



COALINGA FIRE DEPARTMENT

GREG DUPUIS, FIRE CHIEF

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| CITY OF COALINGA FIRE DEPARTMENT | | |
|----------------------------------|---|---------------------------------|
| FIRE PREVENTION STANDARD | | |
| STANDARD TITLE: | 407.011 FIRE ALARM SYSTEM VOLTAGE DROP AND BATTERY CALCULATIONS | |
| STANDARD NUMBER: 407.011 | EFFECTIVE DATE: October 26, 2022 | REVISION DATE: October 26, 2022 |

PURPOSE

The purpose of this policy is to clarify the Coalinga Fire Department's (CFD or Department) requirements related to fire alarm system voltage drop and battery calculations.

APPLICATION

This policy applies to all fire alarm system plans within the City of Coalinga. These requirements apply to both required and voluntary systems.

OPERATIONAL POLICY

Based upon the need for uniformity in application across the Department's service delivery area, and after careful deliberation, the Department has determined the following:

1. The starting voltage for all voltage drop calculations is required to be 20.4 volts, or a reduction of 15% of fire alarm system voltage, whichever is greater.

OPERATIONAL GUIDELINE

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PROCESS

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INFORMATION

As noted in the currently adopted version of the California Fire Code (CFC), the fire code official has the authority to formulate policies they deem necessary based upon local conditions related to fire alarm installations.

Additionally, the CFC requires fire alarm shop drawings to be submitted to the authority having jurisdiction (AHJ) for review and approval. One of the required elements of these drawings is voltage drop calculations.

Standard engineering guidelines note that fire alarm system cabling size must increase as the distance to the last device on the circuit increases.



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Additionally, as batteries age, their performance also degrades, and these two factors must be accounted for when completing voltage drop calculations.

DEFINITIONS

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CROSS REFERENCES

California Fire Code (CFC), Current edition