

COMMONWEALTH OF MASSACHUSETTS

CIVIL SERVICE COMMISSION

100 Cambridge Street – Suite 200
Boston, MA 02114
617-979-1900

MICHAEL DUNNIGAN,
Appellant

B2-23-076

v.

HUMAN RESOURCES DIVISION,
Respondent

Appearance for Appellant:

Michael Dunnigan, *Pro Se*

Appearance for Respondent:

Ashlee N. Logan, Esq.
Human Resources Division
100 Cambridge Street, Suite 600
Boston, MA 02114

Commissioner:

Paul M. Stein

Summary of Decision

The Commission upheld HRD’s scoring of the Appellant’s answer to a question on the Technical Knowledge (TK) component of the Boston District Fire Chief Examination that the Appellant claimed was not covered in the study material provided to candidates.

DECISION ON RESPONDENT’S MOTION FOR SUMMARY DECISION

On June 16, 2023, pursuant to G.L. c. 31, § 24, the Appellant, Michael Dunnigan, appealed to the Civil Service Commission (Commission).¹ The appeal contests his score on one specific multiple-choice question in the Technical Knowledge (TK) component of the Boston District Fire Chief’s Promotional Exam administered on March 25, 2023 by the state’s Human Resources Division (HRD), and claims that the information necessary to answer the question was not

¹ The Standard Adjudicatory Rules of Practice and Procedure, 801 CMR 1.01 (formal rules), apply to adjudications before the Commission with G.L. c. 31, or any Commission rules, taking precedence.

contained within the study materials identified by HRD prior to the examination. I held a remote pre-hearing conference on July 5, 2023. Pursuant to a Procedural Order dated July 25, 2023, HRD filed a Motion for Summary Decision on August 18, 2023, to which the Appellant filed his opposition on August 27, 2023. On November 3, 2023, HRD supplied additional information and documents requested by the Commission. On November 6, 2023, I held a hearing on the Motion for Summary Decision at the Commission's Boston office. For the reasons stated below, HRD's motion is allowed, and the Appellant's appeal is dismissed.

UNDISPUTED FACTS

Based on the submission of the parties, the following facts are not disputed:

1. The Appellant, Michael Dunnigan, is a Fire Captain with the Boston Fire Department (BFD).

2. On or about January 20, 2023, HRD provided the Appellant (along with all other candidates who registered to take the March 25, 2023 Boston District Fire Chief Promotional Examination with a reading list of study materials from which examination questions were derived. (*HRD Pre-Hearing Memorandum*)

3. The reading list contained materials related to hazardous substances, including, in particular, the following information from "Hazardous Materials for First Responders (5th ed.) IFSTA (2017) Oklahoma State University, Stillwater, OK: Fire Protection Publications.

Chapter 4 – pp.137-177 (stop at "Hazard Classes"); pp.199-205 (start at Additional Information" and stop at the end of chapter)

NOTE: Excludes appendices, glossary tables,² metric equivalents, figures and skill sheets.

(*HRD Pre-Hearing Memorandum, Attachment A*)

² There are no "tables" in the "glossary". This is probably a scrivener's error as there should have been a comma between "glossary" and "tables".

4. Chapter 4 of the Hazardous Materials text that relates to the TK question involved in this appeal appears on page 156 and provides, in relevant part:

Flammable, Explosive, or Combustible Range

The flammable, explosive, or combustible range is the percentage of the gas or vapor concentration in air that will burn or explode if ignited. The LEL or **lower flammable (explosive) limit (LEL)** of a vapor is the lowest concentration (or lowest percentage of the substance in air) that will produce a flash of fire when an ignition source is present. At concentrations lower than the LEL, the mixture is too lean to burn.

The upper explosive limit (UEL) or **upper flammable limit (UFL)** of a vapor or gas is the highest concentration (or highest percentage of the substance in air) that will produce a flash of fire when an ignition source is present. At higher concentrations, the mixture is too rich to burn (**Figure 4.31**). Within the upper and lower limits, the gas or vapor will burn rapidly if ignited. Atmospheres within the flammable range are particularly dangerous. **Table 4.1** provides the flammable ranges for some selected materials.³

What This Means to You

Lower and Upper Explosive Limits

Products with a low LEL and products with a wide range between the LEL and UEL are especially dangerous. Concentrations above the UEL do not guarantee safety. If the concentration drops for any reason, you could still be in an explosive atmosphere. The addition of fresh air may dilute the concentration, or the concentration may be lower than the UEL in places where you did not measure.

