

## POLICY ON TRANSITION OF RESEARCH TO APPLICATION

### SECTION 1. PURPOSE AND SCOPE.

.01 Application of the best available science and technology is essential to meeting the National Oceanic and Atmospheric Administration's (NOAA) mission. This demands an operations enterprise that is able to quickly recognize and apply significant new research products and methods; a research and development enterprise focused on the ultimate application of emerging science and technology to user needs; and a formalized management structure that ensures that both the research and development enterprise encourage and support the transfer of research to operational status or information services to meet mission responsibilities.

.02 This policy establishes the process for identifying and transitioning research results to applications. The policy outlines the roles and responsibilities of various officials, including Line Office Transition Managers, associated with the transition of research results to applications. Additionally, the policy identifies those entities that have the authority to implement this policy and those who are accountable for transitioning research results to applications.

.03 The policy applies to all NOAA research results, whether conducted in house or externally, and to relevant research sponsored by others. The policy recognizes that NOAA research provides:

- a. capabilities (e.g., tools, systems, techniques, and procedures) suitable for transfer to operational status within and external to NOAA; and
- b. information services provided directly to internal or external users.

.04 This policy does not apply to the prosecution of patents by NOAA or its employees for inventions made in the course of research, or to the licensing of government owned inventions in the custody of NOAA. Such matters are addressed by other applicable laws, regulations, and policies.

### SECTION 2. DEFINITIONS.

.01 Application: The use of research results in furthering NOAA's mission.

.02 Defined Criteria: Technical performance and cost-effectiveness parameters to be met prior to the operational implementation or information service delivery.

.03 Information Services: Production and delivery of interpreted and/or synthesized data, decision tools, and scientific knowledge and understanding to decision and policy makers, the scientific community, and the public.

.04 Operations: Sustained, systematic, reliable, and robust mission activities with an institutional commitment to deliver specified products and services.

.05 PPBES: The Planning, Programming, Budgeting, and Execution System (PPBES) is the process used to link NOAA's strategic vision with programmatic detail, budget development, and annual operating plans. A major decision-making process, the PPBES requires the Line Offices, Goals, and Programs to do joint planning and link directly to NOAA's Programming, Budgeting, and Execution phases.

.06 Research: Systematic study directed toward a more complete scientific knowledge or understanding of the subject studied.

.07 Test Environment: Collection of hardware, software, staff, funding, and/or appropriate procedures to simulate an operational setting in order to facilitate the demonstration and evaluation of research results.

.08 Testbed and similar Development Systems: A representation of a system consisting of hardware and software, plus computer simulation models, or prototype hardware and software, on which one can perform test and evaluation of any process, product, or software. These are continuous processes by which numerous incremental improvements are planned and implemented for a system consisting of both hardware and software. These processes result in the aggregate planning of improvements and development plus the subsequent reporting of progress on the planned aggregate and specific outcomes, as appropriate.

.09 Transition Plan: A management document, which should be updated as appropriate, identifying the comprehensive activities necessary to transfer a research result to applications. This document should be used for planning purposes as well as to ensure that the project is being executed per the terms and conditions of the Plan. The Transition Plan shall:

- a. clearly define the requirements of the end-result of the transition of research to applications;
- b. define data collection requirements and procedures in sufficient detail to enable the applications organization to understand and meet, as appropriate, the data requirements of the research organization and other users;
- c. document technical performance and cost-effectiveness parameters to be met prior to the operational implementation or information service delivery;

- d. justify the transition from the research to applications and document how the benefits outweigh the costs;
- e. identify the amount and source of funds needed to cover the costs associated with the transition, as necessary, including relevant requirements for equipment, upgrades, staff training, and maintenance of redundant application capabilities during the transition period;
- f. outline how the applications organization will address the evolving needs of the research organization, partners, and users after the transition, as appropriate; and
- g. for testbeds and other similar development systems/projects, the transition plan is a compilation of numerous individual project components whose net result is a significant improvement or advancement in NOAA capability justified, in general, using the elements defined above.

.10 Transition Project: The collective set of activities necessary to transfer a research result, or collection of research results, to operational status or to an information service, examples include the installation of a new weather radar, improvements to existing systems (i.e. AWIPS), installation of a ground system upgrade or placement of a research buoy (or buoy system) into operations. The NOAA Program Managers and Goal leads shall ensure that their planning products address all costs for these projects. This shall include transition activities such as consideration for continuing research, production development and commencement of operations, as appropriate. Development or Testbed Programs are an ongoing effort to incrementally improve NOAA capability in a specific domain where an individual(s) or oversight body can be assigned the responsibility for setting priorities, planning, implementing, and achieving specific outcomes and are not considered transition projects.

