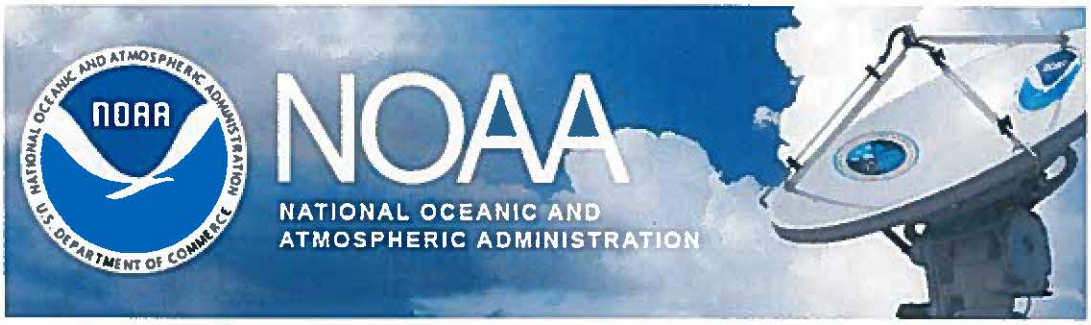

Satellite Products and Services Review Board

Process Paper

Version 17, July 23, 2018

Prepared by:

U. S. Department of Commerce
National Oceanic and Atmospheric Administration
National Environmental Satellite, Data, and Information Service
Satellite Products and Services Review Board Process Improvement Working Group

Approval Page

Satellite Products and Services Review Board

Process Paper

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APPROVALS	
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GROUP: SPIWG Date July 23, 2018 eApproval: CIKANEK.HARRY.ARTHUR.III.1407278204 Digitally signed by CIKANEK.HARRY.ARTHUR.III.1407278204 Date: 2018.08.12 12:11:02 -04'00' NAME: Harry Cikanek, Director Center for Satellite Applications and Research (STAR) SPSRB Co-Chair	GROUP: SPIWG Date July 23 2018 eApproval: NAME: Vanessa Griffin, Director Office of Satellite and Product Operations (OSPO) SPSRB Co-Chair

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1. Introduction

NOAA's Satellite and Information Service (NESDIS) develops, archives, and distributes environmental satellite data and products for all NOAA line offices as well as for a wide range of Federal Government agencies, international users, state and local governments, and the public. Considerable resources are required to develop new or enhanced satellite-derived data products. It is essential that an orderly review and approval process be used to manage the development of these products.

The NESDIS Satellite Products and Services Review Board (SPSRB) is responsible for the oversight and guidance necessary to manage the product lifecycle process effectively. The development and enhancement of products is executed by the Center for Satellite Applications and Research (STAR) and together with the Office of Satellite and Product Operations (OSPO) transition into operations, maintenance and retirement of products. Per the SPSRB Charter, the SPSRB Executive Board is co-chaired by the NESDIS STAR and OSPO Directors.

The SPSRB provides a powerful evaluation mechanism that enables a more efficient use of personnel and fiscal and information technology resources.

This paper describes the current SPSRB process.

2. SPSRB Entities

The SPSRB process relies upon appointed individuals to execute the functions of SPSRB positions, working groups, or advisory boards.

a. ***SPSRB Executive Board***: The SPSRB Executive Board is co-chaired by the NESDIS STAR and OSPO Directors. One representative from each of three NESDIS offices (STAR, OSPO, and OSGS) comprise the voting members. The OSGS voting representative may delegate their vote to the GOES-R or JPSS Program Office as relevant. Interested observers include the NESDIS National Centers for Environmental Information (NCEI), National Weather Service (NWS), National Ocean Service (NOS), National Marine Fisheries Service (NMFS), Office of Atmospheric Research (OAR), NESDIS Office of System Architecture and Advance Planning (OSAAP), NESDIS Joint Polar Satellite System (JPSS) Program, and NESDIS GOES-R Program. The SPSRB Executive Board meets as needed to review and approve new processes and policies. The board also provides guidance on how to address outstanding SPSRB issues.

b. SPSRB: The SPSRB is co-chaired by the NESDIS STAR and OSPO directors. The SPSRB provides a forum for NESDIS offices and stakeholders to fund and monitor the progress of product development, approve new products going into operations, and approve retirements and divestitures of operational requirements. The SPSRB membership is composed of representatives from NESDIS offices and user organizations. The SPSRB also provides satellite product development guidance and policy.

c. SPSRB Executive Secretary: The SPSRB Executive Secretary is assigned for a two-year appointment and rotates between STAR and OSPO (or other volunteering organizations). The secretary is responsible for conducting and recording meetings and actively executing the SPSRB processes.

d. SPSRB Manager (SM): The SPSRB Manager is a permanent OSPO employee who oversees and manages the processing of user requests and tracks their progress to completion or termination.

e. Oversight Panels (OPs) and Product Oversight Panels (POPs): The NESDIS OPs and POPs subject matter experts, provide technical and scientific oversight and guidance during the technical assessment of user requests and during development of products and services. OP/POPs are permanent with membership from STAR, OSPO, and key users. Current OP/POPs represent Navigation, Calibration, Instrument Database, Services, Ocean, Ocean Color, Earth Radiation, Land Surface, Precipitation, Images/Clouds/Aerosols, Winds, and Atmospheric Chemistry.

f. Integrated Product Team (IPT): IPTs are temporary teams responsible for exploring technical alternatives to meet user requests. Once resources are identified to do product development, the IPT oversees product development and is disbanded shortly

after a product goes operational. IPTs are chaired by NESDIS personnel from STAR and OSPO, and include end users of the product. If a product is being proposed for archive, then the IPT will have a member from NCEI. The IPT membership can also include contractor personnel.

g. SPSRB Process Improvement Working Group (SPIWG): The SPIWG is a group made up of representatives from all NESDIS line offices and includes the SPSRB Executive Secretary and Manager. The SPIWG performs scientific and technical assessments of user requests, makes recommendations regarding product development, assigns actions, maintains SPSRB documentation, policies and templates, develops recommendations for improving SPSRB procedures, reviews briefings prior to presentation at the SPSRB, and oversees the development of the SPSRB web pages.

