Kansas NG911
Technology Change Management Policy

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Kansas
911 Coordinating Council

Document Change Log

Date	Author	Change	Reason
07/12/16	R. White	Page-7 CM from PM to Liaison	Liaison now assigned

Kansas
911 Coordinating Council

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1 Executive Summary

The Council's Change Management (CM) Plan is an approach to transitioning PSAPs, NG911 implementation teams, products and services to a desired future state. The NG911 CM Plan helps the Kansas 9-1-1 Coordinating Council to both understand and to minimize the risk of changes to our statewide Next Generation 911 service. The CM Plan establishes the change methodology for NG911. It is supported by various change policies such as this Operations Change Management Policy. These change management policies establish the process and procedure for reviewing and implementing change.

Because each Committee (Admin, Operations, Technical, GIS) has different roles and responsibilities, each has developed their own Change Management (CM) policy. Each CM policy is slightly modified and tailored to manage within their respective circle of influence. Nevertheless, each CM process is completely compatible with our overarching NG9-1-1 Change Management Plan. Therefore, each CM process must be applied in the context of the NG911 CM Plan as shown in Figure 1.

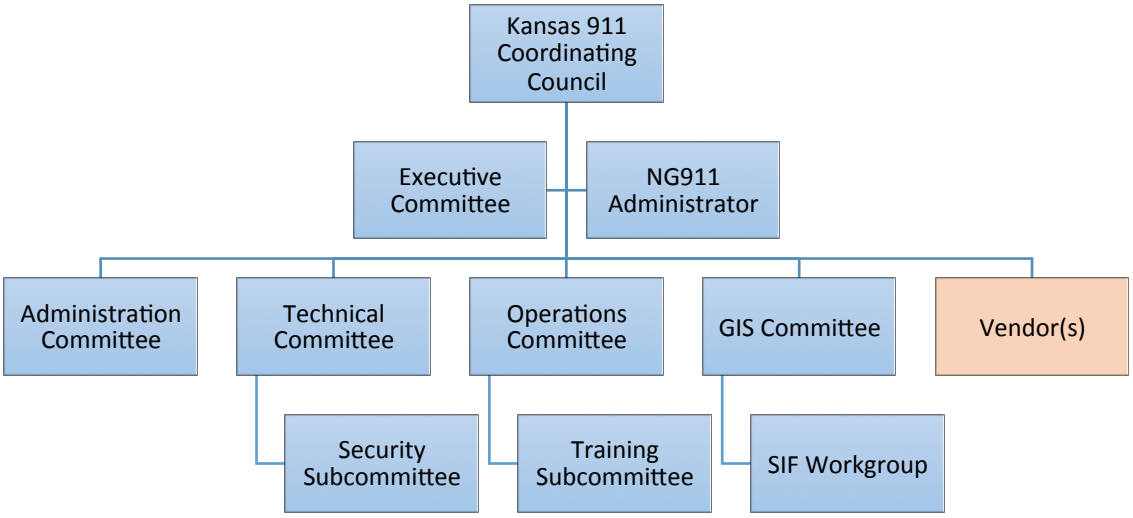

Figure 1 Kansas NG911 Change Management Hierarchy

The objective of this Technical Change Management Policy is to ensure that technical changes to the NG911 infrastructure are systematically evaluated, authorized, recorded, prioritized, planned, tested, and implemented in a controlled manner.

2 Scope

The Council's Change Management Plan is an approach to transitioning individuals, teams, products and services to a desired future state. Change management is a critical component of effective system management. Changes to our ESInet, Call Handling and Geographic Information System (GIS) database may impact effective call routing and call handling, and other aspects of the NG9-1-1 system.

The Change Management Plan provides processes and procedures for four (4) types of changes:

- **Minor Change**
  A Minor change is a change that will have minimum impact of current process and would allow for the implementation of low-risk, well-understood changes which do not require release of deployment management.
- **Normal Change**
  A change that follows a pre-defined workflow within the documented Change Management processes.
- **Emergency Change**
  Time Critical and potentially high-impact changes that require change outside of the normal process and would require the involvement of the Emergency Change Advisory Board (ECAB).
- **High Risk Change**
  A High-Risk Change is a change that must be implemented as soon as possible. Essentially, it will follow the same Normal Change procedure with a few exceptions. Most notable are potential process changes that may require the consensus of the Change Advisory Board (CAB) described below. Or may require prior testing to fully document the change and configuration data. High risk changes may require following Emergency Procedures.