.11 Line Office Transition Managers: The Line Office Manager who is responsible for managing the Line Office transition of research to application portfolio of projects.

.12 Transition Project Lead: One individual responsible and accountable for ensuring that the transition project is planned, programmed, budgeted, and executed per the Transition Plan. For testbeds and other similar development projects, it can be either a person (e.g. the testbed lead) or an identified group of people who will be responsible for the transition plan, progress reports, and the project outcomes.

.13 Transition Project Team: A group of individuals, representing the research and applications communities, who support the transition project lead and are assigned the responsibility to execute the project per the terms and conditions of the agreed upon Transition Plan.

### SECTION 3. POLICY.

.01 In order to meet mission needs, NOAA will maximize the timely application of NOAA sponsored research and capitalize on non-NOAA research. To fulfill this goal, NOAA shall maintain:

- a. an operations enterprise capable of quickly identifying and applying proven research results to provide new and improved services or more efficient operations while continuing to maintain reliable, cost-effective services for users;
- b. a research enterprise that routinely provides proven research results to serve NOAA's mission while adapting its portfolio to address new research frontiers; and
- c. planning and oversight processes to include routine identification of new opportunities/needs for research, development of Transition Plans, status reporting, and test and evaluation procedures.

.02 NOAA's PPBES provides the framework for identifying and executing transition projects; which includes both finite projects/programs and continuous processes like the testbeds and similar development systems/capabilities. During the annual PPBES cycle, all research activities shall be reviewed to ensure activities are responsive to mission requirements and to identify research results ready to be transferred to operational status or delivered as an information service. PPBES documentation shall reflect end-to-end resources and associated performance measures for all transition projects.

- a. **Transition Planning:** The Planning phase of the PPBES identifies what should be done within the NOAA Program to achieve NOAA's strategic goals, objectives, and annual priorities. Line Office Transition Managers and Transition Project Leads shall work with NOAA Program Managers and Goals to ensure inclusion of transition projects in appropriate Planning documents. The NOAA Program Managers and Goal leads shall ensure that their Planning products address research funding as well as the associated transition costs. During the Planning phase both the research and operational entities shall agree to the timeliness, feasibility, and compatibility of the transition with operational environments. Where appropriate, both the research and operational communities shall work together and discuss transition opportunities when planning new research projects. Additionally, the NOAA Research Council shall review pertinent Planning documentation and ensure that research is appropriately planned to include transitioning to applications.
- b. **Transition Programming:** The Programming phase in PPBES entails analyses of the Planning phase products and the development of a fiscally-balanced NOAA Program. Goals, Line Office Transition Managers, and Transition Project Leads shall work together to ensure that priority transition projects are included in Programming documentation and that funding required is included in the NOAA Program.
- c. **Transition Budgeting:** The Budgeting phase in the PPBES builds on the NOAA Program to include the detailed resources requests that will be included in NOAA's annual budget submission and develops justifications documents to support NOAA's segment of the President's request. Line Office Transition Managers, Line Office Budget entities, and Goal Leads shall ensure that the resources needed to transition research results to applications are appropriately addressed and included in the NOAA Budget submission.

d. Transition Execution and Status Reporting: The Execution phase in the PPBES is critical to ensuring that NOAA satisfies assigned statutory and regulatory duties and delivers the products and services that have been budgeted and appropriated. The Line Office Transition Managers and Transition Project Leads are responsible for ensuring that transition projects are executed as planned. Line Offices shall conduct periodic reviews to ensure that transition projects are being executed as planned. Additionally, Line Offices shall include transition project milestones in their Annual Operating Plans as well as provide the NOAA Executive Panel (NEP) with a bi-annual execution report out on their transition project milestones and status. Should there be a need to arbitrate the terms and specific details of a transition project, the Line Office chain of command should be utilized.

.03 The transition of research results to applications shall be conducted jointly by research and applications personnel.

.04 Transition Plans shall be approved by the Assistant Administrator(s), or their designees, from the impacted Line Office(s). The NEP reserves the authority to approve any Transition Plan.

.05 Final approvals regarding the transition of research to applications shall be based on satisfaction of the defined criteria documented in a Transition Plan.