h. SPIWG Executive Secretary: The SPIWG Executive Secretary, a permanent STAR employee, is responsible for setting the agenda, assigning action items, conducting and recording meetings, and actively monitoring the SPSRB processes. This includes scientific and technical reviews, requirement assessments, user outreach, and notification. The SPIWG Executive Secretary coordinates with the SPSRB executive board on reviews, project processes and status as well as action items.

i. Project Lead: The Project Lead is the person within NESDIS STAR/OSPO that guides the project's product development efforts, from research to operations. The Project Lead serves as the project manager for the individual project and is responsible for overall project scientific and technical development, formulation and execution leading to the successful transition to operations. The IPT Lead is responsible for all management aspects of the project including: requirement validation, resource allocation, schedules, budget and contract obligations. The Project Lead is normally the IPT Lead.

j. NOAA Observing System Council (NOSC)/OSAAP: The NOSC and OSAAP work together to define program requirements (L0 and L1) that are carried out by the NOAA Program Managers (GOES-R Series, JPSS, and Satellite Product System Development and Integration (PSDI)), which track funding within their NOAA Line Offices.

k. OSGS Satellite Product Managers: The OSGS Satellite Product Managers (SPM) from GOES-R, JPSS, and Satellite PSDI are SPIWG members and track SPSRB approved funding.

3. SPSRB Process

The SPSRB process is shown in Figure 1: Key SPSRB process steps. There are six key SPSRB steps after the identification of requirements by the User:

(1) Technical Assessment/Requirements Validation
(2) Conduct Analysis of Alternatives as needed
(3) Project Plan
(4) Execute Product Lifecycle
(5) Operational Decision, and
(6) Product Divestiture or Retirement

In addition, there are several SPSRB interface processes. These include:

(1) Resource Identification and Product Development/Reporting,
(2) Consolidated Observational User Requirements List (COURL) database,
(3) Approval of Requirement Changes by NOSC/OSAAP, and
(4) Archiving

The SPSRB focuses on the transition of satellite products from research into operations to meet a user need for satellite information.

The following sections discuss key SPSRB steps (Figure 1: Key SPSRB process steps). The procedures for handling user requests are described, followed by discussions on handling science improvement and NOAA/NESDIS program/project development.

Figure 1: Key SPSRB process steps

3.1. Requirement Identification

Requirement identification will include the requirements, specifications, and other information needed to describe the requested product or service. Operational end users can submit an SPSRB User Request for new or enhanced requirements. The Principal Investigator (STAR, OSPO) can also choose to use the SPSRB process to address project requirements.

a. **SPSRB User Request:**

(1) Users are required to submit a user request to the SPSRB Manager using the User Request Submission Form, accessible from the SPSRB web site at the following link: User Request Submission Form.

(2) The current user request form includes adequate information to evaluate the product specifications/requirements, user benefits for the product, and criticality of need. The request form asks NOAA users to link their request to NOAA Mission Goals.

b. **NESDIS Program Requirements:** SPSRB/SPIWG can receive requirements from the NOSC/OSAAP to develop new or improved satellite products. They formulate plans to acquire the new capabilities for users. STAR scientists and OSPO Product

Area Leads (PALs) ensure satellite product development is properly planned, budgeted, and executed.

3.2. Technical Assessment and Requirements Validation

This step consists of three key steps: (1) Request and Requirement Assessment, (2) LORWG/GORWG Review, and (3) Technical Assessments.

The Request and Requirement Assessment ensures the request is a valid requirement and contains sufficient information to process and perform a technical assessment. The SPSRB Manager (SM) evaluates the user request form for completeness and interacts directly with the user for clarification, or to obtain any missing information. Once deemed complete, the SM forwards the request to the user's supervisor for validation and signature.

If the request is for a new product, the SM contacts the Technology, Planning, and Integration for Observation division (TPIO) to determine if there is already an observation requirement for the product in the Consolidated Observations User Requirements List (COURL).

The SM forwards the User Request to the LORWG/GORWG member for validation and review. If the user request results in a requirements change to the Level 1 requirements document or other standing requirement documents, the SPIWG executive secretary will coordinate with the STAR scientist and OSPO PAL for presentations at the appropriate GORWG or LORWG. Non-NOAA user requests can be presented to the NOSC for approval.

The purpose of the technical assessment is to determine if it is technically feasible to satisfy the user request, and if it provides NESDIS management the opportunity to determine the best way to process the user request. The SPIWG carries out a technical assessment with assistance from subject matter experts (SMEs), the Product Oversight Panels (POPs), as required. The tasks under each phase can vary because the level of effort for a new project can be quite different from an enhanced project.

STAR, OSPO, and OSGS normally perform technical assessments. If the user request asks for the proposed product to be archived, then a representative from NCEI assists in validating the archive requirement and ensures that the archive process is followed in other SPSRB process phases. Once the technical assessment is complete, the SPSRB Manager then leads the technical assessment discussions at a SPIWG meeting.

The SPIWG can take many actions or decisions:

(1) Termination or return to user decision: User requests can be terminated or returned to the user for further clarification.

(2) Policy guidance decision: The user request may require policy guidance from a higher board, like the SPSRB, or NOSC.

(3) Change management decision: If the technical solution is a simple modification, the SPIWG will send the request to OSPO to be treated as a configuration change request. Simple modifications, defined as requiring 160 hours or less of effort, might include a format change, re-engineering to achieve more efficient software or prevent future problems, or modest revisions to add new capability or product to an existing product system.

For all change management requests, the SM will ask OSPO to provide an estimated completion date and inform the SPSRB Manager when the project is complete. Such change management requests will not go through all the steps described in this document, but will be tracked through standard change management processes until completed. Once completed, OSPO will notify the SM and the SM will update the SPSRB database and the user.