3 Purpose

The primary purpose of this CM Plan is to provide our high-level methodology while relying on our supporting CM Policies to do the "heavy lifting" aspects of change management within their specific areas. For example, since the NG911 infrastructure (ESInet, Network Monitoring and Management (NMM), Data Centers, Call Handling) is furnished as a turn-key fully-integrated solution and service, the infrastructure vendor has primary responsibility for change within their span of control. As the i3 systems and service are implemented, those too will come under the purview of this CM Plan.

Typical aspects of change management are:

- **Availability Management**: assesses the impact of changes on service(s) accessibility.
- **Capacity Management**: verifies the impact of changes on services over an extended period of time.
- **Configuration Management**: verifies the impact of changes in relationship to other equipment or services of NG911.
- **IT Service Continuity Management**: verifies the potential impact on business and service continuity.

- **Incident Management**: requests changes to resolve incidents including those caused by other changes.
- **Problem Management**: identifies new errors, including those resulting from a change, and resolves those errors.
- **Release Management**: assesses the implementation of new releases to include hardware, software, and processes, verifying the impact of a potential change using testing where feasible.
- **Service Level Management**: determines the impact of changes to business services, discussing high visibility or potential high-impact change with customers prior to implementing the change.

4 Reference Documents

Federal

- Various NENA technical standards are available or are emerging

State

- Kansas NG911 Strategic Plan
- Kansas NG911 Governance Plan and Policies
- Kansas NG911 Communication Plan
- Kansas NG911 Security Policies: PSAP, Infrastructure and DASC
- Kansas NG911 Change Management Plan and Policies
- NG911 PSAP Memorandum of Agreement (MoA)

5 Change Management Authority

The Change Management Structure consists of five (5) management tiers for approval and/or disapproval of non-standard change as shown in Figure 2.

1. **Council Executive Oversight Committee** provides final authority to change agents, when and if required.
2. **Change Advisory Board** (CAB) ensures that all NG911 Committees are informed of potential changes within a Committee. The CAB also ensures that contemplated changes of one Committee do not adversely affect the other Committees. CAB membership includes the chairperson of each Committee, NG911 Administrator, NG911 Liaison, and Program Manager.
3. **Committee Change Control Board** (CCB) serves as the administrative entity providing management and operation of NG911. The CCB provides tactical approval of all changes associated with their Committee. Membership includes the NG911 Administrator, Committee Members, vendor(s) associated with Committee, and is chaired by the Committee Chairperson.
4. **Change Manager** is responsible for the receiving, recording, processing and handling of all Change Order Requests (CORs). The Change Manager is the NG911 Liaison.
5. **Change Requestor** is the person who is submitting the COR. Any NG911 stakeholder may submit a COR using the COR form below.

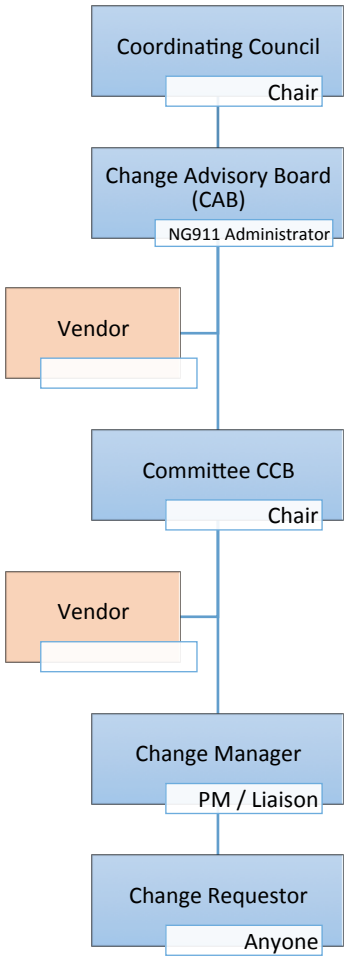

Figure 2 NG911 Change Mgt. Structure

After application of the COR, the respective CCB verifies the correct implementation of previously scheduled changes and/or makes the required adjustments by capturing written and verbal feedback, forwarding notes or adjusting organizational level agreements and service level agreements where appropriate.

