Updated August 11, 2015
RICE CERTIFICATION REQUIREMENTS GUIDANCE

Directions:
For the purposes of these certification guidelines, when the verb "describe" is used it indicates that the RICE shall give an account in text that responds to the requirement. This text shall contain sufficient information to demonstrate how the RICE satisfies the certification requirement. The RICE may include a link(s) to additional information. When the verb "document" is used, it indicates that the RICE shall furnish a document(s) that responds to the requirement. A text statement accompanying the document(s) will normally be necessary to provide context for the document(s) and to demonstrate how the RICE satisfies the certification requirement. The RICE may include a link to a document in the accompanying text statement.

Documentation that addresses the certification requirements may include references to existing RICE documents. All documents and materials may be submitted directly to the U.S. IOOS Program Office or made accessible for public viewing on the RICE's website.

§997.21 Organizational Structure

>   (b) The application shall:
>>   1) Describe the RICE's organizational structure (e.g., 501(c)(3) tax-exempt organization, establishment via MOU or MOA).

Description required

Identified RICE organizational structure - no specific type is required

>>   2) Document the RICE's ability to satisfy applicable legal criteria for accepting and disbursing funds, and entering into agreements. Sufficient documentation may be provided in the form of: 1) evidence of a current grant, cooperative agreement, or contract in good standing with the Federal government; or 2) evidence of fiscal agreements, standard operating procedures for financial activities, and proof of an audit process.

Documentation required

Sufficient documentation may be provided in the form of: 1) evidence of a current grant, cooperative agreement, or contract in good standing with the Federal government, or 2) evidence of fiscal agreements, standard operating procedures for financial activities, and proof of an audit process

>>   3) Document the RICE's measures for addressing issues of accountability and liability. For this criterion, accountability and liability refer to the RICE's governance and management activities. Sufficient documentation may be provided in the form of 1) a conflict of interest policy for the Governing Board or governing body, which clearly states that a member of the governing board will declare any conflict of interest he or she may have and will recuse him or herself

from associated funding decisions that may result in the Board member or a direct family member benefiting financially, and 2) a policy statement in the RICE's by-laws that addresses liability issues.

Documentation required

1) A conflict of interest policy for the Governing Board or governing body that requires a Board member recuse themselves from funding decisions only when the decision may result in the Board member or a direct family member would benefit financially.

2) A policy statement in the RICE's by-laws that addresses liability issues. This may include discussion on indemnification for the organization's director, officers, committee members and employees.

4) Describe the process the RICE uses to set priorities for distributing funds (e.g., requirement for Governing Board or governing body approval when responding to funding opportunities or adjusting to funding level changes in existing agreements).

Description required

A description of the process the RICE has in place to set priorities for distributing funds. This may include:
1. Identifying stakeholder needs through public meetings, surveys, outreach efforts
2. How the governing body prioritizes those stakeholder needs - e.g. annual planning efforts
3. Selecting projects for funding based on prioritized needs - e.g. descoping efforts; response to funding opportunities & drafting proposals

5) Document the by-laws, signed articles of agreement, or any binding agreements that demonstrate how the RICE establishes and maintains a Governing Board or governing body. The documentation shall demonstrate:
   i. How the composition of the Governing Board or governing body is selected and how it is representative of regional ocean observing interests. NOAA defines "representative" in this specific context to include geographic, sector, expertise, and stakeholder considerations.

Documentation required

There is a description of the established process identifying how the governing body is selected. The process should address representation of geographic, sector, expertise, and stakeholder considerations. Approval does not require specific numbers of board members or how they are distributed across the categories listed, but acknowledges that a governing body that is representative of the regional observing system interests is desirable, encouraged, and actively pursued.

ii. How and with what frequency the RICE solicits and receives advice on RICE participant diversity, stakeholder coordination, and engagement strategies, to ensure the provision of data and information that satisfy the needs of user groups.

Documentation required

A RICE should describe a repeatable process that is in place to solicit and receive advice on RICE participant diversity, stakeholder coordination, and engagement strategies.