(4) Forward to the STAR Principal Investigator (PI) and OSPO PAL: If the technical assessment determines the request can be addressed through an existing program or project effort, the request is sent to the appropriate STAR PI and OSPO PAL. The SPSRB Manager will ask the STAR PI and OSPO PAL to perform a project assessment concerning whether it is appropriate to address the requested development effort under their project. If it is appropriate, the SPSRB Manager will ask the STAR PI and OSPO PAL to provide a schedule for implementation and update the SPIWG on completion of the project.

(5) Forward for further research decision: If the technical assessment determines that additional research is needed before committing to the project plan step, then the SM will forward the user request to the appropriate STAR branch and request that they update the SPIWG on the status of the research at a future SPIWG meeting. Once it has been determined that research has progressed sufficiently and the product is ready for consideration for transition from research to operations, then the next step will be followed.

(6) Project plan decision: If it is clear that satellite product development is required, the SM will document the SPIWG decision to enter into the Project Plan step. The SPIWG will identify membership of the IPT and identify whether the proposed project should follow a "complex" or "simple" review process, as described on the SPSRB web site at http://projects.osd.noaa.gov/SPSRB/design_review_guidance.htm.

(7) Analysis of alternatives decision: If the technical assessment concludes that a new or improved product development effort may be required but there are multiple options on the technical approach to develop a capability, the SPIWG can direct that an Analysis of Alternatives (AoA) be done before proceeding to the project plan step.

During the final step of the Assessment phase, the SM updates the SPSRB user request and SPSRB database and informs the user on the status of the request. The SM enters the

appropriate SPIWG decision into the SPSRB database. A suspense action is assigned to the appropriate individual and tracked until completion.

3.3. Analysis of Alternatives

The purpose of the AoA step is to identify viable technical solutions and to select/gain approval of the most cost-effective product development solution and implementation that satisfies the operational need. The SPIWG determines whether to exercise this optional step in the SPSRB process.

3.3.1. Form Integrated Product Team

The lead branch's IPT Lead assembles NESDIS STAR scientists, OSPO Product Area Leads, OSGS, and users as members of the IPT. If archiving is required, a NCEI member will be part of the IPT.

3.3.2. Identify Viable Options

The Lead STAR personnel, IPT, and OSPO PALs explore alternatives. After all viable solutions have been identified and evaluated, the IPT Lead manages the effort to draft an SPSRB "Analysis of Alternatives (AoA) Decision Briefing" (see http://projects.osd.noaa.gov/SPSRB/briefing_temps.htm for the briefing template). The IPT Lead reviews the proposal for product development and arranges a pre-briefing for the appropriate STAR and OSPO division chiefs. After passing division chief review, the Lead Branch arranges for the full briefing to be presented at an SPSRB meeting.

If appropriate, the analysis of alternatives should assess resources required to archive the proposed product.

3.3.3. Select Implementation Path

There are a number of outcomes possible from the AoA step in SPSRB process:

(1) Termination or return to user decision: The SPIWG may terminate the user request or return it to the user with a request for clarification.

(2) Policy guidance decision: The user request and/or proposal for product development may require policy guidance from management.

(3) Forward for further research decision: If the product development research is not mature enough for transition into operations, the SPIWG will send the user request along with the SPSRB recommendations to STAR with a request to estimate when the research can be done and how long it will take.

(4) Project plan decision: The SPSRB provides an endorsement or modifies the recommendation for product development. If the product development method is approved, then the Lead IPT is directed to develop a "Project Plan."

(5) Change management decision: The SPSRB forwards the request to change management or to an existing project for execution.

In all possible SPSRB outcomes, the SM will document a decision in the SPSRB user request and database and create a follow-up suspense action, as appropriate. The SM will also send out an email update to the person with the suspense action and update the user on the status of the request.

The SM will attach the "Analysis of Alternatives (AoA) Decision Briefing" to the user request, so that anyone querying the user request can view this briefing.

3.4. Project Plan

The purpose of the Project Plan is to define an end-to-end plan, from research to operations, to meet end user requirements. The Lead IPT will develop the Project Plan using the project plan-briefing template found at http://projects.osd.noaa.gov/SPSRB/briefing_temps.htm. The Office Lead for the project will approve the project plan and coordinate with STAR and OSPO, as appropriate. The SPSRB will be briefed on the project plan. Then the SPSRB Executive Secretary will document the SPSRB decision and create a follow-up suspense as appropriate. Once the SPSRB endorses the project plan, the SPSRB will either endorse the end user priority or define a different priority.

3.5. Resource Funding Identification

The Resource Identification step identifies the resources needed for the product development, long-term maintenance, and archive.

Resource identification is critical and a complex step. The primary NESDIS funding sources for product development are:

a. OSGS:

(1) Satellite Product System Development and Implementation (Satellite PSDI)

(2) GOES-R Series PSDI

(3) Joint Polar Satellite System (JPSS) PSDI

b. STAR base

c. OSPO base (less than or equal to160 hours), PSDI (greater than 160 hours)

Occasionally, OSPO or STAR receives external funding to do product development. When external funding is approved and is addressing a known SPSRB user request, then the appropriate office manages the execution of this funding. If the funding includes a

capability or plan to transition a product from research into operations, STAR and OSPO should develop an SPSRB project plan.

The Annual Review for Satellite Product Development annually reviews SPSRB-approved project plans seeking Satellite PSDI, GOES-R PSDI, and JPSS PSDI funding. The SPSRB Executive Board is the primary group determining which satellite development projects receive funds.

Prior to committing resources, the STAR/OSPO office and/or Project Lead will transform the recommended implementation solution approved by SBSPB into the final "Project Plan" for the upcoming fiscal year. These project plans describe how development will transition from research into operations, and are updated at least annually. Prior to the next fiscal year, the Project Leads are asked to update their project plans. The updated plans are reviewed at the next fiscal year Annual Review, and the process is repeated until the project is completed.

