CODE ENFORCEMENT SERVICES

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CITY OF ANN ARBOR RESPONSE TO APPEAL BY AMERICAN HONDA

Appeal Dated January 8, 2016

Abstract

EXPERT OPINION ON THE CODE OFFICIALS DUTIES, POWERS, AND ACTIONS WERE PERFORMED CONSISTENT WITH THE PROVISIONS AND INTENT OF THE CODES

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COMMENTS ON THE CODE OFFICIALS DUTIES, POWERS, INTENT AND PERFORMANCE PROVISIONS OF THE CODES

1. INTRODUCTION

a. It is not our intent to dispute every fine point of the appeal. We would prefer to use a multi-tier approach in presenting our application of the codes.

b. Likely we will only need to use the first approach to demonstrate that our applications of the codes are in line with the "Intent" of the Codes.

c. Hopefully this will save everyone the time and effort by not having to take the appeal and address each and every misleading or false statement or item of contention.

d. We believe the majority of the misunderstanding on the part of American Honda and its related parties are due to not being familiar with the application of the performance language (provisions) and the "Intent" of the Codes.

e. As a matter of fact this is a common misconception among Code Officials, Design Professionals and Contractors alike. This can be frustrating when faced with a Code Officials determination on "matters not provided for".

f. We will repeatedly show the Codes Performance language and Intent in the following presentation, and that the Building Official/Fire Code Official has the sole authority to render interpretations and decisions on Code related matters, "requirements not covered by the Code", "Modifications" and "Matters Not Provided For".

g. The appeal by American Honda and or its representatives, state repeatedly that the determinations by the Ann Arbor Building/Fire Code Official do not apply and are incorrect,

and that the requirements as interpreted by the Building/Fire Code Official are not Code requirements.

h. Although they (American Honda) are entitled to their opinion, American Honda does not possess the Code expertise or the authority to render such decisions.

i. The Building Official believes that we have demonstrated that the application of the Codes in this case, meet the "Intent of the Codes". Therefore we look forward to the ruling of the Appeals Board to put this matter to rest.

2. APPROACH

a. The first approach is to explain and demonstrate the purpose/Intent/ performance provisions in the code and how they are to be applied, using some Code references.

b. The second approach, if needed, will be to supply the detailed technical code sections and detailed explanations on how these were applied to the various items disputed.

c. The third approach, if necessary, will be to respond in kind to the appeal, noting every false, every misleading, every incorrect statement, demonstrating every arbitrary and capricious statement.

3. Code Commentary: Items a. through j. below are excerpts from the IFC Commentary, which will help to clarify the administrative, duties, responsibilities, intent, authority and performance language of the codes.

a. Authority and Responsibility. The <u>Code Official alone possesses authority and responsibility for interpreting the code.</u>

b. The Administrative chapter deals mainly with the technical and legal areas of the Building Official duties.

c. **Enforcement** is a broad all-inclusive term that includes a range of activities aimed at identifying and eliminating hazards, in this case hazards causing or contributing to a fire or impairing life safety.
d. **Scope and Applicability** of this Code, it applies to all structures and premises both new and existing, in all matters related to occupancy and maintenance for the protection of life and property from fire. Conditions possibly causing or contributing to the start or spread of fire or protection of life from hazards incident to occupancy and maintenance are regulated.
e. **Retroactivity**, because the code applies to both new and existing structures and premises, the existing building provisions may be considered retroactive. Therefore existing structures and premise built in compliance with the codes and standards in effect at the time of their original Construction or alteration are not exempt from Code Compliance.
f. **Other Codes and Standards**, when conflicts arise between code provisions and reference standards, the code provisions apply. Where a standard provides additional technical detail or guidance beyond that provided in the related code text, the fire Code Official must use judgement when applying these provisions. If a conflict arises it is the Fire Code Officials duty to determine which provisions secure the codes intent.
g. **Judgment and Experience:** The Code relies heavily not only on other codes and standards but also on the judgment and experience of the Fire Code Official.
h. **Approval**, the code details occupancy and maintenance requirements, however it relies heavily on performance criteria as opposed to detailed specifications to

accomplish this task. The Fire Code Official therefore must exercise judgement when approving or permitting operations processes and procedures required by the code.