'Receiving advice' can mean any feedback that informs the RICE on how it addresses organizational diversity, stakeholder coordination, etc. This could be from partners, stakeholders, your members, perhaps even the Governing Council if it serves in an oversight role. External groups, advisors, and contractors could all fit this requirement. We've left this open to give each RA the opportunity to do as it needs. The key is that the RICE has a process for actively seeking feedback on how and who it engages with.

There is no required repeat time on this process. The objective of the requirement is to show that the organization is actively soliciting feedback on how it interacts with regional stakeholders, data users, and active participants in the RICE.

iii. How the RICE collects and assesses user feedback to gauge the effectiveness of the regional system and subsystems in satisfying user needs, and how the RICE responds to this user feedback in setting its priorities. Sufficient documentation may be provided in the form of a description of the method the RICE uses in its annual planning process to assess priorities among the identified user needs in the region and to respond to those user needs, and

Documentation required

The RICE needs to document how it collects and assesses user feedback, and has some mechanism for considering and responding to this feedback. For example, the RICE, in its annual planning process, will work with users to evaluate the effectiveness of the regional system in order to set future priorities, knowing that not all user feedback will be acted upon.

iv. Steps the RICE takes to ensure decisions on priorities and overall regional system design are transparent and available. At a minimum, RICE priorities and regional system design decisions shall be made accessible for public viewing on the RICE's website.

Documentation required

Updated August 11, 2015

The RICE needs to provide documentation that its decision-making is transparent and the outcomes are available to the public. This does not mean that the RICE is expected to make Board meetings open to the public or provide transcripts of Board meetings. The RICE may have a publically available explanation on how Board decisions are made. Summaries of the Board's decisions should be available to the public. For example, the RICE could have a policy that its priorities along with summaries of its decisions affecting the regional system design and operations shall be made accessible for public viewing on the RICE's website.

§997.22 Membership Policy

The RICE application shall describe:
(a) The process by which individuals or organizations may formally participate in the governance activities of the RICE;
(b) The rights and responsibilities of this participation;

Description required

A written process exists that identifies how individuals or organizations may formally participate and engage in the governance activities of the RICE. There are no criteria defining this participation and engagement.

(c) The process by which the RICE strives for organizational diversity through intra-regional geographic representation, and diversity of activities and interests from both public and private sectors; and
(d) How the RICE allows for participation from adjacent regions or nations.

Description required

The RICE must demonstrate that these two processes are in place and are adequately described. The rule identifies "strives for organizational diversity" as including intra-regional representation and addresses interests from both the public and private sectors. The objective of this requirement is to ensure that a RICE avoids the establishment of a limited and restricted organization that addresses a narrow set of user needs. This is consistent with the ICOOS Act language that states a RICE shall work cooperatively with a variety of entities and consider the needs of multiple users within the region.

§997.23 Strategic Operational Plan

(b) Background and Context
    The Strategic Operational Plan shall contain a Background and Context section that describes:
        1) The role of the RICE in furthering the development of the regional component of the System;

Description required

Updated August 11, 2015

The RICE provides a high level description of how the RICE contributes to the System. This should include summary statements about how the RICE contributes to U.S. IOOS with some recognition of the different subsystems (observing, DMAC, modeling & analysis, governance, R&D, outreach/Education).

2) The process by which the RICE updates the Strategic Operational Plan at least once every five years and how the RICE seeks inputs from the broader user community; and

Description required

The RICE describes its process for updating and reviewing the Strategic Operational Plan, at least once every five years, and includes how the RICE seeks inputs from its members, data providers, data users, regional stakeholders, and the general public. Evidence of input from the user community could be meeting with stakeholders to identify user needs as a part of the Strategic Operational Plan development process or posting the Plan on the website with a request for comments.

3) The RICE's primary partners and any contributing observing systems. For the purposes of §997.23, NOAA defines a primary partner as any organization or individual that contributes significant staff time, funding or other resources to project activities. This is not an exhaustive list of all RICE partners but the primary partners the RICE is working with on a given project.

Description required

There is no minimum number of primary partners required for approval. The RICE is only required to describe, at a high level, those organizations or individuals that contribute significant staff time, funding or other resources to project activities and any observing systems that the RICE considers contributing to the regional observing system.