6 Technology Change Control Board

The Technical Change Control Board (CCB) shall include the Technical Committee Chair and supporting Subject Matter Experts (SMEs) from the Technical Committee. The NG911 Administrator, NG911 Liaison, NG911 Program Manager and the Kansas GIS Information Officer (GIO) will support the Technical CCB as needed to address change management holistically for the NG911 program. The Technical CCB will review, accept, and reject applicable change order requests (CORs).

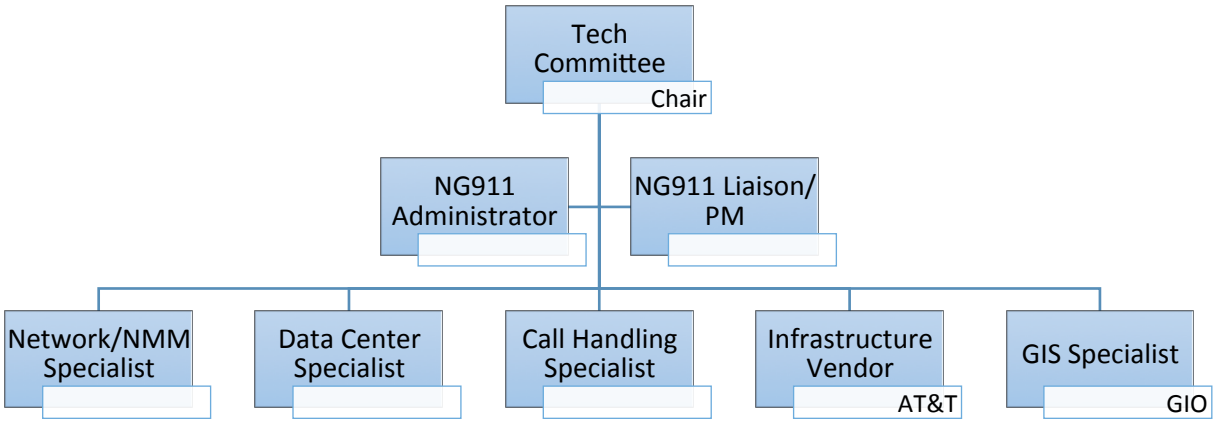

Figure 3 Technical Change Control Board

7 How to Request a Change

Anyone may request a change to any aspect of NG911 and the process is easy. A few typical examples of requested changes are:

- additional NG911 seats or configuration
- Suggesting a change to a NG911 policy
- change in our training program

Some changes are minor and straight forward. Other changes such as a Call Handling upgrade or technology refresh are major and require comprehensive coordination before implementation. Nevertheless, the process for reviewing and accepting or rejecting the change request is the same.

Step-1

The person requesting the change completes a Change Order Request form below. A sample form is also provided below.

Step-2

The Technical Committee reviews the COR and either accepts or rejects the requested change. If the COR affects NG911 as a whole, the COR may be submitted to the Change Advisory Board (CAB) for its opinion.

Step-3

If the COR is approved and is local to the PSAP, the COR is returned to the Requestor with explanation for acceptance, and the process of change is implemented at the PSAP level.

If the COR is approved and is statewide in nature, the COR is returned to the Requestor with explanation for acceptance, and the change is implemented statewide following the NG911 Communication Plan.

In the event that the COR is rejected and the Requestor believes that the COR was not fully understood, or that the COR deserves a second look, the Requestor may resubmit the COR with additional information for CCB reconsideration.

8 Change Control Log

The NG911 Change Control Log provides the status of all COR's opened, resolved, and pending.

9 Definitions, Abbreviations, Acronyms

ALI	Automatic Location Identification (ALI) is a service whereby a PSAP call taker is automatically given the emergency 9-1-1 caller's address. This service uses a tabular database that is associated with CAMA trunks that are provided by the PSAP's LEC carrier.
ANI	The Automatic Number Identification (ANI) is a service whereby a PSAP call taker is automatically given the emergency 9-1-1 caller's telephone number. This service uses a tabular database that is associated with CAMA trunks that are provided by the PSAP's LEC carrier.
Call Handling Equipment	Is special equipment that allows PSAP call takers to accept, manage and, if necessary, transfer emergency 9-1-1 calls. Typically, this equipment is computer based and uses one or more monitors to facilitate the handling of emergency calls.

