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CESPD-PDP (FRM-PCX)

24 September 2021

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Certification of the Hydrologic Engineering Center's Flood Damage Analysis Software Version HEC-FDA v1.4.3

1. References:

- a. Engineer Circular (EC) 1105-2-412, Assuring Quality of Planning Models, 31 March 2011
- b. Planning Bulletin (PB) 2013-02, Assuring Quality of Planning Models (EC 1105-2-412), 31 March 2013
- c. Memorandum, CECW-P, Modification of the Model Certification Process and Delegation of Model Approval for Use, 4 Dec 2017
- d. Memorandum for Record, CESPD-SPD (FRM-PCX), Model Review Approach - Hydrologic Engineering Center Flood Damage Analysis Tool Version 1.4.3 Certification, 23 June 2021

2. The Flood Risk Management Planning Center of Expertise (FRM-PCX), in accordance with references 1.a, 1.b, and 1.c, has completed the certification review process for HEC-Flood Damage Analysis model (HEC-FDA) v1.4.3. HEC-FDA v1.4.3 is the latest iteration of the HEC-FDA software in the HEC-FDA 1.4 version series.

3. HEC-FDA v1.4.3 is a modified version of the nationally certified version (1.4.2) currently in use. The 1.4.3 version appropriately accounts for damages from infrequent flood events (e.g., low frequency events used in dam safety). The modification in v1.4.3 centers around additional damage computation points for highly infrequent events when FDA computes the probability-damage relationship to ensure that small differences in the inflow-outflow relationship are captured in project performance and expected annual damages results. Additional changes to HEC-FDA v1.4.3 include.

- a. Database storage and accessibility of data
- b. Increased coordinates to input functions

These changes are described in the HEC-FDA Version 1.4.3 Release Notes which are available at <https://www.hec.usace.army.mil/software/hec-fda/documentation.aspx>.

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4. New studies initiating in FY2022 will use HEC-FDA v1.4.3. Previous versions of the 1.4 version series (1.4 and 1.4.1) are not compatible with the Windows 10 operating system and should no longer be used. HEC-FDA v1.4.2 is compatible with the Windows 10 operating system and can still be used for studies that are already underway as of 30 September 2021. A comprehensive update of HEC-FDA is underway; HEC-FDA v1.4.3 models can be migrated forward into HEC-FDA Version 2.0 when it becomes available. HEC-FDA 1.4.2 and all previous iterations of the HEC-FDA 1.4 version series will not have that capability.

5. The FRM-PCX hereby certifies HEC-FDA v1.4.3 for a period of seven years. Since ongoing studies have the option of continuing with HEC-FDA v1.4.2, v1.4.2 is also certified for a period of seven years. This memorandum replaces the existing certification for the HEC-FDA 1.4 version series set to expire in December 2021.

6. The point of contact for this memo is Mr. Jesse Morrill-Winter, FRM-PCX National Technical Specialist, 415-300-5239 and Jesse.E.Morrill-Winter@usace.army.mil.

Encl

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