(c) Goals and Objectives
   The Strategic Operational Plan shall contain a Goals and Objective section that describe:
      1) How the RICE addresses marine operations; coastal hazards; ecosystems, fisheries and water quality; and climate variability and change; and

Description required

The RICE provides a general high-level description of how these key societal focus areas direct the efforts of the RICE. The description should connect RICE activities with these four U.S. IOOS community identified themes.

      2) The major objectives that guide the RICE's priorities for data collection and management, development of products and services, research and development, and education and outreach.

Description required

The RICE provides a general description of its objectives for the DMAC, product development and services, research and development, and education & outreach subsystems.

    (d) Operational Plan for the Observing System
      The Strategic Operational Plan shall include or reference an Operational Plan for the Observing System that:
      1) Describes the desired outcomes of the observing system;

Description required

The RICE provides documentation that it has an Operational Plan for the Observing System, or similar document, that describes the desired outcomes of the observing system. This should be a high-level description and should focus on the outcomes that result from integrating the different elements of the overall observing system.
      2) Describes the elements of the operational integrated observing system that will deliver those outcomes;

Description required

The RICE provides documentation that it has an Operational Plan for the Observing System, or similar document, that describes the different elements of the operational observing system that delivers the outcomes in §997.23(d)(1). This may be a high-level description of the data collection, data management, and modeling and analysis systems, and how they are integrated to achieve the desired outcomes in §997.23(d)(1).

      3) Documents to NOAA's satisfaction that the individual(s) responsible for RICE operations has the necessary qualifications and possesses relevant professional education and work experience to deliver observations successfully. At a minimum the RICE shall:
        i. Identify the individual(s) responsible for overall RICE management;
        ii. Identify, as applicable, the individual(s) responsible for observations system management across the region;
        iii. Provide the curriculum vitae for each identified individual; and

Documentation required

- The RICE provides a name of the individual(s) responsible for overall RICE management
- The RICE provides a name of the individual(s) responsible for observation systems management across the region, not just in the region. To be approved the individual(s) should be working at a regional level. These individuals must still satisfy the

   requirements listed in §997.26(c) to be considered employees of a RICE as defined in the rule.

- A CV with detailed education and work experience for each individual. There is effectively no minimum qualification, except that the observation system manager has relevant education and work experience.
- In addition to providing some background on the individual's experience and knowledge proving they are capable of performing their work, the CV must clearly describe the roles and responsibilities of the individual in the RICE. The applicant is responsible for documenting how each individual meets the requirements to be an employee of a certified RICE. The CV must document that the individual performs one of the two roles identified in §997.23(d)(3). To do this, applicants must successfully describe the role and responsibilities of the individual within the RICE organization.

    iv. Identify the procedures used to evaluate the capability of the individual(s) identified in subsection §997.23(d)(3) to conduct the assigned duties responsibly; and

Documentation required

The primary purpose of this requirement is to ensure that 1) the RICE has a process in place for evaluating the capabilities of its key personnel and 2) the people hired can perform the duties required. The RICE must identify the procedures it has in place to evaluate its personnel. This may include a formal hiring process, established position descriptions, and yearly performance reviews.

  4) Describes how the RICE manages ongoing regional system operations and maintenance. At a minimum the Strategic Operational Plan shall:
    i. Describe the RICE's standard operating procedures for calibrating, validating, operating, and maintaining equipment owned and/or operated by the RICE regularly and in accordance with manufacturer guidance or industry best practice. Equipment is defined in §997.1; and

Description required

The RICE describes the standard operating procedures required. For purposes of these regulations, the term "equipment" is defined as a tangible asset that is functionally complete for its intended purpose and has a capital cost of over $5000. Both individual sensors and collections of sensors on a platform are considered equipment and are subject to the $5000 minimum cost. The intent of the requirement is that for assets owned and/or operated by the RICE as defined in the rule, the RICE should describe a standard operating procedure for equipment maintenance according to best practices. Approval does not require specific actions, only that the RICE describes the standard operating procedure it has established for calibration, operation, and routine maintenance of equipment in accordance with manufacturing guidance. For assets financially supported by the RICE, fully or partially, but operated by a subcontractor, the RICE may instruct subcontractors to follow best practices and state that equipment

maintenance reports be available upon request. Language to this effect included in sub-award contracts would meet this requirement.