i. **Proof of Compliance** may include the certification or labeling by independent testing laboratories however regardless of the conclusions of these external agencies and authorities the Fire Code Official remains the soul judge of what fulfills the intent of the code.

j. **Evaluation of Data:** This becomes particularly important when the Fire Code Official is asked to evaluate equivalent methods and materials. Piles of data may be impressive but they may be meaningless when considered in the context of the codes intent. Data in support of alternative methods and materials must demonstrate not only compliance with the codes intent, but also relevant to the issues at hand. Evidence such as a label or an independent laboratory test report may be used inappropriately to support an application for recognition as equivalency. The Fire Code Official must evaluate all submitted evidence to make sure it applies to the intended use, as well as to the Codes intent.

4. **Intent and Authority:** Here we will introduce actual Code language (a. through p. below) from the administrative sections of the Code, with more on intent and authority.

a. Michigan Building Code (MBC 2009) and International Fire Code (IFC-2009) **101.3 Intent.** The purpose of this code is to establish the minimum requirements consistent with nationally recognized practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and

existing buildings, structures and premises and to provide safety to Fire Fighters and Emergency Responders during emergency operations.

b. (IFC-2009)**102.1 Applicability**. Construction and design provisions. The construction and design provisions of this Code shall apply to the following: #1. Structures, facilities and conditions arising after the development of this code. #2. Existing structures, facilities and conditions not legally in existence at the time of adoption of this code. #3. Existing structures, facilities and conditions when identified in specific sections of this code. #4. Existing structures, facilities and conditions which, in the opinion of the Fire Code Official, constitute a distinct hazard to life or property. Item #4 generally requires the Code Official to determine that a distinct hazard to life or property exists prior to enforcement of the code provision retroactively.

c. Michigan Mechanical Code (MMC-2009) **102.9** (IFC-2009) **102.7 Subjects Not Regulated By This Code**. Where no applicable standards or requirements are set forth in this code or are contained within other laws, codes, regulations, ordinances or bylaws adopted by the jurisdiction, compliance with the National Fire Protection Association or other nationally-recognized fire safety standards, as approved, shall be deemed as prima facie evidence of compliance with the intent of this code. Nothing herein shall Derogate from the authority of the Fire Code Official to determine compliance with codes or standards for those activities or installations within the Fire Code Official's jurisdiction or responsibility. This section provides guidance for situations in which no specific standard is designated in the code or otherwise adopted by the jurisdiction. In this instance, compliance with the

requirements of a standard of the NFPA or other national recognized procedure or standard can be approved by the Fire Code Official.

d. (MMC-2009) **102.9** (IFC-2009) **102.9 Matters Not Provided For.** Requirements that are essential for the public safety of an existing or proposed activity, building or structure, or for the safety of the occupants thereof, which are not specifically provided for by this code shall be determined by the Code Official. The reasonable application of the Code to such as an unforeseen condition(s) is provided for in this section. Clearly such a section is needed and the Fire Code Official's experience and judgement must be used. Additionally the section can be used to implement the general performance oriented language of the code in specific enforcement situations.

e. (MBC/MMC/IFC-2009) **104.1 Interpretations.** The Fire Code Official is hereby authorized to enforce the provisions of this code and shall have the authority to render interpretations of this code, and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this Code and shall not have the effect of waiving requirements specifically provided for in this code.

