Q4 FY 2023 RSI Text—Deferred Maintenance and Repairs (DM&R)

**NOAA Portion (to be updated as needed by NOAA): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Prepared by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date Prepared: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**NIST Portion (to be updated as needed by NIST): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Prepared by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date Prepared: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Deferred Maintenance and Repairs**

Deferred Maintenance and Repairs (DM&R) are maintenance and repairs that were not performed when they should have been, that were scheduled and not performed, or that were delayed for a future period. Maintenance and Repairs are activities directed toward keeping Property, Plant, and Equipment (PP&E) in acceptable operating condition. These activities include preventive maintenance, replacement of parts and structural components, and other activities needed to preserve the asset so that it can deliver acceptable performance and achieve its expected life. Maintenance and Repairs exclude activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater, than those originally intended. The significant portions of Departmental DM&R relate to PP&E of both the National Oceanic and Atmospheric Administration (NOAA) and the National Institute of Standards and Technology (NIST). NOAA and NIST represent 86 percent and 9 percent of the Department’s General PP&E, Net balance as of June 30, 2023, respectively.

**NOAA Portion (to be updated as needed by NOAA)**

***NOAA:***

NOAA reports DM&R based on FASAB’s definition of deferred maintenance. To measure DM&R NOAA uses Facilities Condition Assessment (FCA) surveys, which are periodic physical (i.e. visual) inspections of real property to determine their current condition and estimated repair or replacement cost for building/structural components based on their condition index and remaining useful life. For DM&R reporting purposes, NOAA completed a condition survey utilizing a questionnaire survey of the applicable inventory in FY 2011. In FY 2015, NOAA started completing a new round of FCA. NOAA had planned to complete assessments of the applicable inventory by the end of FY 2021 but FCA work has been delayed by the COVID-19 pandemic. Completion of FCAs is dependent on sufficient budget resources being available and the ability to contract for the FCAs. NOAA plans to target continuing a five-year assessment cycle so that the entire applicable inventory is assessed approximately every five years but budgetary, contracting, or other constraints (such as the COVID-19 pandemic) may extend that cycle time.

NOAA performs Condition Assessment Surveys for capitalized NOAA-owned buildings, structures with acquisition cost over $200 thousand, and multi-use heritage assets. For financial reporting purposes, NOAA does not report on DM&R for:

* Owned real property that has been permanently removed from service or which NOAA is planning to permanently remove from service within five years;
* Structures with acquisition cost under $200 thousand; and
* Land and Stewardship Land as land does not have DM&R.

NOAA prioritizes maintenance and repair projects to sustain its inventory in acceptable operating condition, including maintaining warranties. As work becomes deferred, NOAA will prioritize those projects that will remedy health and safety deficiencies and minimize risk of mission failure.

Acceptable condition standards are established for real property by using industry standards for benchmarking and cost estimating. These standards are used to evaluate site and building conditions, which include the review of building systems such as civil, structure, architectural, life safety, mechanical, plumbing, elevators, electric, and others.

In measuring DM&R, FCAs report physical deficiencies that cannot be remedied with normal operating maintenance, excluding de minimis conditions that generally do not present a material physical deficiency to the subject property. Actionable items are typically considered to be (1) existing or potential unsafe conditions; (2) building or fire code violations as revealed by municipal agencies; or (3) conditions that if left unremedied, have the potential to result in or contribute to critical element or system failure in the near term, or shall result most probably in a significant escalation of its remedial cost.

The third quarter FY 2023 balance estimated cost is composed of DM&R for the applicable inventory from the FY 2011 inventory assessment and FCAs completed in FY 2015 through FY 2023. In FY 2020, NOAA implemented a new FCA reporting methodology using the BUILDER system from the U.S. Army Corps of Engineers (USACE). BUILDER uses a visual direct rating methodology whereby the assessor provides a rating level of the condition of each system/component and BUILDER compares that condition index against a NOAA-set condition index threshold, which automatically generates a repair action when its condition drops below a minimum performance limit. Based on the type, material, and condition of the component, BUILDER generates an estimated cost for corrective action (repair or replace). To the extent possible, data from previous FCAs was entered into the BUILDER system. Some data from the earliest FCAs could not be entered into BUILDER. These FCAs will be redone in the next FCA cycle and will be entered into BUILDER at that time. For data not in BUILDER, the data has been escalated based on the date of their FCA estimate and changes since then to the “Engineering News-Record” construction cost index. BUILDER cost database is updated annually with new replacement cost data by the USACE.