Our intent is to give the applicant flexibility in how they meet this requirement. We expect that most, if not all, applications for certification will come from organizations who work directly with Principal Investigators (PIs) that have years of experience in the operations of coastal observing systems. We think the processes these PIs have in place, represent "best practices" for the operation and maintenance of regional observing systems.

The standard operating procedures described by the RICE to meet the requirements in section 997.23 d) 4) i) and ii), may at a minimum, be a broadly worded statement that is included in all sub-awards stating that sub-contractors should follow industry best practices and manufacturer guidance where applicable, and be prepared to provide documentation upon request.

A RICE may add language to its standard operating procedure, specifying the need for specific requirements for calibration, validation, logs, record keeping, etc., depending on the experience of the sub-contractor, but this is not required to meet the certification requirements.

Note: For HF radar, it is sufficient to reference standard best practice procedures defined by the National HF Radar Steering Team, and to point to this document for the HFR Team's Best Practices: http://cordc.ucsd.edu/projects/mapping/documents/SCCOOS-BestPractices.pdf, as it is referenced in the National Plan.

> ii. Describe the RICE's standard operating procedures for maintaining equipment inventories, shipping logs and instrument history logs for equipment owned and/or operated by the RICE.

Description required

The RICE describes the standard operating procedures required. For purposes of these regulations, the term "equipment" is defined as a tangible asset that is functionally complete for its intended purpose and has a capital cost of over $5000. Both individual sensors and collections of sensors on a platform are considered equipment and are subject to the $5000 minimum cost. The intent of the requirement is that for assets owned and/or operated by the RICE as defined in the rule, the RICE should describe a standard operating procedure for maintaining equipment inventories, shipping logs and instrument history logs.   Approval does not require specific actions, only that the RICE describes the standard operating procedure it has established for maintaining inventories and logs.   For assets financially supported by the RICE, fully or partially, but operated by a subcontractor, the RICE may instruct subcontractors that equipment inventories and logs reports be kept up to date and made available upon request. Language to this effect included in sub-award contracts would meet this requirement.

Our intent is to give the applicant flexibility in how they meet this requirement. We expect that most, if not all, applications for certification will come from organizations who work directly with Principal Investigators (PIs) that have years of experience in the operations of coastal

Updated August 11, 2015

observing systems. We think the processes these PIs have in place, represent "best practices" for the operation and maintenance of regional observing systems.

The standard operating procedures described by the RICE to meet the requirements in section 997.23 d) 4) i) and ii), may at a minimum, be a broadly worded statement that is included in all sub-awards stating that sub-contractors should follow industry best practices and manufacturer guidance where applicable, and be prepared to provide documentation upon request.

A RICE may add language to its standard operating procedure, specifying the need for specific requirements for calibration, validation, logs, record keeping, etc., depending on the experience of the sub-contractor, but this is not required to meet the certification requirements.

   (e) Development of a Strategy to Sustain and Enhance the System
        The Strategic Operational Plan shall describe its strategy for balancing changes in regional priorities with the need to maintain established data sets, the primary value of which may be in their long-term records. At a minimum the description shall:
        1) Identify the guiding principles that inform the strategy;
        2) Reference and show connections to a long-term (five-to-ten-year) regional Build-out Plan for the full implementation of the regional observing system based on the RICE's priorities and identified user needs; and
        3) Relate the annual planning process the RICE uses to review its priorities in light of funding levels and its plans for system enhancement as outlined in the regional Build-out Plan.

Description required

   ● The RICE provides a description of its strategy for balancing changes in regional priorities with the need to maintain established data sets. At a minimum, this description identifies the RICE's guiding principles for prioritizing new activities against established data collection efforts.
   ● The RICE provides or references a 5-10 year build-out plan that is based on the RICE's priorities and identified user needs, and describes how this plan informs its strategy for balancing changes in regional priorities with the need to maintain established data sets.
   ● The RICE provides a description of how its planning process is informed by its priorities and how it determines its ability to enhance the system based on the Build-out Plan. A description of the process used in the RICEs annual descoping of its cooperative agreement with IOOS or other funding decisions, and how yearly funding levels may or may not trigger system enhancements would be sufficient to meet this requirement.