An IPT Lead or Project Lead will be responsible for developing a product plan, with oversight provided by the Lead Branch and appropriate Product Oversight Panel. Once funding is identified, the project enters into the Product Development stage.

Once a project enters into the Product Development stage, the budget and schedule are baselined in the approved project plan. The IPT Leads will be responsible for tracking and reporting as required or provide an update at the annual review.

3.6. Product Development and Lifecycle

The purpose of the Product Development stage is to develop and implement the approved technical solution in accordance with the defined capability, requirements, cost, schedule, and performance parameters.

Product development proceeds through three phases: development stage, pre-operations stage, and operations stage (Figure 2: Product Development Stages). The tasks described below are complex review tasks. Project Leads should consider them as they progress through their development efforts. If a Project Lead is directed to follow a simple review process, refer to the web link http://projects.osd.noaa.gov/SPSRB/design_review_guidance.htm for review requirements.

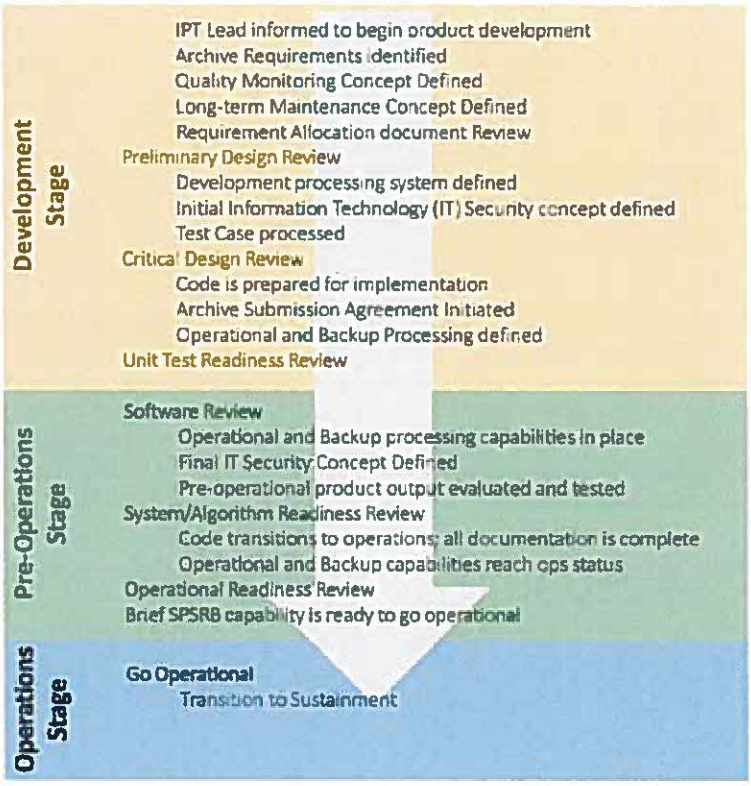

Figure 2: Product Development Stages

Development Stage

The IPT uses the Project Plan as the basis for directing and tracking all major tasks for the Development phase milestones as shown in Figure 2: Product Development Stages. The Development stage include preliminary and critical design reviews and a unit test readiness review. The initial and final archive requirements, if applicable, are identified and submitted to NCEI, who then begins the appraisal process. During this stage, the lead IPT should also work with NCEI on the Submission Agreement for archiving. The IPT Lead and Backup Lead should follow the archive guidance found at http://projects.osd.noaa.gov/SPSRB/archive_guidance.htm

Pre-Operational Stage

This stage allows the IPT Science lead to begin routine processing for the purpose of complete testing and validation of the product, including testing with the Archive. This stage also allows for limited beta testing of the product by selected users. Then user feedback is reviewed to refine the product, ensure product formats are documented properly and are compatible with defined requirements. Tuning of coefficients, if required, may also occur during this phase. The IPT uses the Project Plan as the basis for directing and tracking all Pre-Operations Stage milestones.

For new products, STAR, OSPO, and OSGS management jointly work with the IPTs to make the final decision on whether products are ready to be transitioned into operations. With STAR, OSPO, and OSGS management team approval, the IPT prepares and presents an SPSRB decision brief using the briefing template "Declaring a Product Operational" found at http://projects.osd.noaa.gov/SPSRB/briefing_temps.htm. The Project Leads invite end users to participate in the SPSRB briefing, ensuring user satisfaction and feedback can be considered in the operational decision. This briefing gives the SPSRB an opportunity to assess whether the project has met the user's needs, whether the user is prepared to use the product, and whether OSPO can support the product operationally. The IPT uses the Project Plan as the basis for directing and tracking the Operations Stage milestones, as defined in the project plan.

For enhanced satellite products, the operational agency's Project Lead briefs the SPSD Division Chief, using the "Declaring Enhancement Operational" briefing template found http://projects.osd.noaa.gov/SPSRB/briefing_temps.htm. If substantive changes to the project plan's complexity or milestones are made, they should be re-briefed to the SPSRB for concurrence.

Operations Stage

Once the SPSRB approves a new product or the OSPO/SPSD Division Chief, the project enters the operations stage. The Product Enhancement or the New Product is then announced at the next SPSRB and is ready for operations. Upon transition to operations, the Earth Observation Requirements Evaluation System (EORES) database is then updated and an ESPC Notification, prepared by the appropriate PAL, is released. The project IPT Lead or Backup Lead will notify the SPIWG Executive Secretary that the new capability has been approved to reach operational status within the next 45 days. TPIO will also be notified, so it can update its database. If the products do not go operational during the 45-day period, then the project needs to brief the SPSRB as to why the product did not go operational, and provide a revised schedule. The Project also must send the executive board a memorandum to document the reason for delay and planned mitigation steps.

If the user identifies a significant new requirement or a desired enhancement to an existing product, the user will be asked to submit a new User Request Form and the process begins again.