f. (IFC-2009) **104.7.2 Technical Assistance.** To determine the acceptability of technologies, processes, products, facilities, materials and uses attending the design, operation or use of a building or premises subject to inspection by the fire code official, the Fire Code Official is authorized to require the owner or agent to provide, without charge to the jurisdiction, a technical opinion and report. The opinion and report shall be prepared by a

qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the Fire Code Official and shall analyze the fire safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to recommend necessary changes. The fire code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

g. (MMC-2009) **105.1** (MBC-2009) **104.10** (IFC-2009) **104.8 Modifications.** Whenever there are practical difficulties involved in carrying out the provisions of this code, the fire code official shall have the authority to grant modifications for individual cases, provided the Fire Code Official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements. The details of action granting modifications shall be recorded and entered in the files of the department of fire prevention.

h. (MMC-2009) **105.2** (MBC-2009) **104.11** (IFC-2009) **104.9 Alternative Materials and Methods.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any method of construction not specifically prescribed by this code, provided that any such alternative has been approved. The Fire Code Official is authorized to approve an alternative material or method of construction where the Fire Code Official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in

quality, strength, effectiveness, fire resistance, durability and safety.

i. (MBC-2009) **104.11.1** (IFC-2009) **104.9.1 Research Reports.** Supporting data, when necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

j. (MBC-2009) **104.11.2** (IFC-2009) **104.9.2 Tests.** Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the Fire Code Official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the Fire Code Official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the Fire Code Official for the period required for retention of public records.

k. (MBC-2009) **105.4** (IFC-2009) **105.3.6 Compliance With The Code.** The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the Fire Code Official from requiring the correction of errors in the construction documents and other data. Any addition to or alteration of

approved construction documents shall be approved in advance by the Fire Code Official, as evidenced by the issuance of a new or amended permit.

l. (IFC-2009) **105.4.4 Approved Documents.** Construction documents approved by the Fire Code Official are approved with the intent that such construction documents comply in all respects with this code. Review and approval by the Fire Code Official shall not relieve the applicant of the responsibility of compliance with this code.

m. (MBC-2009) **105.6** (IFC-2009) **105.5 Revocation.** The Fire Code Official is authorized to revoke a permit issued under the provisions of this code when it is found by inspection or otherwise that there has been a false statement or misrepresentation as to the material facts in the application or construction documents on which the permit or approval was based including, but not limited to, any one of the following:

- **i.** Conditions and limitations set forth in the permit have been violated.
- **ii.** There have been any false statements or misrepresentations as to the material fact in the application for permit or plans submitted or a condition of the permit.
- **iii.** The permittee failed, refused or neglected to comply with orders or notices duly served in accordance with the provisions of this code within the time provided therein.

n. (IFC-2009) **105.6 Required Operational Permits.** The fire code official is authorized to issue operational permits for the operations set forth in Sections 105.6.1 through 105.6.46.

o. Definition: APPROVED. Acceptable to the Fire Code Official/Building Official**.**

p. Definition: EMERGENCY ALARM SYSTEM. A system to provide indication and warning of emergency situations involving hazardous materials.

5. Disputed item# 1.2.1 or (3.1) Classification of Test Cells and Pits:

a. Regarding Honda Drawing: H-102 General Notes. Hazardous location classification of Test Cells and Test Cell Basements; Rooms 02, 04, 103 and 113.

b. Interpretation: The AHJ has determined that these areas are to be classified as Class 1 Division II when ventilation is in operation. Consistent with the National Fire Protection Association (NFPA 70) and (NFPA-30-A-3.3.12).

c. Problem: These locations are considered classified areas; the National Electrical Code (NEC) Class 1 Division 1 or Division 2 does not allow standard (General Purpose) electrical equipment in classified areas, due to the extreme explosion hazards.

d. Problem: These types of facilities do not meet the strict definition of either: Minor Repair Garage or Major Repair Garage.

i. Therefore the Authority Having Jurisdiction (AHJ) has the duty to evaluate and make an interpretation as to which Definition provides the minimum level of safety intended by the Codes.