CAMA trunk	Centralized Automatic Message Accounting (CAMA) is actually a call log that is based on the traditional telephone line (“trunk” or “circuit”) from the LEC to the PSAP.
Customer Premises	Refers to the facility where the PSAP operates. Customer premises are specified in documents such as the SOR and Site Survey.
CPE	Customer Premise Equipment (CPE) refers to the equipment that the Council’s provider AT&T is furnishing at the PSAP in order to provide the hosted call handling service of NG911. Typically, this is a small router or switch similar to that provided in homes for cable TV service.
Geospatial Routing	Relies on a GIS database to identify the location of the emergency 9-1-1 caller on a map using X-Y coordinates rather than current MSAG, ALI and ANI tabular databases. Various layers of information can be added to the map to provide the call taker with enhanced information relative to the location to improve emergency response and routing of the call.
GIS	A Geographic Information System (GIS) is a system that correlates an emergency 9-1-1 callers location to a map database in order for the PSAP call taker to route and direct emergency responders accurately and quickly to the location of the emergency.
LEC	Local Exchange Carrier (LEC) refers to the telephone company (“carrier”) for a locality. Examples are AT&T, CenturyLink, Pioneer Communication, and many others in Kansas.
MOA	This document is the Memorandum of Agreement (MOA). It forms the relationship and participation between the PSAP jurisdiction and the Council for the acquisition and support of NG911 hosted call handling services from the Council’s provider AT&T.
MSAG	The Master Street Address Guide (MSAG) is a tabular database
NG9-1-1	Next Generation 9-1-1 (NG911) is a national initiative for updating our outdated 9-1-1 call handling service with special emphasis on the increased dependency of our society on wireless (cellular) communication rather than traditional wireline telephone.
PSAP	The Public Safety Answering Point (PSAP) is a local center where emergency 9-1-1 calls are routed. Typically, PSAPs are located at a county level such as a county sheriff. They are also located at a local level such as a police department.

Service Acceptance	Is the PSAP's acknowledgement that they have received NG911 call handling services as defined in the SOR and MOA.
SOR	The Service Order Request (SOR) is that initial document completed by the PSAP with the NG911 Administrator. It expresses the general desire to participate in NG911 and collects general information to begin the process of defining the requirements of the PSAP. The SOR is a precursor to the MOA.

10 NG911 Change Order Request Form

The NG911 Program Portal is designed to handle all COR's. That is, a COR can be initiated, processed and archived through our Portal. The Portal is constructed to emulate and replace the manual forms originally used for our COR's, as shown below. The use of manual COR forms is discouraged.

Type Change: see 2. Scope	**Date of Request:**		**Requestor:** name
Requestor's Org / Dept:		**Requestor's Phone:**	
Priority: **Risk:**	**Program Area:**		**Service-affecting?**
Scope / Description: Enter here			
Reason or Purpose of Change:			
Performance Impact:	**Schedule Impact:**		**Estimated Cost Impact:**
Received: date	**ID:**	**Change Mgr:** Randall White	**Phone:** 913-485-9911
Recommendation:			
Disposition:			
Received: date	**Reviewed:** date	**CCB Chair:** Jay Coverdale	**Phone:**
Recommendation:			
Disposition:			
Received: date	**Reviewed:** date	**CAB Chair:** Scott Ekberg	**Phone:**
Recommendation:			
Disposition:			
Received: date	**Reviewed:** date	**Exec Chair:** Col. Stratmann	**Phone:**
Recommendation:			
Disposition:			
Received: date	**Reviewed:** date	**CAB Chair:** Scott Ekberg	**Phone:** 785-438-8440
Recommendation:			
Disposition:			

Signature	Date		Signature	Date
NG911 Program Manager			NG911 Administrator	

11 NG911 Change Order Request Sample

Use this Change order Request (COR) to request or recommend a change to any aspect of the Kansas NG9-1-1 program. For instructions, refer to our NG911 Change Management Plan. As each Step is completed, by the person filling out the form, it is understood that person is responsible on that date. This serves as an electronic signature, and no formal signature is required. However, for the completed COR to be consummated, it must be formally signed by the two (2) parties represented Step #7.