4. SPSRB Out-of-Cycle Response Process

Occasionally, events or requirements may require an expedited SPSRB process. Examples might be upper management directing that a product development occur quickly or fallout funding becoming available for product development. In these events, classified as "out-of-cycle" events, the SPSRB processes can be streamlined through use of email and special meetings. However, the key processes (e.g., technical assessment, solution

analysis, product development, etc.) will be followed as time permits. The SPIWG will identify an out-of-cycle response.

5. Product Divestiture or Retirement Phase

The NESDIS OSPO and Retirement Divestiture of Satellite products policy is found at https://www.nesdis.noaa.gov/sites/default/files/asset/document/NPD_7101_1A_NESDIS_OSPO_RETIREMENT_AND_DIVESTURE.pdf).

The purpose of the Product Retirement or Divestiture phase (Figure 4: Product Divestiture or Retirement Phase) is to identify products that are no longer needed and can be terminated. The same process is followed if the responsibility for production is being divested or transferred to another organization. This process provides the opportunity to obtain user feedback and for several levels of management to evaluate that input at key decision-making points, leading either to the termination or transfer of the production of that product or service.

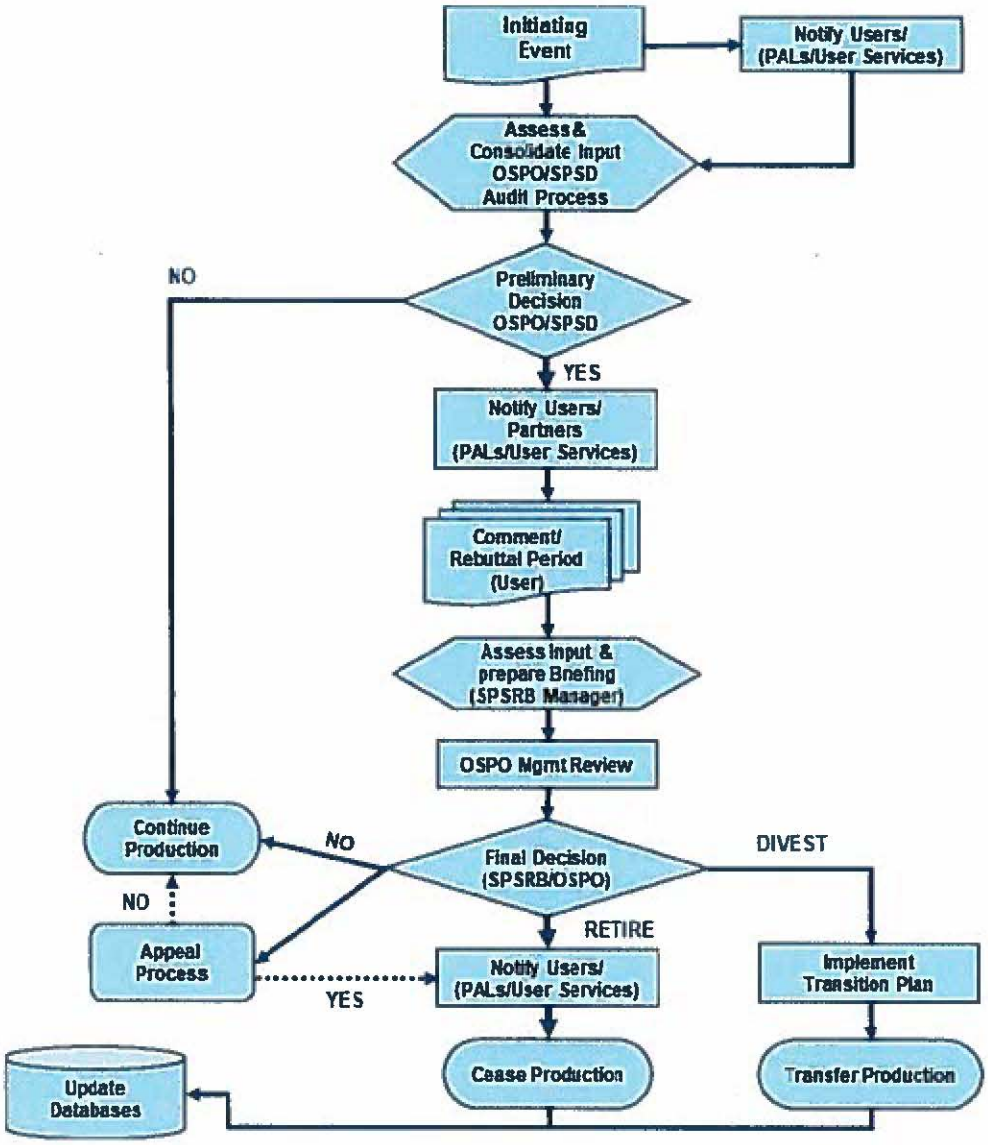

Figure 3: Product Divestiture or Retirement Phase

5.1. Initiation of the Retirement/Divestiture Process

Three broad categories of initiating events can lead to a recommendation for product retirement or divestiture. These include system-driven, user-driven, and fiscal-driven events. System-driven events include the failure, upgrade, or replacement of a satellite platform, satellite instrument or IT system. User-driven events result from evolving or new user requirements. Fiscal-driven events are those that necessitate ceasing or transferring production based on limited resources or changing organizational missions.

For each initiating event, there must be a responsible party and criteria for initiating a product retirement or divestiture process. OSPO, as the owner of the retirement process, may receive recommendations for product retirement and/or divestiture from any entity in the SPSRB process including the user, Product Oversight Panels (POPs), Product Area Leads (PALs) and scientists, STAR/OSPO management, and internal or external oversight boards. Descriptions of initiating events and responsible parties can be found below in Table 5-1: Initiating Events.