ii. An evaluation was made of the types of activities taking place within the actual space and adjacent to these spaces to determine the level of hazard, as to possible flammable vapor releases/accumulations in these spaces and adjacent to these spaces, especially the pits.

e. The basis for this classification is that the AHJ has determined that these areas DO NOT meet the "Intent"

(IFC 101.3) of the codes if they were to be classified as a "Minor Repair Garage" (3.3.12.2 NFPA-30-A-2008), due to the fact that the operations performed within the spaces and building are far beyond the definition of "Minor Repair Garage". Also due to the fact that there are pits where flammable vapors can easily collect.

f. **Appellant's Claim:** This facility "is akin to a quick oil change facility,"

Nothing could be further from the truth, there are several differences, such as:

In a quick oil change facility the garage doors which are directly adjacent to each end of each vehicle, open and close for each operation and directly after each operation of the vehicle.

g. **Fact: One of the most dangerous** operations in the building and the spaces in question are the actual operation of the motor vehicle inside the building, especially under load and at speed with simulation of actual driving conditions.

h. **Definition: Major Repair Garage**. (3.3.12.1 NFPA-30-A-2008)
A building or portions of buildings were major repairs such as such as engine overhauls, painting, body and fender work, and repairs that require draining of the motor vehicle fuel tank are performed on motor vehicles, including associated floor space used for offices, parking, or showrooms.

i. **Definition**: **Minor Repair Garage.** (3.3.12.2 NFPA-30-A-2008).
A building or portions of a building used for the lubrication, inspection, and minor automotive maintenance work, such as engine tune ups, replacement of parts, fluid changes (e.g. oil, antifreeze, transmission fluid, brake fluid, air conditioning refrigerants, et,) brake system repairs, tire rotation, and similar routine maintenance work, including

associated floor space used for offices, parking, or showrooms.

j. **More supporting Code Language:** (7.7 from NFPA 30-A)
   i. **Dynamic Automotive Emissions Testing Equipment**, Equipment for the testing of vehicle emissions shall be approved or listed for its intended use and shall comply with the electrical classification for the area in which the equipment is installed.
   ii. **Annex version of the above section:** Dynamic automotive emissions testing equipment located in stand-alone facilities dedicated to such equipment can qualify as being in an unclassified location and not subject to the special rules of Article 511 of NFPA 70.
   iii. The same type of equipment, however, when installed within most repair garages, especially when located in pit, has to be suitable for location within a Class1, Division 1 or Division 2 hazardous location as defined in 511.3(B) of NFPA 70,

k. **The AHJ has the duty to make the interpretation here:** The AHJ must evaluate the hazards and apply the Codes to provide an equivalent level of safety relative to the "Intent of the Codes" (IFC 101.3).

   For instance when there are two definitions and the application in question fits neither definition, and is actually located somewhere in between the two definitions, the AHJ must use the one that provides the higher level of safety, to protect the safety, health and welfare of the public and first responders.

l. **Hazard:** The reason for this is the extreme hazards and unacceptable risk introduced into the building by the very

nature of operating vehicles under load at speed simulating driving conditions. This type operation does not occur in a "Quick Oil Change Facility".

m. Another important reason that the classification of these areas is so important is that (2-7 (b) of NFPA-88-B) states that "Pits shall have a minimum of two means of egress to prevent trapping of personnel in the event of a fire." The detection and shutdown of ignition sources (all power) is important to give the occupants time to exit the ONLY exit from these pit areas.

n. Solution to the problem: Use the Alternative method, proposed to disconnect all power to these areas upon the installation of an approved Emergency Alarm System (EAS) for detection of gasoline vapors and subsequent disconnection of all power in these areas, thereby eliminating the ignition sources, for the dangerous gasoline vapors that could be present.

o. The City has agreed to allow this unclassified equipment to be installed in these areas (Under the Code's Provisions for Modifications; IFC 104.8) with the following conditions:

- **i.** Approved Emergency Alarm System with leak detection and:
- **ii.** Shunt trip (EAS) of all power in the pit and up to a level of 18 inches above the floor above, upon detection of gasoline vapors within 25% Lower Explosive Limit (LEL) Consistent with (4.1.3 of NFPA-91).
- **iii.** This shall include ventilation monitoring (EAS) and also:
- **iv.** Shut down all power upon loss of ventilation through an approved Emergency Alarm System.

v. Exhaust Ventilation of 1 CFM per sq. ft. or 1 air change every 5 minutes whichever is greater. (3-4.5.1 of NFPA-88-B).

o. Other Arguments:

i. The vehicles in a quick lube are not operated under load, nor are they rarely operated at periods exceeding a minute.

ii. The Automotive Test Cell and Pit area is more than a Minor Repair Garage; as there is an energized dynamometer with moving machinery/components and high voltage electrical equipment operating in the pit, this is equipment which is NOT rated for classified areas.

iii. With operations in this Pit including an energized dynamometer, moving components and high voltage electrical equipment there are "increased hazards" over the operation of a standard Minor Repair Facility Pit Lubrication or Service Room. See NFPA 70, 511.2 Definitions.

iv. Amongst these increased hazards are cars with as many as 130,000 miles on them, reportedly inspected by technicians NOT licensed with the Michigan Secretary of State for vehicle repair, nor Automotive Service Excellence (ASE) Certified.

v. This Pit should be treated similar to that of a Major Repair Garage (for increased protection); 511.3. (C)(3)(a) or (b). The Pit shall be considered Class 1, Division 2 with ventilation and Class 1, Division 1 without ventilation.

vi. It shall be noted that for the Division 2 classification to be allowed with ventilation, this ventilation is required to be treated as a critical system, due to

the fact that when ventilation stops or is reduced for any reason the classification changes to Division 1.

vii. This pit requires continuous ventilation and an air proving switch to verify the ventilation operation.

viii. In this case; with non-classified electrical equipment operating in the pit and the pit being a Class 1, Division 2 area, a loss of airflow is a critical alarm and will shut down testing and power to the pit equipment and power outlets up to within 18 inches of the main floor. See NFPA 70, 500.5(B)(2)(1) and (2). Also see Information Note No. 1 under this section.

ix. If the dynamometer and other electrical components within the pit do not meet Class 1, Division 2 equipment ratings, added protection of Gas Detection is required and will shunt trip all power to the pit in the event of a gasoline leak into the pit.

x. A Combustible Gas Detection System is an acceptable protection technique. See NFPA 70, 500.7(K). Item (2) under this reference allows electrical equipment for unclassified locations. However, because of the increased hazard of moving equipment (dynamometer), non-classified electrical equipment and higher operating voltages, which must be supported by ventilation to maintain a Class 1, Division 2 rating, a gas leak alarm shall shunt trip all power to the pit in the event of a gasoline leak into the pit.

xi. Also see reference (1) Inadequate Ventilation; which would require the pit to be Class 1, Division 1 rated equipment upon inadequate ventilation. Major Repair Garage; 511.3.(C)(3)(a) or (b). The Pit shall be

considered Class 1, Division 2 with ventilation and Class 1, Division 1 without ventilation.

6. **Disputed item# 1.2.2 or (3.2) Flow Limiting of Flammable Gases.**
   a. **Regarding flammable gas storage and use,** as to the interpretation of the following code language:
   b. **Code Language:** (IFC 2703.2.2.1) Design and construction. Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:
      i. Where gases or liquids having a hazard ranking of:
         a) Health Class 3 or 4
         b) Flammability Class 4
         c) Instability Class 3 or 4
      ii. In accordance with (NFPA 704) are carried in pressurized piping above 15 (psig), an approved (EAS) means of leak detection and emergency shutoff or excess flow control shall be provided.
   c. **Commentary (IFC 2015) language backing up the AHJ's original interpretation:** "This section mandates that an approved (EAS) means of leak detection and either an emergency shutoff valve or excess flow control are to be provided."
   d. **Problem:** This language is incorrectly interpreted by the parties at American Honda to mean: if they provide excess flow control they do not need an approved (EAS) means of leak detection as well. This thought process is not consistent with the "Intent" (IFC 101.3) of the Codes.
   e. **Hazard:** Without approved (EAS) leak detection, a leak could develop and continue undetected at a rate of just under 10 standard liters per minute, this is an unacceptable degree of risk.