   (f) Data Management and Communications (DMAC) Plan
        The Strategic Operational Plan shall include or reference a DMAC plan that:
        1) Documents to NOAA's satisfaction that the individual(s) responsible for management of data operations for the RICE has the necessary technical skills, and possesses relevant professional education and work experience to support

9

DMAC capabilities and functionality for the System. At a minimum the DMAC Plan shall:

    i. Identify the individual(s) responsible for the coordination and management of observation data across the region;

    ii. Provide the curriculum vitae for the identified individual(s); and

Documentation required

- The RICE provides a DMAC plan that documents the qualifications and the professional education and work experience of the DMAC manager
- The RICE provides a name of the individual(s) responsible for the coordination and management of observation data across the region, not just in the region. To be approved the individual(s) should be working at a regional level. These individuals must still satisfy the requirements listed in §997.26(c) to be considered employees of a RICE as defined in the rule.
- The RICE provides a CV listing the detailed education and work experience for each individual. There is effectively no minimum qualification, except that the data manager has relevant education and work experience and should be familiar with the DMAC objectives of U.S. IOOS.
- In addition to providing some background on the individual's experience and knowledge proving they are capable of performing their work, the CV must clearly describe the roles and responsibilities of the individual in the RICE.   The applicant is responsible for documenting how each individual meets the requirements to be an employee of a certified RICE.
- The CV must document that the individual performs the three role identified in §997.23(f)(1)(i). To do this, applicants must successfully describe the role and responsibilities of the individual within the RICE organization.

    iii. Identify the procedures used to evaluate the capability of the individual(s) identified in subsection §997.23(f)(1) to conduct the assigned duties responsibly.

Documentation required

The primary purpose of this requirement is to ensure that 1) the RICE has a process in place for evaluating the capabilities of its key personnel and 2) the people hired can perform the duties required. The RICE must identify the procedures it has in place to evaluate its personnel. This may include a formal hiring process, established position descriptions, and yearly performance reviews.

2) Describes how data are ingested, managed and distributed, including a description of the flow of data through the RICE data assembly center from the source to the public dissemination/access mechanism. The description shall include any transformations or modifications of data along the data flow pathway including,

but not limited to, format translations or aggregations of component data streams into an integrated product.

Description required

The RICE must document the variety of ways that it obtains and disseminates each data stream. The RICE must detail any modifications along the path from obtaining the data to dissemination of the data in each access node. How many different access nodes are there for each data stream? Is each incoming data stream available through all access nodes? Are the data from two access nodes (e.g. FTP and SOS) exactly the same?   Did the same processing occur for each output node (e.g. only one is an hourly average)? The documentation of these transformations and modifications may be different for different data providers based on their capabilities.

Note: Some data are served as a graphical product and not as a "data set through a server." Data served as a graphical product that contain specific parameters (e.g. lat/long, and other attributes) could be scraped to obtain numbers in a file that fit our traditional notion of "data." Therefore, these types of graphical products (e.g. those that originate as an argos email with tagging info) need to be included as a data stream.

3) Describes the data quality control procedures that have been applied to data, not obtained through a federal data source, that are distributed by the RICE. All data shall be quality controlled and QARTOD procedures shall be employed for data with QARTOD manuals. For each data stream, describe the quality control procedure applied to the data, by the RICE or other named entity, between the data's collection and publication by the RICE. The description will also include a reference to the procedure used.

