

Internal Audit Department
NeighborWorks® America

Audit Review of Application Systems Change Management

Project Number: NW.IT&S.APPSYSTEMSMANAGE.2021

Audit Review of Application Systems Change Management

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August 3, 2021

To: NeighborWorks America Audit Committee

Subject: **Audit Review of Application Systems Change Management**

Attached is our draft audit report for the Application Systems Change Management review. Please contact me with any questions you might have.

Thank you.

Frederick Udochi
Chief Audit Executive

Attachment

cc: M. Rodriguez
S. Ifill
K. Esmond
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Function Responsibility and Internal Control Assessment Audit Review of Application Systems Change Management

Business Function Responsibility	Report Date	Period Covered
Information Technology & Services	August 3, 2021	Q1FY20 (10/01/2019) to Q1FY21 (12/31/2020).
Assessment of Internal Control Structure		
Effectiveness and Efficiency of Operations		Inadequate¹
Reliability of Financial Reporting		Not Applicable
Compliance with Applicable Laws and Regulations		Not Applicable

This report was reissued February 15, 2024 in accordance with a recommendation by the Government Accountability Office (GAO-23-105944, June 14, 2023).

¹ **Legend for Assessment of Internal Control Structure:** **1. Generally Effective:** The level and quality of the process is satisfactory. Some areas still need improvement. **2. Inadequate:** Level and quality of the process is insufficient for the processes or functions examined, and require improvement in several areas. **3. Significant Weakness:** Level and quality of internal controls for the processes and functions reviewed are very low. Significant internal control improvements need to be made.

Executive Summary of Observations, Recommendations and Management Responses

Summarized Observation Risk Rating	Management Agreement with Observation (Yes/ No)	Internal Audit Recommendation Summary	Accept IA Recommendation (Yes/ No)	Management's Response to IA Recommendation	Estimated Date of Implementation (Month/Year)	Internal Audit Comments on Management Response
<p>Observation 1 – Outdated Change Request Management Policy and Procedures (P&P).</p> <p>Internal Audit noted there are several instances where information in the current Change Management Manual (v2.1) is not up to date. The document's Revision History indicates it was last updated on January 15, 2016 and current Change Request (CAB) procedures in RemedyForce CMDB are not fully reflected in Section 3, <i>Request for Change Process</i> in the manual.</p> <p>Risk Rating: (b) (5)</p>	Yes	<p>Recommendation 1</p> <p>Internal Audit recommends IT&S update its current <i>ITS Incident Problem and Request for Change Process Manual v2.1.doc</i> document to reflect current processes. Updating the manual will assist the Corporation adhere to COBIT/ITIL best practice guidelines.</p>	Yes	<p>Prior to receipt of this report, IT&S has begun an overhaul of policy and process documentation around the Change Advisory Board. The framework has already been created and we anticipate a final published version in Q1 of FY2022</p>	Dec 2021	<p>Internal Audit accepts Management's response</p>
<p>Observation 2 – Limited Scope of IT Change Request Management</p> <p>After reviewing the Change Management Manual as well as</p>	Yes	<p>Recommendation 2</p> <p>Internal Audit's recommendation is twofold: the improvement of the current review and</p>	Yes	<p>In alignment with the review and overhaul of the Change Advisory Board policies and processes, the function has already been</p>	Dec 2021	<p>Internal Audit accepts Management's response</p>

Summarized Observation Risk Rating	Management Agreement with Observation (Yes/ No)	Internal Audit Recommendation Summary	Accept IA Recommendation (Yes/ No)	Management's Response to IA Recommendation	Estimated Date of Implementation (Month/Year)	Internal Audit Comments on Management Response
<p>receiving the CAB Process Walkthrough via RemedyForce CMDB from IT&S, Internal Audit concluded that the current practice of Change Request Management (i.e., CAB process), does not cover all business application systems. The current Change Request Management process only includes application systems managed or supported by IT&S. Internal Audit also concluded that for regular patches, fixes and updates, there lacks a consolidated release schedule to prioritize the move of approved changes to the production environments.</p> <p>Risk Rating: (b) (5)</p>		<p>approval process to cover all change requests within the Corporation; and implement and rollout a Release Management process with the implementation of a consolidated as well as prioritized Release Schedule to include the release date/time of changes ready to be moved to the target production environments.</p>		<p>expanded outside of IT&S controlled systems. In addition, formal Change Windows are being defined for each application, and Emergency Change procedures are being put in place.</p>		
<p>Observation 3 – Inconsistent Review, Approval and Tracking of Vendor Application Systems Change Requests</p> <p>NeighborWorks America continues to evolve into a multi-hybrid Cloud shop, and it is</p>	<p>Yes</p>	<p>Recommendation 3</p> <p>Internal Audit recommends the implementation of a periodic management report to augment the current review and monitoring process. The</p>	<p>Yes</p>	<p>As part of the revised policies and processes, IT is already implementing procedures for review of system updates and changes in SaaS and Cloud environments. IT will define a set of KPIs</p>	<p>Dec 2021</p>	<p>Internal Audit accepts Management's response</p>