Gas leaks, especially under pressure, and airflow in a given situation, are not always predictable. Concentrations can stratify or form highly concentrated pockets of gas for at least short periods of time.

f. **AHJ Interpretation:** The AHJ has interpreted this statement to mean that no matter what, an approved means of Leak Detection (EAS) is required, and from there it is NOT the design professional's choice as to whether or not they provide Leak Detection. But in all cases, an approved (EAS) means of leak detection is required.

g. **Solution:** Provide the approved leak detection (EAS) as required by the AHJ and emergency (fail safe) shutoff. Provide approved Flammable gas and vapor detection (EAS) at any, and all, locations where flammable gases/vapors/liquids are stored, used, or could possibly leak and accumulate.

7. **Disputed item # 1.2.3 or (3.3) Emergency Alarm System Remote Control Panel.**

   a. **Regarding:** American Hondas refusal to install this panel, due to their incorrect interpretation that the Codes do not require this. The AHJ has not only the authority to require this, but the mandate to require this based upon experience and the consideration of the "Intent" (IFC 101.3) of the Codes. See Items: e. and f. below.

   b. **Code Language:** The word approved is used in numerous locations throughout the Codes and puts forth "Performance Language".

   c. **Performance Language:** Hence the need for the AHJ to render an interpretation.

   d. **Code Language:** (IFC 2703.2.2.1) Design and construction. Piping, tubing, valves, fittings and related components

used for hazardous materials shall be in accordance with the following:

i. Where gases or liquids having a hazard ranking of:

a) Health Class 3 or 4

b) Flammability Class 4

c) Instability Class 3 or 4

In accordance with (NFPA 704) are carried in pressurized piping above 15 (psig), an approved (EAS) means of leak detection and emergency shutoff or excess flow control shall be provided.

e. Fire Marshal Letter from City of Ann Arbor; Attachment #1.

f. NFPA-72-2007 Annunciator Bulletin. Attachment #2.

g. Interpretations: When doing so the AHJ looks at similar applications/Codes (NFPA-72)/practices/standards/ references and determines the "Intent of the Code" (IFC101.3) prior to rendering the interpretation.

h. Definition: Approved, Acceptable to the AHJ

i. Hazard: Without a Central location/Remote Annunciation and Control at the "Emergency Responders Entrance" valuable time will be lost during response to an emergency. Thereby putting both the occupants and the first responders at an unacceptable level of risk. Refer to the (NFPA-72 Bulletin on "Remote Annunciators")

j. AHJ Interpretation: When the Fire Alarm Code (NFPA-72) and other references to Emergency Alarm Systems, the AHJ has communicated the necessity to provide this central notification and control at the emergency response entrance, in an easily readable size display, due to the many zones of the EAS in this facility.

k. Additional Logic For The Interpretation: With several standalone systems, not integrated to one central point

(EAS remote annunciator and control), the first responders will have to wander through the facility and try to determine: where the hazard is, what the hazard is, and what the hazard level is.

The problem with this type of approach is that the first responders will possibly be deep within the facility and potentially enveloped within the hazard before a determination can be made on any type of tactics necessary. Likely loosing valuable time and possibly personnel.

This is an unacceptable level of risk to both occupants and first responders.