.06 This Order supports the policies and procedures contained in the Paperwork Reduction Act, the Government Paperwork Elimination Act, the Federal Technology Transfer Act, the Bayh-Dole Act, Office of Management and Budget Circular No. A-130, Management of Federal Information Resources, the NOAA Information Quality Guidelines, and other relevant laws, regulations, and policies. These authoritative requirements apply government resources to activities in support of the agency's mission, outline procedures to ensure and maximize the quality, utility, and integrity of resultant information, and seek to maximize the benefits of resultant information and intellectual property to society.

.07 NOAA shall be cognizant of and observe the valid rights of patent holders and owners of other intellectual property.

#### SECTION 4. RESPONSIBILITIES.

.01 The Under Secretary of Commerce for Oceans and Atmosphere (NOAA Administrator), the Assistant Secretary, and the Deputy Under Secretary shall provide top management support for implementation of this policy and the development and implementation of associated procedures.

.02 The Assistant Administrator, Office of Program Planning and Integration, the Director, Program Analysis and Evaluation, and the NOAA Chief Financial Officer are responsible for management of the Planning, Programming, and Budget phases of PPBES, including activities necessary to support the implementation of this policy.

.03 Line Office Assistant Administrators and the Director, Office of Marine and Aviation Operations, are responsible for the following:

- a. promoting the goals and implementing the requirements of this policy;
- b. approving Transition Plans;
- c. providing staff support for the appropriate Transition Teams;
- d. providing oversight for all projects in their Line Office;
- e. ensuring a Line Office quarterly transition project review is conducted;
- f. approving final decisions regarding the transition of research results; and
- e. reporting on the execution status of transition projects per instructions provided by the Deputy Under Secretary for Oceans and Atmosphere.

.04 Line Office Transition Managers are responsible for the following:

- a. managing the Line Office transition portfolio;
- b. fostering applicable Line Office transition projects through PPBES;
- c. tracking and providing timely reports to Line Office leadership on the status of the portfolio;
- d. ensuring the development of appropriate Transition Plans; and
- e. coordinating with other Line Office(s) Transition Managers, Program Managers, and Goal Teams when appropriate.

.05 Transition Project Leads are responsible for the following:

- a. managing the transition project and all associated activities;
- b. leading the transition team;
- c. working with the Line Office Transition Managers to foster their transition projects through the PPBES processes; and
- d. ensuring the development of appropriate Transition Plans.

.06 Transition Teams will include representatives from the research and applications communities. Transition Teams are responsible for the following:

- a. preparing Transition Plans;

- b. conducting transition activities; and
- c. identifying, reporting, and responding to significant deviations in the execution of the Transition Plan.

.07 Mission Goal and Sub-goal Leads are responsible for the following:

- a. identifying and planning for transition of research results with appropriate Program Managers and Transition Leads;
- b. working with Line Office management, specifically Line Office Transition Managers, to ensure Transition Plans for projects within their Goals are developed;
- c. seeking relevant external research results and projects in conjunction with Program Managers and the NOAA Research Council; and
- d. coordinating activities between research and operational programs as needed.

.08 Program Managers for programs including research are responsible for the following:

- a. proposing and planning for priority research projects;
- b. identifying and planning for transition of research results into applications; and
- c. developing research responsive to agency mission requirements: (1) through understanding and anticipating user needs; (2) through maintaining cognizance of operational procedures and practices; (3) through exploring relevant new and emerging science and technology internal and external to NOAA; and (4) through supporting peer reviewed science.

.09 Program Managers for programs including operational and other regulatory activities are responsible for the following:

- a. planning for the transition of research results;
- b. understanding and meeting user needs;
- c. identifying operational requirements;
- d. maintaining cognizance of on-going research projects and results;
- e. fostering opportunities for new research including introducing new operational practices or procedures; and
- f. establishing and maintaining dialogue with researchers.

.10 The NOAA Research Council is responsible for the following:

- a. participating in the PPBES process and providing comments regarding the research portfolio which includes identifying the readiness of research results to transfer and the relative priority of these projects;
- b. overseeing NOAA activities to identify applicable external research results; and
- c. ensuring the NOAA 5-year Research Plan identifies and plans for research results to be transitioned to applications.

.11 Other applicable Councils are responsible for participating in the PPBES process and providing comments regarding the identification and readiness of projects for transfer and the relative priority of these projects.

SECTION 5. EFFECT ON OTHER ISSUANCES.

This Order supersedes NOAA Administrative Order 216-105 dated May 17, 2005.

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Under Secretary of Commerce for  
Oceans and Atmosphere

Office of Primary Interest:  
Program Planning and Integration