(HRD Response to Information Request, Attachment A)

5. The Appellant took and passed the March 25, 2023 Boston District Fire Chief’s Promotional Exam and received an overall rounded score of 82, placing him 17th among the 27 candidates who took and passed that examination. *(Stipulated Facts)*

6. The Technical Knowledge (TK) component of the examination consisted of 70 multiple choice questions. *(Stipulated Fact at Motion Hearing)*

7. On April 1, 2023, the Appellant requested a review of his score on one question in the TK component of the examination. Specifically, the Appellant claimed that a question he identified as

³ Table 4.1 at the top of page 157 shows “Flammable Ranges for Selected Materials”, including Acetylene (LFL -2.5; UFL - 100.0) and Carbon Monoxide (LFL - 12.5; UFL – 74.0)

calling for knowledge of the “LEL” and “UEL” levels of Acetylene in comparison to Carbon Monoxide could not be answered from information contained in the study material text, but only from information in Table 4.1 and, according to the reading list published by HRD, figures and tables are not testable information in the 2023 examination. (*HRD Pre-Hearing Memorandum, Attachment B*)

8. As a general rule, HRD considers any question that is answered correctly by fewer than 40% of the test takers to require further scrutiny. (*HRD Motion, Attachment D*)

9. In the case of the TK question challenged by the Appellant, 63% of the test takers had answered the question correctly. The candidates who answered the question incorrectly, included (a) the Appellant, (b) 31% of the candidates whose overall score was higher than the Appellant, and (c) 38% of the candidates whose overall score was lower than the Appellant’s. (*HRD Motion, Attachment D; HRD Response to Information Request*)

10. On June 2, 2023, HRD informed the Appellant that his appeal was reviewed, and “there will be no key [scoring] changes” to the exam. (*HRD Pre-Hearing Memorandum, Attachment C*)

11. In support of its Motion for Summary Decision, HRD submitted an Affidavit from the Director of HRD’s Civil Service Unit (CSU), who attested: “The CSU reviewed the question raised on appeal and has determined that it could be answered from the text on the reading list.” (*HRD Motion, Attachment D*)

12. Assuming all persons on the current eligible list, including the Appellant, were granted credit for the question challenged by the Appellant, the Appellant would end up in a tie group ranked 16th -- as opposed to his current rank in 17th place. The Appellant, however, would not be the only candidate on the eligible list affected by such an adjustment. There would have been a tie for 1st place among candidates, including one who has already been promoted. It also would require

dropping to a lower position three candidates who had answered the question correctly. (*HRD Response to Information Request; Stipulated Fact at Motion Hearing*)

APPLICABLE LEGAL STANDARD

The Commission may, on motion or upon its own initiative, dismiss an appeal at any time for lack of jurisdiction or for failure to state a claim upon which relief can be granted. 801 CMR 1.01(7)(g)(3). A motion to resolve an appeal before the Commission, in whole or in part, via summary decision may be filed pursuant to 801 C.M.R. 1.01(7)(h). An appeal may be disposed of on summary disposition when, “viewing the evidence in the light most favorable to the non-moving party”, the undisputed material facts affirmatively demonstrate that the non-moving party has “no reasonable expectation” of prevailing on at least one “essential element of the case”. See, e.g., Milliken & Co. v. Duro Textiles LLC, 451 Mass. 547, 550 n.6 (2008); Maimonides School v. Coles, 71 Mass. App. Ct. 240, 249 (2008); Lydon v. Massachusetts Parole Board, 18 MCSR 216 (2005). See also, Mangino v. HRD, 27 MCSR 34 (2014) and cases cited (“The notion underlying the summary decision process in administrative proceedings parallels the civil practice under Mass.R.Civ.P.56, namely, when no genuine issues of material fact exist, the agency is not required to conduct a meaningless hearing.”); Morehouse v. Weymouth Fire Dept, 26 MCSR 176 (2013) (“a party may move for summary decision when . . . that there is no genuine issue of fact relating to his or her claim or defense and the party is entitled to prevail as a matter of law.”)

ANALYSIS

The undisputed facts, viewed in a light most favorable to the Appellant, establish that his appeal must be dismissed.

G.L. c. 31, § 16 provides, in relevant part:

Examinations shall be conducted under the direction of the administrator, who shall determine their form, method, and subject matter. Examinations shall fairly test the

knowledge, skills and abilities which can be practically and reliably measured, and which are actually required to perform the primary or dominant duties of the position for which the examination is held.

Commission decisions consistently acknowledge HRD's broad discretion in the design, development, and administration of civil service. See, e.g., Cataldo v. HRD, 23 MCSR 617 (2010) (“under Massachusetts civil service laws and rules, HRD is vested with broad authority to determine the requirements for competitive civil service examinations”); Carroll v. HRD, 27 MCSR 157 (2014) (“[t]here can be little doubt that the cited statutes reflect a Legislative intent to endow HRD with considerable discretion in crafting, administering and scoring examinations, as well as crediting education as part thereof.”)