Initiating Event	Initiating Criteria	Responsible Party
System-driven		
Satellite instrument failure	Degradation or unavailable data	STAR; OSPO
Satellite platform failure	Unavailable data	OSGS; OSPO
New satellite instrument/ platform	New and possibly improved data	OSGS; STAR; OSPO
New, improved product	Improved quality; new algorithm; new parameter	OSPO; STAR
New IT systems	New production system	OSPO
User-driven		
Quarterly product audit and re-validation of user requirements	Revalidate original user requirement; continuous customer satisfaction plan	OSPO
Quarterly product audit and objective product-use metrics	Metrics indicate no user interest in product; continuous customer satisfaction plan	OSPO
Established decommissioning date	Agreement with user for divestiture or retirement	OSPO
Fiscal-driven		
Reduction in fiscal or personnel resources	Annual ORF funding not adequate; automation of products realized	OSPO
User ceases funding for production	PPBES or external product development/implementation funding not realized or terminated	OSPO
Not part of mission	Re-focus of assets; identical product produced by another agency	OSPO

Table 5-1: Initiating Events

In response to the User-driven and Fiscal-driven initiating events, OSPO defined and documented product audit criteria and procedures in "Environmental Satellite Product Audit Procedures" (ver. 3.2, Jan. 2014). OSPO PALs execute performance audits at

regular intervals during the lifecycle of all operational satellite products per the referenced procedure. One of the principal objectives of the audit is to determine whether the product still meets the original user requirements and performance specifications. Feedback on the importance of various products will be obtained through direct but informal correspondence between PALs, the SPSD user Services Team and the users.

The outcome from a performance audit will be a preliminary recommendation by the independent audit review team either to continue production or to proceed with the retirement or divestiture of the product. Note that formal guidance, regulatory authorities and retirement policy principles for the OSPO product retirement process are captured in the draft NESDIS "Policy on Retirement and Divestiture of Environmental Satellite Products" (ver. 8.0, Feb. 2014).

5.2. Preliminary Decision on Suitability for Retirement/Divestiture

Once the audit identifies a product as a candidate for retirement or divestiture, OSPO will make a preliminary decision on whether to proceed with the recommended retirement/divestiture or continue production. If OSPO determines that there is sufficient justification for retirement or divestiture, then OSPO will move forward to the next step of formally notifying users/partners and gathering comments during a defined rebuttal period.

5.3. User Notification and Impact Assessment

Feedback will be obtained from two groups of users: primary and secondary users. Primary users are those customers that are well known to the Product Area Lead (PAL) and may very well have been the originator of the product's User Request. Primary users will be NOAA or other Government organizations. Secondary users are those users that use the product but may not be known as users by the PAL. This lack of awareness is often attributable to distribution methods such as web pages or ftp sites that lack accountability.

Users will be notified of the intent to retire a product via two methods including: (1) a broadcast email notification from the ESPC Help Desk and from the PAL and (2) the announcement of the retirement via the NESDIS Partnership Policy website at http://www.nesdis.noaa.gov/PartnershipPolicy.html. These notifications will inform the users that they have 30 days to provide feedback on the impact of the proposed retirement on their applications. Typically, if no input is received by the end of that period, it is construed as consent to retire or divest the product.

To ensure notifications reach secondary users, an announcement of intent to retire/divest the product will be placed on the appropriate OSPO product web pages. In the case of divestiture, the PAL will liaise with the identified operational partner that has agreed to assume responsibility for the production of that product. The PAL will inform them of the intent of NESDIS to cease production of the product and will inform the operational partner that they also can provide information on the impact of the product retirement, if they desire. In most cases, the coordination to transfer production responsibility to

another agency should have already occurred by this point in the process. At the conclusion period (after a minimum of 30 days for comment and rebuttal), feedback on user impacts will be consolidated, along with any supporting information, into a Final Product Retirement/Divestiture brief for final review by OSPO management.

5.4. Final Decision on Retirement and/or Divestiture

The decision to retire or divest a product will reside with the SPSRB, based on the recommendation and presentation by OSPO management. The SPSRB will decide to either continue production or retire/divest the product. A consensus vote is required for the final decision to retire or divest a product. The SPSRB voting membership is the appropriate body for making this decision since feedback will be considered from representatives of all the NESDIS satellite service organizations: the NWS, NOS, and NMFS. The NWS, NOS, NMFS, and NCEI users are the foremost consumers of NESDIS satellite data. Therefore, they have the greatest stake in the continued production or retirement of a product.

One possible outcome from the SPSRB voting membership could be that they require additional information to make a decision. In this case, the SPSRB Manager will solicit additional information from the necessary source. The SPSRB Manager will have 30 days to obtain this information and deliver it to the SPSRB. With the additional information in hand, the SPSRB should make all efforts to render a decision within ten working days, by proxy vote, if necessary.

5.5. User Notification and Implementation of Decision

The decision of the SPSRB will be carried out during the Notification and Implementation Phase. If the Board decides that the product should stay in production, the SPSRB Manager will close the action and notify all parties of the decision.

If the decision of the Board is to retire the product, the implementation of this retirement will occur within 30 days of the SPSRB decision, although there may be exceptions to the 30-day retirement mandate. In those cases, the final termination of the processing and distribution of a product will not take place for up to a 12-month grace period (but no longer), thereby allowing users to terminate any dependence and switch to other product alternatives.

During this 30-day retirement period, three actions must be completed:

- First, the SPSRB will notify all users, including pertinent NOAA Program managers, of the decision to retire the product. This notification will take two forms. First, within five working days, the SPSRB Manager shall notify the appropriate PAL of the decision to retire the product. The responsibility for notifying primary users then shifts to the PAL. The PAL will also ensure that an announcement is posted to the appropriate OSPO web pages that inform secondary users of the plan to retire the given product on a specified date.

- Second, the PAL will initiate a CCR and receive approval from the ESPC Configuration Change Board (CCB) to "turn off" the processing and distribution of the product.

- Third, the PAL will update all necessary databases (e.g., the ECMT database and the EORES) regarding the retired status of the product. This step will occur on the specified retirement date.