Summarized Observation Risk Rating	Management Agreement with Observation (Yes/ No)	Internal Audit Recommendation Summary	Accept IA Recommendation (Yes/ No)	Management's Response to IA Recommendation	Estimated Date of Implementation (Month/Year)	Internal Audit Comments on Management Response
<p>common practice for cloud service providers to release new versions of their cloud application/infrastructure to the production environment behind the scenes. Although release schedules are announced to customers (system Administrators) prior to deployment, such changes made to the production environment in the cloud also require proper CAB review, approval and tracking throughout. However, upon reviewing the CAB Report², Internal Audit noticed such CAB requests were only entered for Prompts Portal (application creation) and NetSuite. New version release and/or change requests implemented for other business application systems were absent/non-traceable in the Configuration Management Database.</p> <p>Risk Rating: (b) (5)</p>		<p>report will summarize change management activities, change management specific key performance indicators, and escalation of issues requiring management attention.</p>		<p>specific to change management and monitor performance against those KPIs. In addition, a formal escalation process will be defined.</p>		

² CAB Report 10-1-19 to 12-31-20 round2.xlsx spreadsheet.

Summarized Observation Risk Rating	Management Agreement with Observation (Yes/ No)	Internal Audit Recommendation Summary	Accept IA Recommendation (Yes/ No)	Management's Response to IA Recommendation	Estimated Date of Implementation (Month/Year)	Internal Audit Comments on Management Response
<p>Observation 4 – Inability to verify the current state of the Change Request Scope</p> <p>Currently, applications and systems change request are put into two groups: “Defect or “Enhancement”. Enhancements will go through the CAB process and categorized down to one of three change types which are further classified by a combination of categorizations and sub-categorizations. Internal Audit noted the scope of Change Requests cannot be clearly defined because the final categorization and sub-categorizations for change type “Enhancements” has become a moving target due to the unavailability of the IT Service Catalogue.</p> <p>Risk Rating: (b) (5)</p>	Yes	<p>Recommendation 4</p> <p>Internal Audit recommends IT&S to implement an IT Service Catalogue to further define and augment the Request for Change categorization and sub-categorization combination setup in the RemedyForce. The Service Catalogue should cover production environments managed and supported not only by IT&S but also by third party vendors to effectively monitor and track of all changes prior to moving to the production environment while taking COBIT and ITIL best practice guidelines into consideration.</p>	Yes	<p>IT agrees with the need for an IT Service Catalog (ITSC) and is in the planning stage of building out an ITSC which aligns with ITIL and CoBIT frameworks. We will also be enhancing the workflow automation in our service management tool (Currently RemedyForce), which will address the ability to distinguish minor and major revision releases, new feature/functionality versus patches, security fixes, as well as identifying emergency vs planned status.</p>	Dec 2021 for proposed solution, June 2022 for actual ITSC	Internal Audit accepts Management's response
<p>Observation 5 – Insufficient Baseline Requirements of Changes Made to Production Environment</p> <p>Internal Audit concluded documentation of the production</p>	Yes	<p>Recommendation 5</p> <p>Internal Audit recommends IT&S to further define the baseline requirements for production environment</p>	Yes	<p>As part of process and policy changes, there is a need to ensure that all system changes go through a systematic process of promotion from development, to</p>	March 2022	Internal Audit accepts Management's response

Summarized Observation Risk Rating	Management Agreement with Observation (Yes/ No)	Internal Audit Recommendation Summary	Accept IA Recommendation (Yes/ No)	Management's Response to IA Recommendation	Estimated Date of Implementation (Month/Year)	Internal Audit Comments on Management Response
<p>environment should be comprehensive and kept up to date. In addition, quarterly reviews should be conducted of the baseline requirements and ensure all staff responsible for the production environment are familiar with the documentation. Internal Audit was unable to find evidence that baseline requirements are reviewed and updated periodically, be it at the high-level requirement or detailed requirement.</p> <p>Risk Rating: (b) (5)</p>		<p>management³, and follow the best practice standards and guidelines⁴.</p>		<p>test, to production environments and that those promotions are handled by appropriate roles within the organization. IT agrees to quarterly reviews with staff charged with maintaining the production environment to ensure that we are meeting all baseline standards.</p>		

³ Also known as the production library management in COBIT.