Specific to personal property, DM&R relates solely to capitalized personal property meeting the $200 thousand threshold criteria. DM&R on capitalized personal property is reported with an estimated project cost of $25 thousand or more.

With the exception of NOAA’s vessels, most of NOAA’s capitalized personal property, such as weather systems, is required to be maintained on a regular basis as the public relies on information from these systems for their safety and livelihood. It is imperative that NOAA ensures that the systems are functioning properly. Therefore, maintenance on these systems is rarely deferred. Capitalized personal property is normally maintained through maintenance contracts, when appropriate.

NOAA performs Condition Assessment Surveys to determine the status of ships according to the priorities shown below:

**Urgent and Immediate**: Program has stopped until maintenance is performed.

**Important**: Maintenance must be performed within six months or program will stop.

**Medium**: Maintenance must be performed within two years or program will stop.

**Low**: Maintenance must be performed within five years or program will stop.

**Very Low**: Maintenance can be delayed indefinitely. No threat to program.

**The following table shows NOAA’s DM&R as of September 30, 2023 and September 30, 2022:**

|  |  |  |
| --- | --- | --- |
| **Asset Category** | **Deferred Maintenance and Repairs as of September 30, 2023** | **Deferred Maintenance and Repairs as of** **September 30, 2022** |
| Buildings | $ | xxx,xxx | $ | 365,612 193,394 |
| Heritage Assets:  |
| Documentary Artifacts | – | – |
| Pictures  | – | – |
| Multi-use Heritage | xx | 48,008 |
| Other | – | -- |
| Ships | xx,xxx | 3,751 |
| **Total** | **$** | **xxx,xxx** | **$** | **417,371** |

**NIST (to be updated as needed by NIST)**

***NIST:***

NIST measures DM&R (related to real property General PP&E) using FCA surveys, which are periodic visual inspections of PP&E to determine their current condition, and estimates the costs to correct identified deficiencies. NIST accomplishes its FCAs by contract. NIST originally scheduled its surveys on a cyclical basis with each appropriate asset being surveyed once every three years. For DM&R reporting purposes, NIST completed a baseline condition survey of the entire applicable inventory for the Gaithersburg, MD campus in 2011 and for the Boulder, CO campus in 2013. A third of the Gaithersburg inventory was reassessed in the third quarter of FY 2013, in the third quarter of FY 2014, and in the first quarter of FY 2015. A third of the Boulder inventory was reassessed in the second quarter of FY 2015, in the fourth quarter of FY 2016, and in the first quarter of FY 2017.

Deficiencies can be added to the respective campus’ backlog in years when contractor inspections are not scheduled. During the scheduled on-site assessment, the contract inspector estimates the remaining useful life of various components that comprise a building’s mechanical, electrical, plumbing, or building envelope closure system (architectural, roof, façade, etc.) and records this information into the BUILDER assessment software program. When a building system nears the end of its useful life, the software program adds a new self-generated replacement facility deficiency to the backlog list. NIST does not make a distinction between active or inactive assets for reporting DM&R. NIST will perform facility condition assessments surveys for capitalized NIST-owned buildings (including those fully depreciated).

With the end of the Gaithersburg and Boulder FCAs contracts in 2016 and 2018, respectively, NIST’s current contract encompasses both campuses, unlike in the past where FCAs were conducted through separate, individual campus-focused contracts. The Federal Real Property Council’s latest guidance requires facility assessments for each facility every five years if using condition assessments for reporting DM&R needs. NIST, in coordination with the Department, migrated its facility condition assessments data over to the U.S. Army Corps of Engineer’s BUILDER Sustainment Management System (SMS). During FY 2018, NIST’s existing database of backlog deficiencies was migrated from VFA facility software to the Army Corps of Engineers’ BUILDER SMS. At the end of FY 2019, NIST awarded the replacement facility condition assessment and Capital Asset Management contract to a firm that is well versed in BUILDER SMS. The work that has been performed during FY 2020 includes the consulting firm reviewing and becoming familiar with the deficiency backlog that was migrated to BUILDER SMS and newly assessing the condition of NIST’s facilities and their sustainability at its two main campuses and two radio stations. In FY 2020, NIST modified the contract to include the following additional professional Architectural/Engineering (A/E) services: to assess code compliance facility related deficiencies as they pertain to the National Electric Code, Fire Protection and Fire Alarm Codes, Life Safety Code, and Americans with Disabilities Act, and to assess the condition of NIST’s on-site utilities infrastructure (domestic water, sanitary sewer, storm sewer, cooling distribution, heating distribution, electrical distribution, fuel distribution), and horizontal infrastructure outside buildings’ immediate exterior envelope (roadways, parking lots, sidewalks, fencing) at the two main campuses. These deficiencies that were entered into the BUILDER software program in third quarter of FY 2021 are reflected in this report.