There could even be a condition to where the upper explosive limit was exceeded and if ventilation were to be either continued or introduced or the leak level reduced, could create an explosion hazard due the high level dropping and reaching a point within the flammable limit range.

l. **Solution:** Provide the requested code compliance of an approved means (EAS) of leak detection and emergency shutoff.

m. **Additional Code Support:** (IFC 2703.2.3) Equipment, machinery and alarms. Equipment, machinery and required detection and alarm systems associated with the use, storage or handling of hazardous materials shall be listed or approved.

8. Disputed item # 1.2.4 or (3.4) Relocation of Existing Fire Alarm Panel.

a. **Fire Departments** frequently require the relocation of the emergency responder entrances for various reasons; one of them being during additions to buildings different

tactics may need to be employed to safely respond in an emergency. This depends on many variables and only the Fire Department can make these determinations.

9. Disputed item #1.2.5 or (3.5) Toxic and Flammable Gas Monitoring.

a. Code Language: (IFC 2703.2.2.1) Design and construction. Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:

i. Where gases or liquids having a hazard ranking of:

a) Health Class 3 or 4

b) Flammability Class 4

c) Instability Class 3 or 4

In accordance with (NFPA 704) are carried in pressurized piping above 15 (psig), an approved (EAS) means of leak detection and emergency shutoff or excess flow control shall be provided.

b. Progress: American Honda has demonstrated that there will be no gasses that meet the strict definition (prescriptive requirements) of either a Toxic or a Highly Toxic, Therefore Item a. above has been satisfied under the codes prescriptive requirements.

c. Interpretation: Flammable Gas Monitoring (EAS) is required under the codes prescriptive requirements. The flammable gasses requiring monitoring at this facility are Butane and Hydrogen. Please provide a complete and consistent design for submittal under the deferred submittals process under the (MBC 107.3.4.1).

d. Commentary (IFC 2015) Language Backing Up the AHJ's Original Interpretation: "This section mandates that an

approved (EAS) means of leak detection and either an emergency shutoff valve or excess flow control are to be provided."

e. Problem: This language is incorrectly interpreted by the parties at American Honda to mean: if they provide excess flow control they do not need an approved (EAS) means of leak detection as well. This thought process is not consistent with the "Intent" (IFC 101.3) of the Codes.

f. Solution: An approved EAS system incorporating components such as: flammable gas sensors, carbon monoxide sensors, oxygen sensors, refrigerant sensors, ventilation monitoring and control, approved means of leak detection and shutoff, liquid level indicators, notification appliances, liquid detection, vapor detection etc. shall be designed, submitted for approval under the MBC for deferred submittals (MBC 107.3.4.1), once approval is granted, installed and commissioned to provide "Methods of Protection" as spelled out in a professionally prepared Hazardous Materials opinion and report, prepared by a competent, qualified person firm or corporation with documented experience in the preparation of such reports relative to the hazards existing in this facility, preapproved by the AHJ.

Solution Continued: Provide a complete submittal to the City of Ann Arbor for this approved leak detection (EAS) system required by the AHJ. The submittal shall include; shop drawings, riser diagrams, locations of all sensors, devices, shunt trips, an input and output matrix, cut sheets for all devices in the system, battery and voltage drop calculations, full functioning remote annunciator and other items as previously mentioned. This submittal shall be

prepared as similar to a fire alarm system submittal and handled under deferred submittals (MBC 107.3.4.1).

10. **Disputed item # 1.2.6 or (3.6) Refrigerant Monitoring and Machinery Room Requirements.**
    a. **Progress:** The AHJ is satisfied that a Code Compliant design has been submitted except as outlined in item 9. d. as above for shop drawings etc.
    b. **Solution:** Please provide deferred submittals (MBC 107.3.4.1) for the Refrigerant Monitoring and Machinery room requirements for approval under deferred submittals (MBC 107.3.4.1) as outlined in item 9. d. as above