⁴ Reference: COBIT 5 Change Management best practice *Production Library Management* process BAI03/BAI07/DSS02, Control C1-C5 of Control Objective CO1: Production libraries should be secure, allowing only authorized personnel to access the production libraries. Management must provide oversight of access to libraries, good-practice separation of duties, and synchronization of source and executable libraries.

Risk Rating Legend

Risk Rating: High

A serious weakness which significantly impacts the Corporation from achieving its corporate objectives, financial results, statutory obligations or that may otherwise impair the Corporation's reputation.

Risk Rating: Moderate

A control weakness which could potentially undermine the effectiveness of the existing system of internal controls and/or operational efficiency, integrity of reporting and should therefore be addressed.

Risk Rating: Low

A weakness identified which does not seriously detract from the system of internal control and or operational effectiveness/efficiency, integrity of reporting but which should nonetheless be addressed by management.

Management Responses to The Audit Review of: Application Systems Change Management		
# Of Responses	Response	Recommendation #
5	Agreement with the recommendation(s)	5
0	Disagreement with the recommendation(s)	0

Background

The IT&S Application Systems Change Management or Change Authorization Board (CAB) process was developed when the IT PMO (Project Management Office) practice was set up in 2015. This was also prior to the implementation and deployment of the organization's Enterprise Resource Planning (ERP) application suite, i.e. WeConnect. As the Corporation continues to implement and/or develop system applications the CAB process serves as an internal control mechanism that ensures changes to production environments are reviewed, approved, and monitored. This governance feature will continue to become essential as the organization continues to digitally transform, to cloud based systems.

Objective

The objective of this audit review was to obtain assurance that application system changes including emergency maintenance and patches in the production environment, are formally managed in a controlled manner. We adopted both COBIT⁵ Manage Change and ITIL-ITSM⁶ Change Management best practice processes as benchmarks for our review.

Scope

The scope of this audit review covers:

- Production environments supported and/or managed by IT&S.
- NWA Production environments managed/supported by third party vendors.
- IT&S Change Request Process and Procedures (P&P) as defined in the current version of ITS Incident Problem Management and Request for Change Process Manual v2.1.
- Updated procedures as demonstrated through a Walkthrough conducted by IT&S on 3/09/2021.
- Change Authorization Board (CAB) requests entered between Q1FY20 (10/01/2019) and Q1FY21 (12/31/2020).

Methodology

Based on COBIT 4.1 and COBIT 5 Control Guidance, AI6 for Manage Change, as well as ITIL 4 ITSM Change Management best practice processes, Internal Audit focused on the verification and validation of the following controls:

- Change Standards and Procedures,
- Impact Assessment, Prioritization and Authorization,
- Emergency Changes (Appendix B),
- Change Status Tracking and Reporting (Appendix C), and
- Change Closure/Deployment to Production.

⁵ COBIT: acronym for Control Objectives for Information and Related Technology, is a set of IT control objectives originally developed and released by ISACA (Information System Audit and Control Association) to help the financial audit community better navigate the growth of IT environments; the control framework has since been expanded to apply outside the accounting community to include IT management and information governance techniques.

⁶ ITIL-ITSM: IT Service Management (ITSM) is what an IT department does to manage and deliver the services to the customer under the IT Infrastructure Library (ITIL) best practice framework.

Below are the observations and recommendations concluded from the sample-testing of the 87 change requests included in the *Change Authorization Board (CAB) Report*⁷ within the 40 application systems listed in the *ITS System Management*⁸ document provided by IT&S.

Observations and Recommendations

Observation 1: Outdated Change Request Management Policy and Procedures (P&P)

Internal Audit noted there are several instances where information in the current Change Management Manual (v2.1) was not up to date. The document's revision history indicates it was last updated on January 15, 2016 and current Change Request procedures automated via the IT&S Service Management tool RemedyForce Configuration Management Database ("RemedyForce CMDB" or "CMDB") are not fully reflected in Section 3, *Request for Change Process* of the manual. The following are not reflected in the manual but are not limited to:

- i. Change request categories and subcategories which defines the Change Request Management scope. Internal Audit requested and did not receive the existing change categories/sub-categories setup values in the CMDB⁹ (Configuration Management Database) to further verify or confirm that the current state of IT&S Change Management scope is properly reflected by the policy, process, and procedures. For example, to decompose request types such as a "Minor Enhancement" down to category level like "NetSuite", then to a subcategory level like a "PO approval workflow".
- ii. The CAB members listed in the Change Manual are outdated.
- iii. No CAB online form template in Remedyforce is referenced as standard template to augment section 7, *Request for Change Form/Create Form* for standardization, conformity and consistency.