If the decision of the Board is to divest a given product, the implementation of this divestiture will also involve three actions that need to be completed. Two of the three will be similar to the retirement actions: the notification process and updating databases. The actual divestiture will be more complicated, as it will involve an organization outside the NESDIS umbrella. Within NESDIS, the responsible parties for coordinating the divestiture process will be the applicable PAL and an appropriate point of contact within the OSPO operational organization. The SPSRB Manager will notify these individuals within five working days of the Board's decision to divest the product. This notification will include applicable information on the organization that is assuming production responsibilities. The PAL and OSPO individuals will assume responsibility for ensuring a smooth transition of production to the new, external partner. It is assumed that the product transition plan, previously approved by both organizations, will specify a time to complete the product divestiture. It is recommended, however, that all parties strive to complete the transition within 90-180 days of the SPSRB decision.

5.6. Appeal of SPSRB Decision or SPSRB Non-Consensus Vote

An appeal of the SPSRB consensus decision or a non-consensus vote by the SPSRB on a product retirement can be made to the NESDIS Deputy Assistant Administrator. A non-consensus vote may occur in cases where the product retirement is fiscally driven and continuation of the product may adversely affect the capability of OSPO to ensure the continuous and successful operation of NESDIS satellite processing and distribution systems. Only the SPSRB principals from OSPO, STAR, and/or OSGS can submit appeals. If desired, SPSRB principals could represent the concerns of major user organizations or interagency partners.

The concerned party must initiate the appeal process within 30 days of the SPSRB decision, by notifying the SPSRB Manager. The SPSRB Manager will then facilitate discussion with the SPSRB voting membership, which has 30 days after the appeal is filed to present their case to the Designated Approving Authority (DAA). During this time, all retirement and/or divestiture activities will cease until the NESDIS Designated DAA renders a decision. The appeal process involves taking the same information and briefing that was given to the SPSRB voting membership and having a designated member of the SPSRB present that information to the NESDIS DAA. The NESDIS DAA is charged with deciding whether to uphold the SPSRB decision or overturn it. The NESDIS DAA's decision will be final and binding. All comments, discussion, and votes shall become a part of the permanent SPSRB record.

5.7. Simplified Retirement Process

The retirement process can be tailored in situations when product retirement does not require user feedback. The purpose of simplified retirement process (Figure 4: Simplified Product Retirement Process) is to speed up product retirement. A simplified retirement process can be triggered when either of the following events occurs:

(1) Sensor/Instrument failure
(2) Satellite failure (no immediate replacement)
(3) Product without an identified operational user from Product Audit

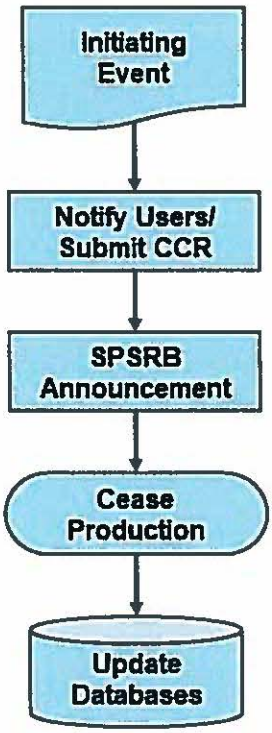

Figure 4: Simplified Product Retirement Process

The implementation of the simplified retirement can be completed within a month from the occurrence of any of the events listed above. During this 30-day period, the following actions must be completed:

- The ESPC Help Desk will notify users of the intent to retire a product. The PAL will ensure that an announcement is posted to the appropriate OSPO web pages including the NESDIS Partnership Policy website at http://www.nesdis.noaa.gov/PartnershipPolicy.html, informing all users on the impending change of the product status.

- The PAL will initiate a CCR and receive approval from the ESPC Configuration Change Board (CCB) formally to "turn off" the processing and distribution of the product.

- OSPO management will make an announcement of the product retirement at the next available session of the SPSRB.

- The PAL will update all necessary databases (e.g., the ECMT database) regarding the retired status of the product. This step will occur on the specified retirement date.

6. Appendices

Appendix A: SPSRB Roles and Responsibilities

SPSRB (co-chaired by STAR and OSPO Office Directors.)

- Voting Principals include the OSPO, STAR and OSGS Deputies.
- Interested observers include the NESDIS NCEI, NWS, NOS, NMFS, OAR, OSAAP, JPSS, GOES-R and program scientists.)
- Provides overall management oversight and guidance on all new or enhanced product development and operational implementation projects in NESDIS
- Responsible for reviewing, assessing and validating user requests and requirements for new or enhanced products
- Responsible for final evaluation of the technical feasibility of new or enhanced algorithms and potential products and services
- Provides management oversight and makes the decision to approve and to prioritize user requests forwarded to the Analysis-of-Alternatives phase
- Makes decisions on product development solutions for new or enhanced product requests
- Makes decisions on the suitability of transitioning a new or enhanced product into operations
- Provides final decisions on product divestiture or retirement

Management Team (OSPO/STAR Division Chiefs)

- Responsible for providing management oversight for facilitating and implementing product development solutions; identifying resources for project support, and ensuring adherence to agreed cost, schedule and performance criteria during product development phases.
- Makes recommendations to transition new or enhanced products into operations.
- Conducts periodic joint reviews of operational products and services with users to assess product quality, sets priorities for new/enhanced products, and identifies potential products suitable for retirement or divestiture

Product Oversight Panels (POPS, normally chaired jointly by a STAR scientist and an OSPO Product Area Lead. Members include other scientists, contractors, representatives of other NOAA Line Offices, representatives of outside agencies, NCEI, OSGS representatives, users, and branch managers.)