G.L. c. 31, § 22 through § 24, establish a candidate’s right to HRD review and appeal to the Commission to challenge the administration and scoring of civil service examinations. After initial review and a decision by HRD, a candidate may appeal to the Commission relative to a “finding that the examination taken by such applicant was a fair test of the applicant’s fitness to actually perform the primary or dominant duties of the position for which the examination was held.”

The Commission’s prior decisions have given HRD considerable deference when it comes to deciding whether an examination must be held invalid, even when the examination was found to contain some flawed questions (e.g., questions that involved subjects not included in the prescribed reading materials or for which there was more than one correct answer). See, e.g., Pellizaro v. HRD, 33 MCSR 172 (2020) and cases cited (11 questions allegedly not drawn from reading material and 4 question had more than one correct answer); Kelley v. HRD, 33 MCSR 129 (2020) (13 out of 80 questions allegedly not drawn from reading material and 3 questions with more than one correct answer); Coleman v. HRD, 33 MCSR 160 (2020) (alleged 11 questions not drawn from reading material and unspecified additional questions that had more than one correct answer);

Kocerha v. HRD, 33 MCSR 283 (2020) (less than 13 questions not on reading list); O'Neill v. City of Lowell, 21 MCSR 683 (2008), *aff'd on other grounds*, 787 Mass. App. Ct. 1127 (2011) (unpublished) (20% of examination questions were faulty).

HRD's broad authority over the administration of examinations is not absolute. See Mahan v. HRD, 34 MCSR 278 (2021) (fair test appeals dismissed as untimely but Commission noted concern that nine candidates had legitimate questions about the relevancy and accuracy of certain questions on a Parole Officer promotional examination and encouraged HRD to take proactive measures to address them so as to bolster future confidence in the examination process); Nugent v. HRD, 31 MCSR 114 (2018) (noting that when HRD's actions, apparently motivated to save administrative costs, may have had the unintended consequence of creating a process that potentially lacks the type of transparency that instills confidence in the examination process, it "warranted a second look"); Merced v. Boston Police Dep't, 29 MCSR 84 (2016), *aff'd sub nom.*, Boston Police Dep't v. Civil Service Comm'n, C.A. No. 16CV00748 (Suffolk Sup.Ct. 2018) (Commission ordered HRD to conduct fair test review over HRD's objection); Boston Police Super. Officers Federation v. Boston Police Dep't, 21 MCSR 59, *on reconsideration*, 21 MCSR 237 (2008) (Commission ordered all questions relating to "Rule 200" not in reading materials be removed and the examination rescored).

The question presented in this appeal is distinguishable from most of Commission's prior "fair test" decisions that involved HRD's decision not to score a number of flawed questions included in an examination. The question before the Commission was whether, with the flawed questions removed, did the test still stand as a "fair test" or should the Commission nullify the test results as a whole and order a new examination. Here, the Appellant contends that HRD was duly put on notice well in advance of scoring the test that the TK examination covered subject matter as not

contained in the reading material and that HRD, allegedly, unreasonably refused to recognize the flawed question and rescore the test. In this respect, the appeal comes closer to the flaw in Boston Police Super. Officers Federation v. Boston Police Dep't, *supra*, save that this appeal involves only one allegedly improper question, not multiple questions.

HRD argues that proof that only one TK question was flawed is not, as a matter of law, sufficient to constitute a “fair test” appeal. That point is fairly taken when the issue is whether the corrected examination should stand as a fair test or be readministered. It is a closer question when the issue is whether HRD should have recognized the flaw in time (which was raised by the Appellant in a timely manner on April 1, 2023, a week after he took the exam) and should have taken proper steps to address the flaw before scores were released. The Commission need not resolve that question here, however, as I conclude that HRD reasonably decided that the challenged question was, in fact, properly included as part of the TK examination.⁴

First, unlike most other “fair test” appeals that the Commission has considered in which multiple candidates took appeals, the Appellant is the only candidate (out of 30 test-takers) who contested the validity of the challenged question.

Second, HRD has implemented a protocol that it will conduct a review of any question (with or without a “fair test” appeal) when fewer than 40% of the test-takers answer the question correctly. Here, 63% of the test-takers answered the question correctly. The number of candidates who answered correctly did not vary appreciably from those who appear higher or lower on the

⁴ I have not overlooked the Appellant’s point that he was led astray by the apparent ambiguity in the test instructions reference to “glossary tables” and assumed that he did not need to study “tables” in the text of the reading materials. It would have been preferable if HRD caught this ambiguity and clarified it for all test takers ahead of the examination date. However, it is now not possible to know how many test-takers treated the language literally and did study Table 4.1 in the Hazardous Materials text or skipped over it as the Appellant claims. Despite the probable error, it would now be unreasonable to penalize those who may have read the instructions literally.

eligible list than the Appellant. I find that HRD's protocol is reasonable and does infer that the question was not improper.