The main purpose of change management is to enable fast and reliable delivery of change to the business while mitigating risks that negatively impact the stability or integrity of the changed environment. Outdated change management procedures can undermine the effectiveness and efficiency of the process and impede the overall process.

Recommendation 1

Internal Audit recommends IT&S update its current *ITS Incident Problem and Request for Change Process Manual v2.1* document to reflect current processes. Updating the manual will assist the Corporation adhere to COBIT/ITIL best practice guidelines¹⁰ which include, but are not limited to the following additions:

- Documenting the organization's standards, processes, procedures, and guidelines for identifying, classifying, and approving change requests.

⁷ CAB Report 10-1-19 to 12-31-20 round2.xlsx spreadsheet.

⁸ ITS System Management updates.xlsx spreadsheet.

⁹ CMDB (Configuration Management Database is a repository that acts as a data warehouse to store information about NeighborWorks' IT environment - the components that are used to deliver IT services such as lists of assets (referred to as Configuration Items) and the relationship among them.

¹⁰ Reference: COBIT 5 Change Management best practice *Identify Changes* process BAI06.01, Control C1 of Control Objective CO1: Only changes that are authorized, evaluated and prioritized and have resources required should enter the change process.

- Defining and documenting the risk assessment process focused on the impact of the change to other systems or applications.
- Defining and documenting the process for performing an analysis of any compliance issue that could be affected by the change request.
- Assigning a resource budget to each request where applicable.
- Documenting approvals of the change request by authorized approvers within both IT&S and the business owner.
- Prioritization of change requests are performed, reviewed, assessed, and authorized by appropriate members of management (Change Authorization Board).
- Consider changing the name of the organization's Change Authorization Board to be consistent with the industry standard of Change Advisory Board going forward.

Observation 2: Limited Scope of IT Change Request Management

After reviewing the Change Management Manual as well as receiving the CAB Process Walkthrough via RemedyForce CMDB from IT&S, Internal Audit concluded that the current practice of Change Request Management (i.e., CAB process), does not cover all business application systems (Appendix A). Per COBIT and ITIL best practice guidelines and disciplines, Change Management is the management of changes to control IT Infrastructure components, which includes physical components such as computer and networking hardware and facilities, as well as various software and network components. The current Change Request Management process only includes application systems managed or supported by IT&S. Other application systems such as Compass, ETMS, CounselorMax and UltiPro HR Self Service, to name a few, do not follow the CAB process because they are supported either by outside consultants or third-party vendors via the Service Level Agreements (SLAs). Internal Audit also concluded that for regular patches, fixes and updates, there lacks a consolidated release schedule¹¹ to prioritize the move of approved changes to the production environments. This is based on best practices, such as COBIT Change Management Guidelines AI 6.1, and ITIL 13, Change Management Process.

Recommendation 2

Internal Audit's recommendation is twofold:

- (i) Improvement of the current review and approval process to cover change requests within the Corporation based on a risk assessment to prioritize significant application systems;
- (ii) Implementation and rollout of a Release Management process that would facilitate the implementation of a consolidated, as well as prioritized Release Schedule to include the release date/time of changes ready to be moved to the target production environments.

Regardless of how a production environment is managed and supported (IT&S or Third-Party Vendor), change requests for all three types (Defects, Minor Enhancements and Projects) should be entered into Remedyforce CMDB to go through proper review, approval, tracking and monitoring. Doing so will efficiently and effectively minimize potential risks and negative impacts on the business and end-users.

¹¹ Change Manual v2.1, Section 3.13, Block Point Release.

Prior to releasing the implemented changes into the production environment, changes ready to be moved to productions must be scheduled and prioritized by the Release Manager. Followed by system testing to avoid or minimize potential risks and negative impacts to the business and end-users.

As for change type (development) projects (e.g., Compass, CounselorMax and ETMS), IA recommends IT&S explore other available options to actively engage in the project implementation. For example, by taking the Citizen Development approach¹² as opposed to the Shadow IT development¹³ approach in order to perform continuous risk assessment, risk monitoring and risk mitigation in an efficient and effective manner.

