



NERIS Core Data Schemas Executive Guide

Version: 0.1 Beta

Date: May 6, 2024



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Introduction

The purpose of beta version of the NERIS Core Data Schema Executive Guide is to provide fire service leaders, firefighters, and other non-technical stakeholders with a high-level overview and guidance on the three (3) core NERIS data schemas, which includes the Entity Specification for Fire Departments, Dispatch (CAD) Data Schema, and the Incident Data Schema.

This Executive Guide is designed to equip the fire service community with vital information on each core NERIS data schema, facilitating effective communication and collaboration with technology partners during NERIS onboarding. We recommend using this guide alongside the Spreadsheet version (available as Excel files) that offers detailed data model information for analysts. For coordination with software developers and engineers, a version of the NERIS Core Data Schemas in YAML format is also available. To access the complete suite, visit: [NERIS Beta Data Schemas](#)

To get started, here are the key actions a fire department should take. Additional details and guidance related to each of these actions for the respective schemas are provided below.

- 1. Identify a NERIS Lead for Your Department:** Your fire department's NERIS Lead will be responsible for compiling the information and data needed for your NERIS Profile, defining users for your department and their NERIS roles & permissions, coordinating onboarding, training, and administration in the transition from NFIRS to NERIS. Your NERIS Lead may need to coordinate with your department or jurisdiction's GIS office to request and obtain additional data and/or verify accuracy of



existing data.

2. **Determine Existing Information & Systems:** Your department's NERIS Lead will need to identify and become familiar with your Records Management System (RMS) vendor if you have one and your Computer Aided Dispatch (CAD) vendor. This will involve coordinating and collaborating with your department or jurisdiction's Public Safety Answering Point (PSAP) or 911 Dispatch Center.
3. **Be Ready to Verify and/or Update GIS Information:** As part of developing your department's NERIS Profile, you will be asked to verify basic location data for your fire department or provide the most current and accurate data on fire department/district boundaries. Fire departments are encouraged to obtain the most current, authoritative version of their fire department / district boundaries in a standard interoperable format such as a GeoJSON, Esri RESTful Feature Service, or a File Geodatabase (FGDB).
4. **Gather and Compile Key Information:** Gather and compile information regarding your department's stations, their locations and units, and details on unit capabilities, minimum staffing, and cross-staffed unit designations. Additionally, be sure to identify all legacy Fire Department IDs (FDIDs) associated with your department, as well as those from mutual and automatic aid agencies that may respond within your jurisdiction.

Entity Specification for Fire Departments

What is the Entity Specification for Fire Departments?

The Entity Specification is a department's central hub within the NERIS platform. When a fire department onboards onto NERIS, they will establish their organization by completing their entity's "Profile." The entity specification serves as the basis for this profile. This specification contains foundational information and the operational capabilities within a fire department, such as:

- Types of services provided by the department
- Fire department boundary and population protected
- Locations of Fire stations
- Units, unit typing, and minimum staffing

The data elements within the Entity Specification are designed to provide baseline information about a department's organization, capabilities, deployment model, and resources. These elements are similar to those that are included as part of the United States Fire Administration's (USFA) *National Fire Department Registry*.

Why The Entity Specification Matters

The Entity Specification forms the foundation of a department's NERIS Profile, allowing for effective analysis of community incidents relative to the department's capabilities and evaluation of response performance. Maintaining accurate and up-to-date information

within a fire department's profile is crucial for reliable analysis of risk, capability gaps, and performance metrics.

Fire departments are advised to review and update their NERIS Profile at least annually to ensure data accuracy. Including jurisdictional boundaries and other department-specific geometry files enhances the geospatial analysis of incident response data. While NERIS will pre-populate some of this information from the best available national sources, departments are encouraged to provide their most current and authoritative GIS data for fire department boundaries.

How To Prepare

NERIS will pre-populate some of your fire department's information from existing sources where available. As a first step in onboarding, each fire department will add to and update their NERIS Profile, following the guidelines of the Entity Specification. Below are the key steps to prepare your fire department for onboarding and to develop your department's NERIS Profile.