Description required

- All data distributed by the RICE (with the exception of Citizen Science data*) must be quality controlled either by the RICE or by the entity providing data to the RICE. This includes historical data. The rule requires that the quality control procedures, whether implemented by the RICE or by an upstream data provider, must be documented by the RICE.
  - Note: Historical data may be defined differently among RAs but a previous application stating that historical data is > 72 hours was not accepted. The RA changed the criterion to 1 month, which was acceptable.
  - Regardless of the age, historical data must be QC'ed (if possible).   If it can be QC'ed, it should be. Assumptions that historical data are not used operationally does not negate risk associated with the data. Climate studies might rely on historical data.
- A RICE is not responsible for performing or describing the quality control procedures for data the RICE obtains from a federal data source.
- In the case of CDIP, if a RICE deploys a wave buoy and provides that data independently on the RICE data portal, QC must be performed according to QARTOD standards if available or documented procedures if QARTOD manual is not available.

- For each data stream, the RICE should describe any quality control procedures used between obtaining the data and dissemination of the data for each output node. (In practice, the RICE does not need to document the quality control procedures for each and every data stream. Data streams with similar QC procedures can be combined into larger categories, and the QC procedures for these larger categories can be described in the RICE's Data Management Plan as part of the certification application). The QC applied should be apparent to users and should also document any changes made to the data (e.g taking moving averages).
- If the RA will reference quality control procedures upstream, the detailed procedures by the upstream provider should be apparent to users. At a minimum, some quality control procedure must be applied to each data stream.
- For variables with documented QARTOD procedures, these procedures must be implemented and referenced on the RICE's website.
- For variables *without* documented QARTOD procedures, the quality control (QC) procedures are subject to the judgment of the RICE until QARTOD standards become available, but QC of some type must be performed and referenced. The RICE may choose to make data contributors responsible for QC and reference the procedures in the DMAC plan, or may perform the QC itself. Certification does not specifically mandate any DMAC requirements for metadata.
- The use of QARTOD protocols, for real time data streams, can be done in a "phased" implementation. QARTOD protocols do not need to be in place, for those variables with approved manuals, prior to certification, but this does not exempt these variables from the QC requirement, and the certification application must describe how a RICE will implement the QARTOD protocols over an identified period of time.

*A note on Citizen Science data:
The sole exception to the requirement to perform QC on data distributed by the RICE, is for data collected as part of a "Citizen Science" effort or project. For the purpose of certification, we are defining Citizen Science data *as any data that is collected by members of the general public who are not trained scientists, often in cooperation with a scientific program.*

It must be obvious to all users that Citizen Science data has not had any QC done to it. For any website display, this data must be clearly marked as such, and for machine to machine transfer it must be flagged appropriately and a disclaimer should be associated with the transmission. Prior to approval of certification, we request that the RICE share with us its plans for how they would do this.

We have defined Citizen Science data narrowly, and we want to emphasize that we expect QC to be performed on all the data that does not meet this definition, including research data.

4) Adheres to the NOAA Data Sharing Procedural Directive.[1] The System is an operational system, therefore the RICE should strive to provide as much data as possible, in real-time or near real-time, to support the operation of the System. When data are collected in part or in whole with funds distributed to a RICE through the U.S. IOOS Program Office, the RICE should strive to make the data available as soon as logistically feasible for each data stream. When data are not collected with funds distributed to a RICE through the U.S. IOOS Program Office, the data may be made available in accordance with any agreement made with the data provider.

Documentation required

The RICE provides or references a Plan that describes how the RICE is in compliance with the NOAA Data Sharing Procedural Directive. All data providers that are at least partially funded by the RICE should share their data with the RICE and the RICE should strive to make the data available as soon as logistically feasible for each data stream. Descriptions or documentation of sharing agreements are necessary. This not only applies to assets fully funded by the RICE, but also to missions funded by the RICE using an instrument that may not be originally funded by the RICE.

The NOAA Data Sharing Procedural Directive is located at https://www.nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Sharing_Policy_v1.pdf

5) Describes how the RICE will implement data management protocols promulgated by the IOOC and the U.S. IOOS Program Office in a reasonable and timely manner as defined for each protocol; and

Description required

The RICE provides or references a Plan that describes how the RICE will implement the protocols promulgated in a reasonable and timely manner. For example, in the case of the recently approved QARTOD manuals, the RICE should describe the process the RICE will use to begin to implement the QC steps over an identified period of time. Since these practices will continue to be approved over the five year duration of certification, the RICE need only be able to describe the process it has in place for implementing these newly approved practices in a timely manner, and does not have to have these practices in place at the time it applies for certification.