Observation 3: Inconsistent Review, Approval and Tracking of Third-Party Vendor Application Systems Change Requests

NeighborWorks America continues to evolve into a multi-hybrid Cloud shop, it is common practice for cloud service providers to release new versions of their cloud application/infrastructure to the production environment behind the scenes. Although release schedules are announced to customers (system Administrators) prior to deployment, such changes made to the production environment in the cloud also require proper CAB review, approval and tracking throughout. However, upon reviewing the CAB Report¹⁴, Internal Audit noticed such CAB requests were only entered for Prompts Portal (application creation) and NetSuite (NetSuite 2020.1 release as well as configuration for invoice and customer approval workflows). New version release and/or change requests implemented for other business application systems were absent/non-traceable in the CMDB. Lack of consistent tracking and monitoring of these “behind the scene” deployments could result in the lack of or inadequate documentation of incidents/problems that may occur due to these deployments.

Recommendation 3

Internal Audit recommends the implementation of a periodic management report¹⁵ to augment the current review and monitoring process. The report will summarize change management activities during the period, key performance indicators, and escalation of issues requiring management attention, specifically with the following items identified:

- Frequency and scope of the report.
- If service level agreements (SLAs) are in use summarize the SLA attainment and/or deficiencies.
- Escalation procedures and attainment of SLAs are compliant with the escalation process operating outside of normal conditions (e.g. emergency changes).

¹² Citizen Development, with Project Management Institute (PMI) as one of the biggest proponents, is the enterprise practice of business professionals, not trained in technology discipline, to build, deploy and continuously improve applications critical to their business in a secure, controlled and disciplined manner that is sanctioned and governed by IT.

¹³ Shadow IT: refers to IT systems deployed by departments other than the central IT department to work around the shortcomings of central information systems.

¹⁴ CAB Report 10-1-19 to 12-31-20 round2.xlsx spreadsheet.

¹⁵ Reference: COBIT 5 Change Management best practice *Governance* process BAI06.03, Control C1 of Control Objective CO1: The change management process is subject to management oversight to ensure the consistent and timely processing of changes.

- Appropriate approvers consisting of management staff from IT operations, IT systems development and the business owners.
- Minutes of management meetings (CAB meetings), and management’s oversight of change management activities are documented in resolution plans.

Observation 4: Inability to verify the current state of the Change Request Scope

Currently, applications and systems change request are put into two groups: “Defect”, which will remain a Tier 1 incident/problem service request until it is escalated to Tier 2, or “Enhancement”, which will go through the CAB process. Enhancements will then be further decomposed down to three change types based on IT&S’ assessment: Defect, Minor Enhancement, or Project according to Change Manual v2.1. However, during the Remedyforce CMDB walkthrough, the three change types are further classified by the combination of categorizations and sub-categorizations as demonstrated.

Per best practice, Change Management disciplines¹⁶, Change Management is the management of changes to control IT Infrastructure components, which includes physical components such as computers, networking hardware and facilities, as well as various software and network components. With the understanding of the inter-dependency between software and hardware, without a full setup list of the categorizations and subcategorizations from the CMDB, Internal Audit was unable to verify nor cross reference between the setup of change categorizations/sub-categorizations and the systems managed¹⁷ or supported by IT&S.

Furthermore, the scope of Change Requests cannot be clearly defined because the final categorization and sub-categorization for change type “Enhancements” has become a moving target due to the unavailability of an IT Service Catalogue¹⁸. In other words, the alignment of all the IT Infrastructure components as outlined by best practice, cannot be completed, and aligned with Service Items identified in a Service Catalog.

Recommendation 4

Internal Audit recommends IT&S implement an IT Service Catalogue to further define and augment the Request for Change categorization and sub-categorization combination setup in the Remedyforce CMDB. The Service Catalogue should cover production environments managed and supported not only by IT&S but also by third party vendors to effectively monitor and track all changes prior to moving to the production environment while taking COBIT and ITIL best practice processes¹⁹ into consideration, such as:

- Program changes requiring sign-off by the appropriate stakeholders prior to being moved into production.
- Change management software is used to control the change process.

¹⁶ COBIT AI06, Manage Changes and ITIL 13, Change Management Process.

¹⁷ ITS System Management updates.xlsx spreadsheet.

¹⁸ IT Service Catalogue is a listing of all the products and services IT&S currently offers its users.