In FY 2021, NIST modified the contract a second time to include the following additional professional A/E services: perform a much more detailed visual reassessment of the D40 (Fire Protection) and D50 (Electrical) UNIFORMAT Level II building systems for all affected buildings located on the Gaithersburg, MD and Boulder, CO campuses. These deficiencies have been entered into the BUILDER software program. In FY 2022, NIST modified the contract a third time to include the following additional professional A/E services: perform a much more detailed visual reassessment of the D10 (Conveyance), D20 (Plumbing), and D30 (Mechanical) UNIFORMAT Level II building systems for all affected buildings located on the Gaithersburg, MD and Boulder, CO campuses. These deficiencies are now reflected in the BUILDER software program, and this reporting period. In FY 2023, NIST modified the contract a fourth time to include the following additional professional A/E services: perform a much more detailed visual reassessment of the A10 (Foundations), A20 (Basement Construction), B10 (Superstructure), B20 (Exterior Enclosure), B30 (Roofing), C10 (Interior Construction), C20 (Staircases), C30 (Interior Finishes), and E10 (Equipment). Gaithersburg deficiencies are now reflected in the BUILDER software program. Boulder is not reflected in the BUILDER software program. Due to A/E and Government scheduling, this work is not slated to occur till mid-September 2023.

DM&R estimates relate to capitalized, non-capitalized, and fully depreciated real property. Effective with third quarter FY 2020 reporting, all DM&R for real property, including individual items with DM&R estimates costing less than $25 thousand, is reported under BUILDER SMS.

NIST prioritizes maintenance and repair projects to sustain its real property in good operating condition, including maintaining warranties. DM&R is impacted by funding shortfalls. Individual real property maintenance and repair projects are ranked using a Project Risk Table to determine the category of the risk (i.e., critical, high, medium, or low). Each project’s risk is rated in five different areas (mission; safety and regulatory compliance; energy, sustainability, and resilience; economics; and preservation of heritage assets) and its likelihood of executability. An overall rating score is then determined for ranking purposes. A ranking can be adjusted to consider current projects underway, prioritization of future candidate projects, and budgetary funding outlook.

Acceptable real property facility condition standards are established by using building codes and/or industry standards for benchmarking and cost estimating. These standards are used to evaluate site and interior conditions, life safety, mechanical and plumbing systems, elevator and conveying systems, electrical systems, structural systems, building envelope closure systems, etc.

Facility condition index (FCI) values are calculated for each NIST facility. The ratio of the cost of correcting all facility deficiencies in a building divided by the cost of replacing the building is expressed on a 100 percentage point scale. The FCI index is 100 minus this ratio of cost expressed. This is somewhat similar to a system described by the Building Research Board of the National Research Council. Generally, a facility with an index above 95 is considered excellent, between 95 and 90 is considered good, between 90 and 85 is considered fair, and below 85 is considered poor.

The increase in DM&R of $243.7 million is primarily due to the reassessment of the Boulder and Gaithersburg assets in FY 2023 and integration of Gordian/RSMeans data, an estimating/cost guide into the BUILDER system.

# The following table shows NIST's DM&R as of September 30, 2023 and September 30, 2022:

|  |  |  |
| --- | --- | --- |
| **Assets Category** | **Deferred Maintenance****and Repairs as of September 30, 2023** | **Deferred Maintenance****and Repairs as of** **September 30, 2022** |
| Buildings | **$** | xxx,xxx | $ | 636,851 |
| Site Utilities and Infrastructure | xx,xxx | 265,922 |
| **Total** | **$** | **xxx,xxx** | $ |  **902,843** |