Engineering Services Codes Committee
Review Summary

REFERENCE: National Fire Protection Association (NFPA) 1 (2015) – Fire Code
NFPA 13 (2013) – Standard for the Installation of Sprinkler Systems
IHS-Engineering Services Architect/Engineer Design Guide (2013)
E-mail between M. Young and P. Ninomura and J. Bermes (July 31, 2015)

ISSUE: Are the requirements of NFPA 1, for the water supply for the fire hydrants, required for this project?

LOCATION: Sioux San Indian Hospital, Rapid City, SD (Great Plains Area Office)

BACKGROUND: The expansion of the Sioux San Indian Hospital is on the priority list and funding appears to be forthcoming. The Great Plains Area Office has performed the required studies and documents, including the Program Justification Document (PJD) and Program of Requirements (POR). The design will have to address fire protection, so clarification on the fire protection codes has been requested.

It is estimated that the water supply requirements for an NFPA 13, fire sprinkler system for the new hospital will be:

- 900-1200 gpm for fire sprinkler system (this includes 250 gpm hose allowance)

The fire sprinkler system water flow requirement (stated above) is indicated as a range because the water flow requirement is dependent on many variables that will be determined during the design, e.g., fast acting sprinkler heads, building construction, building occupancy hazard classifications, etc.)

NFPA 1 (Chapter 18 – "Fire Department Access and Water Supply") indicates that a water supply of 1938 gpm is necessary for fire hydrants. (Refer to email from Michael Young, dated July 31, 2015.) NFPA 1 indicates that the water supply should be the greater flow between the fire flow required for the fire hydrants and the flow required by NFPA 13 for the fire sprinkler system.

Previous DES Code Committee determinations in 2006 and 2013 have confirmed that the fire sprinkler water supply requirements are based on NFPA 13.

A Code Interpretation request was forwarded to the Chairman of the Indian Health Service (IHS) Division of Engineering Services Codes Committee (Committee) in an August 13 2015 e-mail from Michael Weaver, Director, Division of Engineering Services – Seattle. The request has the following question:

1. Are the requirements of NFPA 1, for the water supply for the fire hydrants, required for this project?

PRECEDENT:

A previous Code Committee had considered the issue of appropriate criteria for determining required fire protection flows for IHS facilities (Decision No. 2013.002, November 19, 2013). Excerpts of the Committee decision are as follows:

- NFPA 101 and NFPA 13 provide the required fire water capacity for a reasonable degree of protection for life and property from fire.

- While the Committee does not have any information regarding the water flow and static pressure available at KHC, it is assumed another water supply source will be needed to comply with the requirements of NFPA 101 and 13. Therefore, if a water storage tank is required, it must be sized to comply with NFPA 13; no reduction is allowed beyond the minimum requirements of NFPA 13.

- NFPA 13 provides a reasonable degree of protection for life and property.

A previous Code Committee addressed a similar issue in Decision No. 2006.001, June 19 2006. The Committee decisions were as follows:

- To reaffirm the IHS AE Guide's directive to utilize NFPA 101 requirements in determining required fire protection flows; and

- To recommend the determination of fire flow requirements for all (IHS) facilities be made as directed by NFPA 101, using the appropriate installation standard - NFPA 13, 13D or 13R – as required; and

- NFPA 13 (2002) provided all necessary design approaches and appropriate fire flow calculations based on the building's hazard classification.

PREVIOUS CODE COMMITTEE DETERMINATIONS:

Previous Code Committee determinations stipulate the use of NPFA 101 and NFPA 13 to determine the amount of water required to reasonably protect life and property. This Code Committee (Sep 2015) concludes that neither Decision No. 2006.001 nor Decision No. 2013.002 addressed the adequacy of the fire flow for fire hydrants.

RECOMMENDATION AND CONCLUSION:

The IHS AE Design Guide mandates compliance with NFPA Fire Codes.

The Code Committee has determined that NFPA 1 stipulates that fire hydrants are required for the proposed IHS health care facility, Rapid City, SD (specifically, NFPA 1 paragraph 18.5 “Fire hydrants"). The water flow requirements to serve the fire hydrants shall be in accordance with NFPA 1.

The RECOMMENDATION:

The Code Committee's responses are shown following each question:

1. Are the requirements of NFPA 1, for the water supply for the fire hydrants, required for this project?

   Committee Response: Yes; the water supply requirements, for the fire hydrants, shall be in accordance with NFPA 1: Fire Code.

SIGNATURES:

☑ Concur	☐ Do Not Concur	DATE: 09/16/2015	/James Aberle/ James Aberle, AIA TX #21097
☑ Concur	☐ Do Not Concur	DATE: 09/21/2015	/Nick Lu/ Nick Lu, PE WA #42309
☑ Concur	☐ Do Not Concur	DATE: 09/16/2015	/Samuel Vega-Cotto/ Samuel Vega-Cotto, PE WA #66772
☑ Concur	☐ Do Not Concur	DATE: 09/16/2015	/Bruce Kemmet/ Bruce Kemmet, PE AR #8026
☑ Concur	☐ Do Not Concur	DATE: 09/21/2015	/Paul Ninomura/ Paul Ninomura, PE WA #18669