¹⁹ Reference: COBIT 5 Change Management best practice *Move to Production Library* process BAI06.01-04/BAI07.06/BAI10/DSS02/DSS05, Control C1-C5 of Control Objective CO1: The move to the production process should be controlled and documented. Access should be limited to authorized change management personnel. Only authorized changes should have been made to production programs, and the move process should ensure synchronization of the source and executable libraries.

- Monitoring and tracking manual controls throughout a programs move process to prevent unauthorized moves to production.
- Management reviews program changes to ensure only authorized changes from the move ticket²⁰, systems request, or incident log are included in the modification.
- The production source and executable libraries are synchronized, all executable library entries are supported by a move ticket, and appropriate logging is available to monitor and track moves initiated by a move ticket to a library update.

Observation 5: Insufficient Baseline Requirements of Changes Made to Production Environment

Internal Audit concluded that documentation of the production environment should be comprehensive and kept up-to-date. It should include hardware, software, networking details, vendor information, support information, dependencies upon other systems or applications, and any other details necessary to maintain order. In addition, quarterly reviews should be conducted of the baseline requirements and ensure all staff responsible for the production environment are familiar with the documentation -- and that it is also safely backed up in the event of a disaster.

Internal Audit was unable to find evidence of clearly defined and documented baseline requirements to conduct verification and testing for periodic review and updates to determine whether the requirements are being satisfied or not.

Lack of clearly defined and documented baseline requirements that are aligned with best practice principles and guidelines – be it at the high level or detail level – may result in production environments downtime that inadvertently interrupts daily business operations.

Recommendation 5

Internal Audit recommends IT&S to further define the baseline requirements for changes to production environment management²¹, and follow best practice standards and guidelines²²:

- Access to production source is limited on a need-to-know basis. Programmers are limited to READ access; only change management staff members are assigned WRITE access.
- Production source libraries maintain version control which provides a history of all modifications with the ability to roll back to a previous version if the new version is not functioning properly.
- Production executable libraries maintain version control which provides a history of all modifications with the ability to roll back to a previous version if the new version is not functioning properly.

²⁰ Formal ITIL change management process, when a change is ready to be released to production a different helpdesk ticket called “move ticket” is created.

²¹ Also known as the production library management in COBIT.

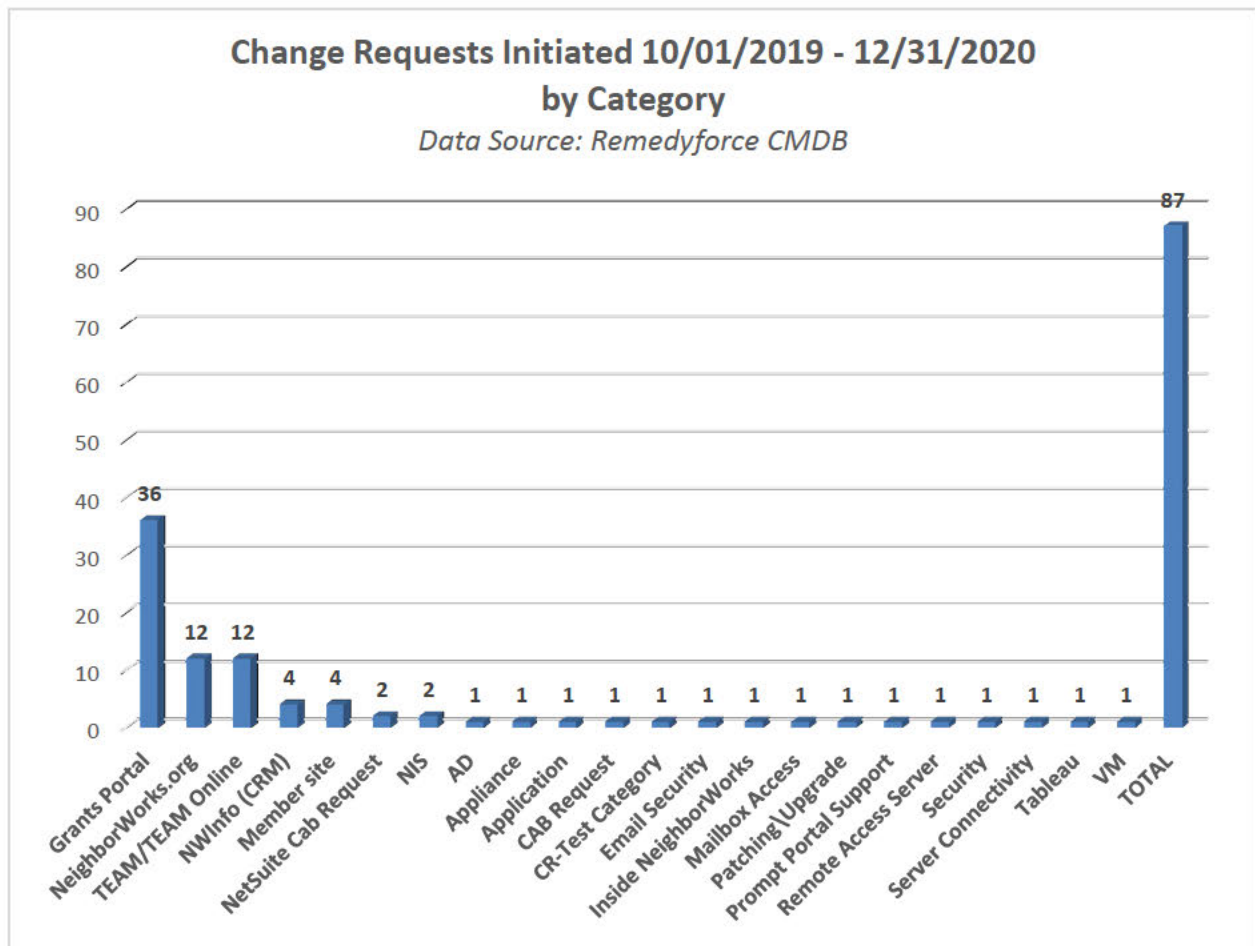
²² Reference: COBIT 5 Change Management best practice *Production Library Management* process BAI03/BAI07/DSS02, Control C1-C5 of Control Objective CO1: Production libraries should be secure, allowing only authorized personnel to access the production libraries. Management must provide oversight of access to libraries, good-practice separation of duties, and synchronization of source and executable libraries.