11. **Disputed item # 1.2.7 or (3.7) Application to Existing Construction.**
    a. **Problem:** American Honda states that they wish the City to address any such changes to the existing construction separately form the completion and occupancy of the expansion. And that the costs for potential updates are very high and additional budgeting and funding is required.
    b. **Code Section: 101.2 and 101.4.5**
    c. **Interpretation:** This so called grandfathering misconception is common.
        i. It shall be understood that during any facility expansion there are areas where no construction is necessary in the design professional's perception.
        ii. In reality many conditions, such as: increased occupant loads, increased levels of hazard, increased square footage, travel distances, obstacles and travel pathways, increased activity levels, increased production, increased workloads,

increased amounts of hazardous materials additional equipment, increased complexities of operation, maintenance, emergency response etc. now are likely to exist and will require attention that may not have before.

d. Key Point: The actual use of the space has changes although the occupancy classification may have not.

e. Solution: The AHJ cannot ignore the increased level of hazard present and deficiencies of previous design that have not yet have had adverse consequences.

i. But in consideration of a good faith effort that will hopefully be demonstrated by American Honda from here on out, the AHJ may entertain a phased in common sense proposal. This will show good faith by the AHJ and allow American Honda to make the necessary budgetary adjustments mentioned in 1.2.7 of the January 8th report by Parker Engineering.

ii. This proposal shall be respective to the hazard level reduction in a timely manner to allow the facility to obtain a phased in occupancy permit to allow the business to start operations.

iii. Such proposal will be considered upon demonstration of a good faith effort by American Honda by cooperative and expedient correction of outstanding items.

iv. This proposal shall contain the details of compliance, timelines and a commitment certification by someone that actually has the authority to execute this proposal.

12. Items Not Mentioned in the Appeal: The AHJ has noted there are additional items that have been noted on previous plan

reviews, inspections and discussions that have not yet been addressed, it is expected that the responsible design professional in charge has plans on addressing all outstanding items and that most are likely to be contained in a competent submittal of the deferred documents (MBC 107.3.4.1) by the Registered Design Professional In Charge (MBC 107.3.4) including the Deferred document statement of acceptance as previously mentioned.

13. **Additionally – Misc. Areas Unrelated to the EAS:** There are Safety concerns that arise as new information is being made available over time, MBC 107, 107.1, 107.2.1, that will need to be addressed, unrelated to the EAS systems: NFPA-30, NFPA-77, NFPA-55, NFPA-69, NFPA-497, NFPA-30-A, NFPA-91-many items including motors, fans, clearances, velocities, terminations, belts, airflows interlocked with certain fuel transfer operations, commissioning, etc. MMC Section 510, 502, 503, MMC sections 403.3 ventilation and exhaust schedules including calculations with adjustments required. Parking garage ventilation and exhaust**.** This happens when initial plans are significantly incomplete with enough detail to demonstrate code compliance.

14. **Additionally – Misc. NFPA:** NFPA-88-B-A-3-3.1 requires Ventilation local control and interlocked with the Sprinkler and Alarm systems. A Risk Analysis (NFPA-91 4.1.14.2) should be performed and provided on the specifics of this facility in reference to these sections. NFPA-88-B sections: A-3-2.1.1, A-3-2.2, A-3-3, A-3.1, 3-4.5.1, 3-4.6, 3-5.2. Numerous items from NFPA-30-A, including: Fuel Dispensing Areas requiring a minimum 2 hr. fire separation; NFPA-30-A 7.3.6.1.

15. **Additionally – Empty Containers & MAQ:** It shall be noted that any "empty containers" are to be considered as full containers when calculation of actual quantities on hand versus MAQ, unless emptied in conformance to: (IFC 2703.2.5).

16. **Executive Statement:**
    - **a.** The AHJ would like to see this facility begin operations as soon as safely possible and has a commitment to assist in any capacity within its authority to facilitate this end result.
    - **b.** The AHJ also believes that in order for this to happen we have to work together and wishes for a renewed spirit of cooperation from all parties involved to provide a safe built environment.

Respectfully submitted,

Craig E. Strong, Building Official
City of Ann Arbor