6) Documents the RICE's data archiving process or describes how the RICE intends to archive data at a national archive center (NCEI) in a manner that follows guidelines outlined by that center. Documentation shall be in the form of a

---

[1] NOAA Data Sharing Policy for Grants and Cooperative Agreements Procedural Directive, Version 2.0 https://www.nosc.noaa.gov/EDMC/documents/EDMC_PD-DSPNG_final_v2.pdf

Submission Agreement, Submission Information Form (SIF) or other, similar data producer-archive agreement.

Documentation required

The standard for meeting this requirement:

Standard for Approval - In order to be certified, a RICE must provide a Standard Operating Procedure (to be no more than 2 pages) that identifies (in general terms) their process for archiving data, identifies aggregated data sets to be archived, provides a timeline for completion of the necessary agreement with NCEI or other appropriate national data archive center. **An approved agreement with NCEI must be in red prior to being approved as a certified RICE.**

- The RICE provides documentation of its data archiving process OR describes how it intends to archive data at NCEI in a manner that follows guidelines outlined by the center. Ideally, a submission agreement or submission information form (SIF) between the RICE and NCEI is provided. Minimally, the RICE should provide a description of who it intends to have a submission agreement with in the future, and what data streams will be included in the submission agreement.

Overall, there must be a plan in place to a) draft a formal Submission Information Form for each data set, and b) create the Submission Information Packages and c) execute the agreement routinely. We need a process or documentation step that records the terms of that agreement and gives us a trigger to check up on progress.

The agreement will describe the method of data transfer (e.g. FTP push/pull) and the responsibilities of the RICE and its partners. Overall, there are 6 questions that must be answered for each data set (#1, 2, and partially #4 are likely already discussed or referenced in earlier sections), and the RICE must indicate whether or not the information currently exists or needs to be added to their data management plan:

1. List of parameters/observations being collected.
2. Processing steps/quality control including final format.
3. Timing of data submissions and approximate sizes.
4. Development of Data Documentation (metadata).
5. Data disposition (path to archive center, e.g. FTP push/pull).
6. Data affiliations, including both institutions and individual persons whose names will be associated with the data set in some way. (where did it come from? where does it go?).

The timing and granularity of the archive packages for data can be determined through negotiation with NCEI representatives. However, the RICE should indicate the desired granularity of the archive information package (AIP) per data set (e.g. near-shore sensors). Examples:
- One AIP per platform, updated monthly.
- One AIP per month, with all platforms.
- One AIP per data set (i.e. Near-shore sensors), updated monthly.

● Any other variation that stakeholders might find beneficial.

NCEI will not be archiving numerical model output or data products, however determination of what is or is not archived is determined through a process described here: https://www.nosc.noaa.gov/EDMC/documents/NOAA_Procedure_document_final_12-16-1.pdf. IOOS encourages the RAs to maintain an open dialog with NCEI, especially concerning important products that may align with NCEI goals for science and preservation

An approach to have a SIF that aggregates records by type of platform or data set (e.g. near-shore sensors, water quality buoy) is reasonable, and IOOS will work with NCEI to encourage this approach to archiving. However, ultimately the decision for what and how to archive data lies with NCEI (https://www.nosc.noaa.gov/EDMC/documents/NOAA_Procedure_document_final_12-16-1.pdf).

There are no plans or current efforts to establish a single, national level, agreement with NCEI to archive IOOS data. We cannot do this for each region because the agreements contain detailed information on the data sets themselves and on how and when they will move from a provider to the archive (e.g. on the third Thursday of each month a file will be published to a certain FTP site for pickup by NCEI.) We simply don't have that information.

We are working on national level SIFs for HF radar data through NDBC and the national servers at SIO. Similarly we are working on another for all glider data submitted to the Glider DAC. The Coastal Data Information Program (CDIP) has a SIF in place with NCEI and is archiving the wave data collected through their wave buoy program. For data that is submitted to these nationally coordinated efforts, the RICE is not expected to establish their own SIF, since the archiving will go from the national servers to NCEI.