- Changes to the production executable libraries of distributed systems utilize a scheduled transmission and have an acknowledgment process to ensure accurate, complete, and timely transmission of changes.

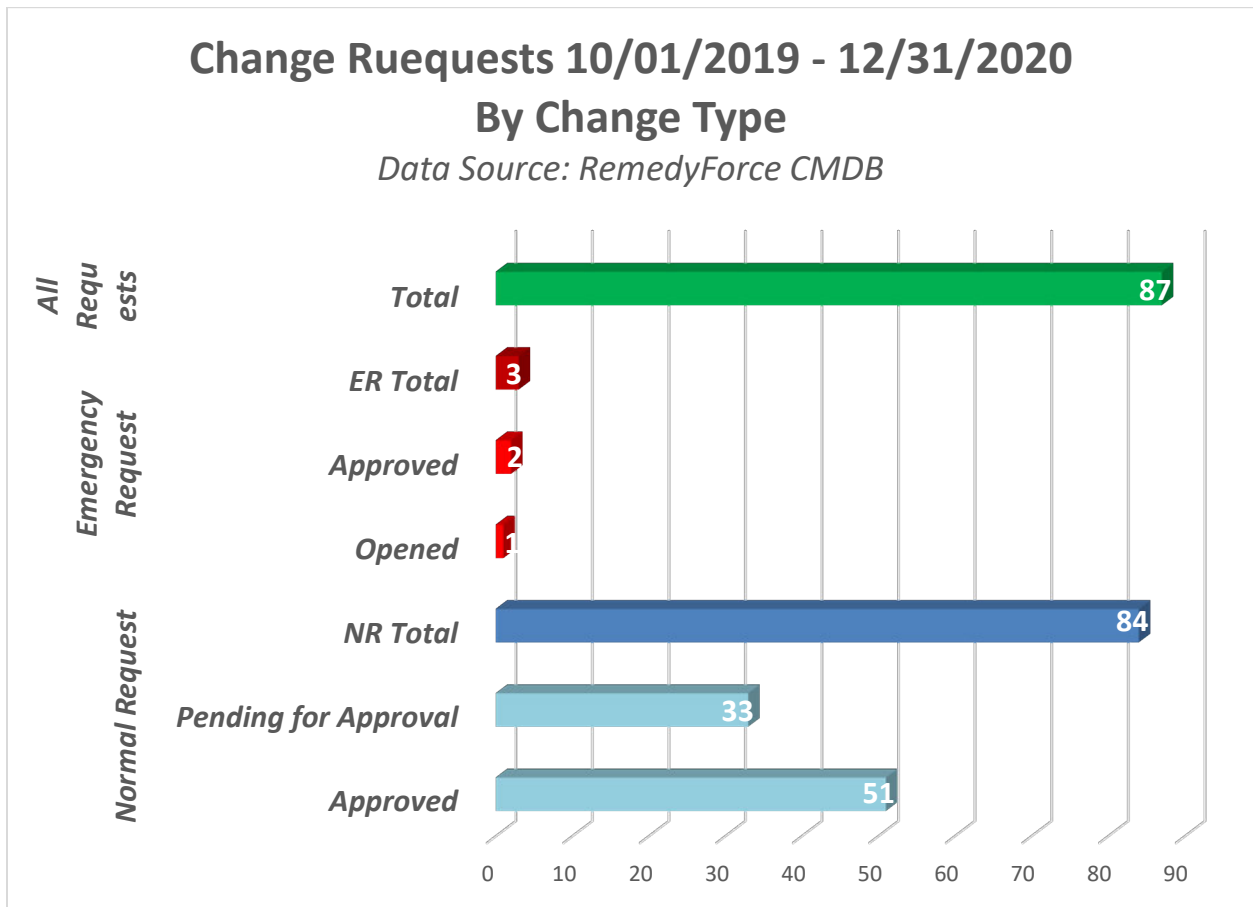
Conclusion

As NeighborWorks America continues to transform to a multi-hybrid Cloud, it is essential for the current change management practice processes to expand the scope to cover tracking and monitoring of change requests made for all business application systems. This audit review, along with prior audit reviews conducted such as *IT&S Governance*, *WeConnect Internal Controls*, *IT&S Hardware Inventory Administration & Management*, focused on the current NeighborWorks IT Service Management (ITSM) practice as a whole, and detected the opportunity to enhance managements review and acceptance during