Key Actions

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Dispatch (CAD) Schema

Overview of the Dispatch (CAD) Schema

The Dispatch Schema defines the data elements that NERIS will consume from Computer Aided Dispatch (CAD) Systems. CAD Systems are used by the majority of 9-1-1 dispatch centers to validate locations of emergencies and recommend the closest and most appropriate resources based on information provided by reporting callers. This schema includes core data elements that are typically collected as part of an incident dispatch, and will benefit from being consumed by NERIS through automated connections via Application Programming Interfaces (APIs):

- Basic incident information: incident number, incident address, incident latitude and longitude
- Dispatch incident type (typically specific to your jurisdiction or region)
- Determinant code derived from emergency medical dispatch or emergency fire dispatch (if utilized)
- Incident response times (e.g., call processing time, dispatch time, unit travel time(s))

The data elements from dispatch establish the incident record. The combination of **when** (timestamps), **where** (location), **what** (initial incident type), and **who** (units dispatched) will serve as a baseline assessment of the response. The schema also includes a suite of optional, tactic-based time stamps, such as time to water on fire. While not commonly captured across the fire service today, these

data elements can provide critical insight into performance when they are available.

Why The Dispatch Schema Matters

NERIS collects information from Dispatch (CAD) because it is important to understand the initial reported incident type, location, and resource allocation. The information provided to dispatchers ultimately alerts fire and emergency units to situation to which they are responding. Further, a CAD is the primary source for the capture of many incident timestamps that are critical for defining an emergency response incident.

The Dispatch Schema provides the framework for developing APIs from CAD systems. These APIs allow NERIS to automatically populate incident records with data for the respective fire department. The Dispatch Schema serves as the basis for development of APIs from CAD systems that can be consumed by NERIS to automate the population of this data within an incident record for the respective fire department.

How To Prepare

To prepare for integrating and automating CAD data into NERIS, a department must first assess the compatibility of their CAD system with the NERIS Dispatch (CAD) Schema. Communication with your 911 dispatch office and/or agency is the first step to obtain information about the CAD system vendor and any modifications required for NERIS capability. Additionally, it is important to begin mapping your agency's local dispatch codes with the NERIS incident

types.

Key Actions

1. **Determine Existing Information & Systems:** The NERIS Lead in your department should identify and familiarize themselves with your Records Management System (RMS) and Computer Aided Dispatch (CAD) vendors, if applicable. This includes coordination and collaboration with your department or jurisdiction's PSAP or 911 Dispatch Center. Whether your department operates with standalone CAD and RMS systems or an integrated CAD/RMS system, it is crucial to ensure that your technology vendors are using the most current versions of the NERIS Dispatch (CAD) Data Schema and Incident Data Schema. This will facilitate API connections for automated data integration with NERIS.

Incident Schema

Overview of the Incident Schema

The NERIS Incident Schema captures core data elements needed to describe a response. The goal is to collect only the most critical information about the incident to inform risk and emergency deployment in the community – the minimum essential information. Many of the data elements in the Incident Schema directly replaces the fields and values that fire departments completed as part of the legacy NFIRS system. The NERIS Incident Schema contains essential information related to the specific response, including:

- Final incident type (when an original incident type is provided automatically from dispatch)
- Final incident location and use (when an original location is provided automatically from dispatch)
- Detailed information relating to fire, medical, and hazardous situation classified emergencies
- Exposure information (if applicable)
- Actions and Tactics utilized to control and mitigate the incident
- Mutual and automatic aid usage
- Metrics associated with casualties and rescues

The Incident Schema contains the information that will look most familiar to firefighters. Generally, this schema answers the

questions of “What did you find when you arrived?” and “What did you do to control and respond to the specific hazards created by the incident?”. Additionally, an emerging hazard module is contained within the Incident Schema allows for quick adaptation to new hazards without disrupting the core data elements of the Incident Schema.

Why The Incident Schema Matters

The Incident Schema is critical to NERIS’s functionality, as it **requires direct input from firefighters and connects the system to real-world emergency incidents**. The Incident Schema can be accessed through the NERIS Incident Data Collection App or when integrated via APIs from third-party records management systems (RMS).

How To Prepare

Firefighters must understand the data elements of the Incident Schema to ensure a response correctly captured. The first step is to review the beta Incident Schema to understand the questions that will be asked and corresponding choice lists that will be presented. Subsequent steps include becoming familiar with the NERIS Data Dictionary and engaging with training resources as they become available in late 2024, in preparation for the rollout of NERIS Version 1.

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