



Public Safety Advisory Committee

Human Factors Report Overview

Chief Harlin R. McEwen, PSAC Chairman

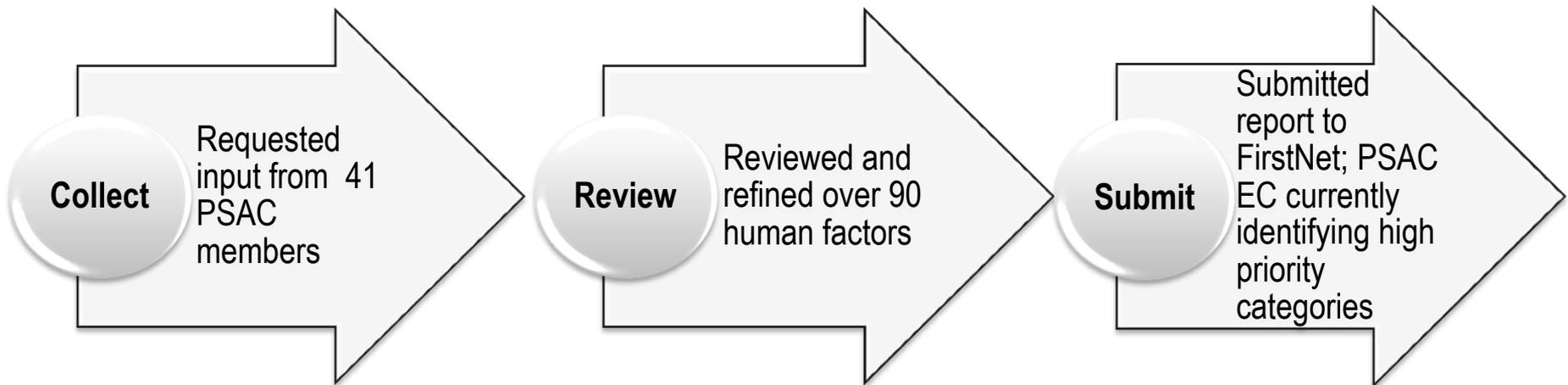
FirstNet Board Meeting

March 11, 2014

Scope

The Public Safety Advisory Committee (PSAC) was asked by FirstNet to analyze the long-range impacts of the Nationwide Public Safety Broadband Network (NPSBN) on the way law enforcement, fire, and emergency medical services (EMS) operate and consider the impact it will have on their duties once the network is built and operating. The PSAC sought to answer:

- What are the human elements FirstNet needs to consider when designing the network?
- What are the potential user issues that will arise when using the NPSBN?
- How will the NPSBN be used by first responders and how will it impact operations?



Definitions

Human Factors: the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data, and other methods to design in order to optimize human well-being and overall system performance

To determine the human factors impact of the network, the PSAC Executive Committee defined the human elements of the system as:

Users	Operators	Maintainers
<ul style="list-style-type: none">Those who will regularly use or employ the system	<ul style="list-style-type: none">Those who are responsible for the day-to-day operations of the network (e.g., FirstNet, commercial carrier)	<ul style="list-style-type: none">Those entities / divisions within the operator entity that are responsible for maintenance services; personnel that keep the day to day infrastructure elements running

Input Summary/Examples

Category	Human Factors Group		
	Users	Operators	Maintainers
Device / design ergonomics (detail public safety grade)	<ul style="list-style-type: none"> Should have anti-glare surfaces, dimmable displays, and alternative color backlighting for nighttime use, and should display sufficiently in direct sunlight 	<ul style="list-style-type: none"> Features and functionality supported by effective Governance structures at the appropriate levels (e.g., national, state, county, and local) 	<ul style="list-style-type: none"> Provisioned remotely by local and nationwide operational entities Authorizations to information resources adjusted by competent authority “on the fly”
Applications	<ul style="list-style-type: none"> Applications integrate with and extend capabilities of connections to existing databases (e.g., National Crime Information Center, National Law Enforcement Telecommunications System) 	<ul style="list-style-type: none"> Capable of supporting multiple vendor products Infrastructure will support, up to maximum available capacity, sufficient bandwidth for concurrent/multiple transmissions of large file data 	<ul style="list-style-type: none"> Applications incorporate criterion that articulate suitability and authorization/certification for use upon the network specifying local, county, multi-county, regional, state, multi-state, nationwide access or use

Input Summary/Examples

Category	Human Factors Group		
	Users	Operators	Maintainers
Policies and Procedures	<ul style="list-style-type: none"> Sufficiency and application of Training and Exercise doctrine is tracked and reported through State's Statewide Communication Interoperability Plan (SCIP) Standardized training and exercise doctrine is developed supporting various device form factors and offered at local, State and national levels 	<ul style="list-style-type: none"> FirstNet and operators must define the required availability of the network in terms of availability = (total time – down time) / total time based upon the defined public safety need Operating procedures and guidelines are developed for devices, applications and access to various data sources 	<ul style="list-style-type: none"> Operating procedures and guidelines are maintained through a life-cycle process for applicable devices, applications and access to available data sources Develop and implement a process for handling priority change requests
Access (Security)	<ul style="list-style-type: none"> Ubiquitous end-to-end authenticity and confidentiality of information traversing the network is provided Shared password and login credentials between applications 		

Impact and Next Steps

- The PSAC Executive Committee (EC) compiled and reviewed the PSAC member input and submitted it to FirstNet
- The PSAC EC is prepared to work with FirstNet to identify the highest priority categories and applicable human factors
- Upon FirstNet's request, the PSAC will provide advice on how FirstNet plans to address these human factors