its digital transformation period. The recommendations suggested here would help revise and revamp the current Applications Systems Management manual. Particularly in terms of the Request for Change scope as well as a published IT Service Catalogue. Internal Audit welcomes IT&S' continuous benchmarking against COBIT and ITIL Change Management best practices to prioritize and roll out changes in an effective and efficient manner. Internal Audit would like to take the opportunity to thank the staff of IT&S for their cooperation throughout this review.

Appendix A – Change Requests by Category



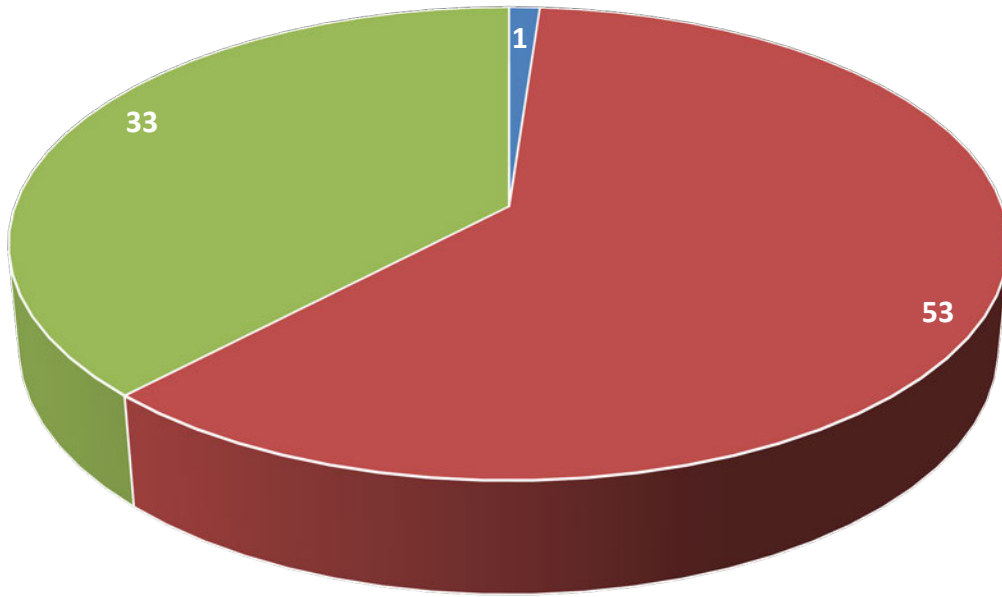
Appendix B – Change Request by Change Type



Appendix C – Change Requests by Status

Change Requests by Status - 10/01/2019 - 12/31/2020

Data Source: Remedyforce CMDB



■ OPENED ■ APPROVED ■ PENDING APPROVAL