- Provides end-to-end technical oversight for the feasibility assessment, development, and operational implementation of new, enhanced and existing satellite products
- Oversees the science quality while observing system performance within assigned product areas
- Serves as the science and operations technical authority for SPSRB and IPT functions
- Supports emergency anomaly identification and correction
- Notifies the SPSRB Manager and SPSRB Executive Secretary when division chiefs approve changes to OP co-chair assignments

- Helps to identify potential IPT members to the Lead Branch and/or STAR/OSPO/OSGS management team

SPSRB Executive Secretary

- Actively participates in the SPSRB process
- Works closely with the co-chairs, voting principals, the SPIWG Chair, the SPSRB, the web page manager and the oversight panels
- Schedules meetings, room reservations, and telecon reservations
- Distributes calls for briefings and meeting announcements
- Moderates SPSRB meetings and coordinates audio/visual logistics
- Coordinates gathering and reviewing meeting material between speakers and SPIWG at least two weeks in advance of SPSRB meetings
- Distributes SPSRB briefings to SPSRB members at least one week in advance of SPSRB meetings
- Prepares and posts meeting minutes
- Prepares and tracks action items
- Maintains list of current POP co-chairs on the SPSRB internet web site
- Announces recent news, including delays in operational promotion of SPSRB-approved products and changes to staffing of POP co-chairs and SPSRB staff
- Provides backup for SPSRB Manager responsibilities and second backup for SPIWG Chair responsibilities

SPSRB Manager

- Performs the initial assessment on all incoming SPSRB user requests by ensuring they contain the information required to perform technical assessments
- Ensures linkage of all user requests and prospective new or enhanced products to NOAA mission goals and COURL
- Tracks all SPSRB requests for new and enhanced satellite-derived products and services throughout the SPSRB process
- Forwards user requests to SPSRB technical assessment leads for initial technical assessment, leads the technical assessment discussion, and documents SPSRB guidance
- Forwards requests to the appropriate lead branches to perform analysis of alternatives and solutions
- Ensures that solutions recommended for product development are sent to the appropriate NESDIS Project Managers for consideration for implementation.
- Keeps users updated on NESDIS actions to address their needs
- Tracks projects that are funded for product development
- Ensures that SPSRB web page requests and project databases are updated
- Keeps the SPSRB Executive Secretary aware of the user requests, so that backup may be provided
- Provides support to the Management Team and the SPSRB by tracking and reporting the end-to-end product development information needed to effectively provide long-term management oversight, including product divestitures/retirements

- Manages content of both the SPSRB internet web site and the SPSRB Request Tracking System, and coordinates suggestions for development and maintenance with the web page manager and associated contractual support
- Provides backup for both the SPSRB Executive Secretary responsibilities and the SPIWG Chair responsibilities

Integrated Product Team (IPT, assembled by the Lead Branch to guide product development project)

- With guidance from the OP, submits a solution recommendation for STAR/ OSPO management team review and approval
- IPT Leads serve as Project Managers for their individual projects, including tracking and reporting monthly milestones, costing, and progress.
- Presents Product and Service Development decision briefings to the SPSRB
- Guides development through the three product development stages (Development, Pre-Operations, and Operations)
- Provides project updates to the SPSRB
- Represents the stakeholders in all phases of the product/service development and implementation lifecycle
- Provides technical continuity from the solutions analysis/selection phase through all steps in product development
- Presents annually at the Annual Review for Satellite Product Development and documents any changes in the approved project plan.
- The IPT is disbanded once the product is declared operational

Web Page Manager

- Provides overall management of the SPSRB internet web site
- Manages contractual support for modifications to the web site

SPIWG (composed of STAR, OSPO and OSGS principals, NCEI and Satellite Program representatives, SPSRB Executive Secretary, SPSRB Manager, and SPIWG Chair)

- Develops recommendations to enhance SPSRB operating and reporting procedures, including development of templates for the SPSRB process
- Recommends changes to the SPSRB Process Paper and Charter
- Carries out technical assessments of user requests and determines courses of action
- Updates and maintains SPSRB documentation, policies, and templates
- Reviews briefings prior to presentation at the SPSRB

SPIWG Chair

- Schedules SPIWG meetings, room reservations, and teleconference reservations
- Distributes SPIWG meeting announcements and agendas
- Moderates SPSRB meetings and coordinates audio/visual logistics
- Gathers briefing material from any guest attendees
- Prepares and distributes SPIWG meeting minutes
- Prepares and tracks SPIWG action items

- Provides second backup for both the SPSRB Executive Secretary responsibilities and the SPSRB Manager responsibilities

Appendix B: Acronyms List

Table 6-1: Acronyms presents the acronyms within this document, and their meanings.

Table 6-1: Acronyms

Acronym	Meaning
AoA	Analysis of Alternatives
CCB	Configuration Change Board
CCR	Configuration Change Request
CDR	Critical Design Review
COURL	Consolidated Observational User Requirements List
DAA	Designated Approving Authority
ECMT	Enterprise Configuration Management Tool
EDMC	Environmental Data Management Committee
EORES	Earth Observation Requirements Evaluation System
ESPC	Environmental Satellite Processing Center
GOES	Geostationary Operational Environmental Satellites
IPT	Integrated Product Team
JPSS	Joint Polar Satellite System
LORWG	Low-Earth Orbiting Requirements Working Group
GORWG	GOES Operational Requirements Working Group
NEC	NOAA Executive Council
NCEI	National Centers for Environmental Information
NEP	NOAA Executive Panel
NESDIS	National Environmental Satellite, Data, and Information Service
NMFS	National Marine Fisheries Service
NOS	National Ocean Service
NOSC	NOAA Observing System Council
NWS	National Weather Service
OAR	Office of Atmospheric Research
OP	Oversight Panel
ORWG	Operational Requirements Working Groups (LORWG and GORWG)
OSAAP	Office of System Architecture and Advance Planning

Acronym	Meaning
OSC	Observing System Committee
OSGS	Office of Satellite Ground Services
OSPO	Office of Satellite Products and Operations
PAL	Product Area Lead
PI	Principal Investigation
POP	Product Oversight Panel
PDR	Preliminary Design Review
PSDI	Product System Development and Integration
SM	SPSRB Manager
SME	Subject Matter Expert
SPIWG	SPSRB Process Improvement Working Group
SPM	Satellite Product Managers
SPSD	Satellite Products and Services Division
SPSDI	Satellite Product System Development and Integration
SPSRB	Satellite Products and Services Review Board
STAR	Center for Satellite Applications and Research
TPIO	Technology, Planning, and Integration for Observation