Step #1 **Requestor** completes this section of form, then sends to the Change Manager, Randall White.

Type Change: Emergency	**Date of Request:** 12/22/14	**Requestor:** Bill Kelly
Requestor's Org / Dept: OITS Networking	**Requestor's Phone:** 785-296-1861	
Priority: HIGH **Risk:** Low	**Program Area:** Infrastructure	**Service-affecting?** Y/N
Scope / Description: PSAP connectivity from Shawnee PSAP to Regional ESInet from single T1 to bonded 2xT1 circuit.		
Reason or Purpose of Change: Increase bandwidth to handle additional voice traffic.		
Performance Impact: 1.544 Mbps to 3 Mbps	**Schedule Impact:** at&t typical install interval is 30-45 days.	**Estimated Cost Impact:** From $250.42/mo to $472.35/mo incurred by PSAP.

Step #2 **Change Manager** completes this section of form, then sends to the CCB Chairperson of affected program area.

Received: 12/23/14	**Reviewed:** 12/24/14	**Change Mgr:** Randall White	**Phone:** 913-485-9911
ID: COR_00001			
Recommendation: Requests is reasonable			
Disposition: Forwarding to Technical Committee Chair for consideration.			

Step #3 **CCB Chairperson of affected area** completes this section of form, then sends to the CAB Chairperson, Scott Ekberg.

Received: 12/26/14	**Reviewed:** 12/27/14	**CCB Chair:** Jay Coverdale	**Phone:** 785-296-3937
Recommendation: Since the PSAP is likely to outgrow a bonded T1 bandwidth within nine (9) months, we recommend changing from the current T1 connectivity (1.544 Mbps) to a Fractional DS3/T3 circuit (44.736 Mbps). The schedule impact is 45-90 days. The cost impact is from $250.42/mo to $715.20/mo.			
Disposition: We returned this COR to Change Manager for reconsideration of change. Bill Kelly agreed that DS3 circuit is more cost effective in the near term.			

Step #4 CAB Chairperson completes this section of form, then either (a) returns to Change Manager for final disposition, or (b) sends to Executive Committee for an opinion.

Received: 12/28/14	**Reviewed:** 12/29/14	**CAB Chair:** Scott Ekberg	**Phone:** 785-438-8440
Recommendation: Since the PSAP is likely to outgrow a bonded T1 bandwidth within nine (9) months, we recommend changing from the current T1 connectivity (1.544 Mbps) to a Fractional DS3/T3 circuit (44.736 Mbps). The schedule impact is 45-90 days. The cost impact is from $250.42/mo to $715.20/mo and potential CLEC construction costs.			
Disposition: We returned this COR to Change Manager for reconsideration of change. Bill Kelly agreed that DS3 circuit is more cost effective in the near term. The COR will be changed accordingly. We are forwarding this COR to the Executive Committee for consideration of potential CLEC construction costs that could exceed $10,000.00 and affordable by the PSAP.			

Step #5 Executive Committee Chairperson completes this section of form, if requested, then returns to CAB Chairperson for final disposition.

Received: 12/30/14	**Reviewed:** 12/31/14	**Exec Chair:** Col. Stratmann	**Phone:** 913-826-1010
Recommendation: We agree that DS3 service is prudent. The Council will cover up to $8,000.00 construction costs.			
Disposition: We are returning this COR to the CAB for final processing.			

Step #6 CAB Chairperson returns the final COR to the Change Manager for records and final disposition.

Received: 01/02/15	**Reviewed:** 01/03/15	**CAB Chair:** Scott Ekberg	**Phone:** 785-438-8440
Recommendation: Approve change of Shawnee PSAP connectivity from current T1 to DS3 service. The Council will cover up to $8,000.00 in potential construction costs. Program Manager to request formal quotation from CLEC, and fast-track implementation schedule Not Later Than (NLT) 60 days.			
Disposition: As of 01/04/15 we are returning this approved COR to the Change Manager for final disposition.			

Step #7 Formal Signatures for this COR. Normally, this is the NG911 Administrator for the Council

_____, ____/ ____/ 2015 _____, ____/ ____/ 2015

NG911 Program Manager NG911 Administrator