(g) Budget Plan
The Strategic Operational Plan shall include or reference a Budget Plan that:
1) Identifies who supports the RICE financially;
2) Identifies how RICE priorities guide funding decisions; and
3) Assesses funding constraints and the associated risks to the observing System that the RICE must address for the future.

Documentation required

● The RICE provides a Plan or references a document that identifies, generally, the sources and/or organizations that provide financial support for the RICE. For example, the RICE should identify if they collect dues, have grants or cooperative agreements with federal agencies, funding arrangements with non-profit organizations or foundations. Since specific funding sources are likely to change over the duration of the five year

> certification period, the intent of the requirement is to provide a list of the type of organizations and sources that the RICE relies on for funding.
> - The RICE provides a Plan or references a document that describes how the RICE uses its priorities to guide funding decisions. The description should be general and identify the process that the RICE uses to determine funding decisions.
> - The RICE provides a Plan or references a document that identifies and assesses how future funding constraints may pose risks to the observing System.

§997.24 Gaps Identification

(b) The application shall
    1) Document that the RICE's asset inventory contains up-to-date information. This could be demonstrated by a database or portal accessible for public viewing and capable of producing a regional summary of observing capacity;

Documentation required

The RICE must provide documentation of an online resource (web portal, web service) or submit a spreadsheet that contains a listing of the RICE's assets along with a brief description of how the inventory is updated. The rule does require the establishment of a regional asset inventory, but states that a "database or portal accessible for public viewing" could demonstrate that a RICE meets this requirement. An asset map that includes all assets within the RICE domain that stream information, or for which data is available in its systems, is also acceptable. Systems that are not stationary (e.g. gliders, tags on animals) can be included in an inventory spreadsheet.

    2) Provide a regional Build-out Plan that identifies the regional priorities for products and services, based on its understanding of regional needs, and a description of the integrated system (observations, modeling, data management, product development, outreach, and R&D). The RICE shall review and update the Build-out Plan at least once every five years; and

Documentation required

The RICE provides a build-out plan that contains all of the information in the requirement:
1. Regional priorities for products and services based on understanding of regional needs.
2. A brief description of the integrated system including observations, modeling, data management, product development, outreach, and R&D.

The RA Build-out Plans, along with a statement or description on how the build-out plan will be reviewed and updated at least once every 5 years is sufficient to satisfy this requirement.

    3) Document the priority regional gaps in observation coverage needs, as determined by an analysis of the RICE asset inventory and Build-out Plan. The RICE shall review and update the analysis of priority regional gaps in observation coverage needs at least once every five years.

Documentation required

The RICE shall provide sufficient documentation of a priority regional gaps analysis that compares information from the asset inventory in §997.24(b)(1) and the build-out plan in §997.24(b)(2) and describes the gaps between the two.   A statement or description of how the gaps analysis will be reviewed and updated at least once every 5 years is also required.

§997.25 Financial Oversight

> (b) The application shall document compliance with the terms and conditions set forth in 2 CFR Part 215 – Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-profit Organizations, Subpart C – Post Award Requirements. Subpart C prescribes standards for financial management systems, among others. (Compliance with this criterion can be demonstrated by referencing any existing grant, cooperative agreement, or contract the RICE has with NOAA.)

Documentation required

The RICE shall document its compliance with CFR Part 215 or reference any existing grant, cooperative agreement, or contract the RICE has with NOAA.

> (c) The RICE shall document annually the RICE's operating and maintenance costs for all observing platforms and sensors, etc., owned and/or operated by the RICE. This information shall be made available to NOAA upon request.

Documentation required

The RICE should provide one-time documentation of its annual operating and maintenance costs for observing assets owned and/or operated by RICE for the previous year.

A RICE is only required to provide financial information on its own O&M costs for assets owned and/or operated by the RICE as defined.   The annual budgets submitted by the RICE, as part of a cooperative agreement, will meet this requirement. The annual financial information is intended to report on expenditures by the RICE. For example, in a RICE to subcontractor relationship, only the RICE funds to the sub-contractor would be included in the reports. Funds the sub-contractor receives from other entities would not be included in the report by the RICE.