

## RECALL 198 ATTACHMENT A

### CHRONOLOGY OF EVENTS LEADING UP TO DEFECT DECISION

- March 2019

NHTSA opened Preliminary Evaluation no. 19-003 “to assess the scope, frequency, and potential safety-related consequences of alleged defects relating to non-collision vehicle fires in the 2011-2014 Sonata Investigation and 2011-2014 Santa Fe.”
- April 2019

In connection with PE 19-003, NHTSA issued an Information Request to HMA that sought data and information regarding non-collision fire incidents within an expanded range of Hyundai vehicles, namely all HMA vehicles of all model years equipped with Theta II, Lambda II, Gamma and Nu engines, thereby bringing into scrutiny a wide range of Hyundai model and model year vehicles. Further, the Information Request sought information regarding non-collision fire incidents based on the definition of fire under 49 CFR § 579.4, which also includes “thermal events and fire-related phenomena such as smoke and melt,” thereby requiring HMA to search, collect, and produce a substantial volume of documents and data referring to potentially fire-related phenomena standing alone (such as “smoke” or “melt”) without any evidence of flame, burning, or combustion. HMA also understood that at about the same time, NHTSA was seeking to collecting similar information on the incidence of non-collision fires from other automakers in the United States market.
- August 2019

HMA completed its response to NHTSA’s Information Request. As was discussed with NHTSA shortly thereafter, HMA reasonably believed that while certain vehicles already subject to recall had an arguably higher incidence of non-collision fires that were already being addressed by ongoing vehicle recalls, in the absence of additional, comparative data, HMA’s data did not indicate elevated or unusual rates of non-collision related fires in Hyundai vehicles.
- April 2020 – June 2020

On April 30, 2020, HMA proactively shared information with the agency on the completion rate and effectiveness of the Knock Sensor Detection System (“KSDS”) software aimed at enhancing the detection of gradual engine damage/wear, in mitigating non-collision fires. HMA continued to provide recurring updates on the deployment and effectiveness of KSDS to NHTSA.
- July 2020 – November 2020

NHTSA shared with HMA its views on the data produced in relation to the aforementioned Information Request, as well as the data apparently shared by competitor automakers with the Agency. With NHTSA’s understanding and agreement, HMA updated and re-analyzed the occurrence of non-collision fire incidents in certain vehicles in discussion. Following additional discussion, the involved vehicles were determined by HMA in discussion with NHTSA’s Office of Defects Investigation (“ODI”). As to each of the involved vehicles, while the precise cause of non-collision fire can sometimes vary and due to the limitations of fire investigation there is often incomplete information, HMA and ODI agreed that the vehicles appeared to have experienced

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above average rates of hole-in-block engine fires that ordinarily result from a seized engine that causes a connecting rod to break, puncture the engine block, and thereby potentially allow engine oil to escape the block, come in contact with other hot surfaces in the engine compartment, and produce localized smoke and then fire in the engine compartment. Seized engines in this context most often result from manufacturing variances in terms of machined surface roughness, machining debris, and geometric fit among the crankshaft, connecting rod, and engine bearing components.

On November 23, 2020, HMA convened its North American Safety Decision Authority and decided to conduct a safety recall to address the above condition in affected vehicles in the U.S. market.