Third, I give deference to HRD's conclusion that, although the protocol threshold was not met, upon review of the challenged question, the answer to the question could be fairly deduced from page 156 of the Hazardous Materials text and/or the general knowledge that comes from years of experience of a candidate who aspires to the position of a District Fire Chief. The Appellant did not provide me with any reasonable expectation that HRD's technical judgment in this regard could be rebutted.⁵

CONCLUSION

For the reasons stated above, HRD's Motion to For Summary Decision is *allowed*, and the Appellant's appeal under Case No. B2-23-122 is *dismissed*.

Civil Service Commission

/s/Paul M. Stein

Paul M. Stein, Commissioner

By vote of the Civil Service Commission (Bowman, Chair; Dooley, McConney, Stein, and Tivnan, Commissioners) on December 14, 2023.

Either party may file a motion for reconsideration within ten days of the receipt of this Commission order or decision. Under the pertinent provisions of the Code of Mass. Regulations, 801 CMR 1.01(7)(l), the motion must identify a clerical or mechanical error in this order or decision or a significant factor the Agency or the Presiding Officer may have overlooked in deciding the case. A motion for reconsideration does not toll the statutorily prescribed thirty-day time limit for seeking judicial review of this Commission order or decision.

Under the provisions of G.L. c. 31, § 44, any party aggrieved by this Commission order or decision may initiate proceedings for judicial review under G.L. c. 30A, § 14 in the superior court within thirty (30) days after receipt of this order or decision. Commencement of such proceeding shall not, unless specifically ordered by the court, operate as a stay of this Commission order or decision. After initiating proceedings for judicial review in Superior Court, the plaintiff, or his / her attorney, is required to serve a copy of the summons and complaint upon the Boston office of the Attorney General of the Commonwealth, with a copy to the Civil Service Commission, in the time and in the manner prescribed by Mass. R. Civ. P. 4(d).

⁵ My in-camera review of the challenged question led me to the same conclusion. Of the four possible answers to the multiple-choice question, two could be quickly eliminated. Of the two remaining choices, after carefully re-reading p. 156 of the Hazardous Materials text, the better choice of the two remaining options emerged.

Notice to:
Michael Dunnigan (Appellant)
Ashlee N. Logan, Esq. (for Respondent)
Robert Boyle, Esq. (BFD)

ADDENDUM

Figure 4.30 Inflammable is another word for flammable in many countries. Courtesy of Rich Mahaney.



and these are considerably higher than the flash and fire points. For example, the autoignition temperature of gasoline is about 536°F (280°C), but the flash point of gasoline is -45°F (-43°C). This difference means that at -45°F (-43°C), gasoline will temporarily ignite if a match is waved through its vapors, whereas at 536°F (280°C) it ignites all by itself. The terms *autoignition temperature* and *ignition temperature* are often used synonymously; they are always the same temperature. However, the NFPA defines these terms separately.

Lower Flammable (Explosive) Limit (LFL) — Lower limit at which a flammable gas or vapor will ignite and support combustion; below this limit the gas or vapor is too lean or thin to burn (too much oxygen and not enough gas, so lacks the proper quantity of fuel). Also known as Lower Explosive Limit (LEL).

Upper Flammable Limit (UFL) — Upper limit at which a flammable gas or vapor will ignite. Above this limit, the gas or vapor is too rich to burn (lacks the proper quantity of oxygen). Also known as Upper Explosive Limit (UEL).

Flammable, Explosive, or Combustible Range

The flammable, explosive, or combustible range is the percentage of the gas or vapor concentration in air that will burn or explode if ignited. The LEL or lower flammable (explosive) limit (LFL) of a vapor or gas is the lowest concentration (or lowest percentage of the substance in air) that will produce a flash of fire when an ignition source is present. At concentrations lower than the LEL, the mixture is too lean to burn.

The upper explosive limit (UEL) or upper flammable limit (UFL) of a vapor or gas is the highest concentration (or highest percentage of the substance in air) that will produce a flash of fire when an ignition source is present. At higher concentrations, the mixture is too rich to burn (Figure 4.31). Within the upper and lower limits, the gas or vapor concentration will burn rapidly if ignited. Atmospheres within the flammable range are particularly dangerous. Table 4.1 provides the flammable ranges for some selected materials.

What This Means To You

Lower and Upper Explosive Limits

Products with a low LEL and products with a wide range between the LEL and UEL are especially dangerous. Concentrations above the UEL do not guarantee safety. If the concentration drops for any reason, you could still be in an explosive atmosphere. The addition of fresh air may dilute the concentration, or the concentration may be lower than the UEL in places where you did not measure.

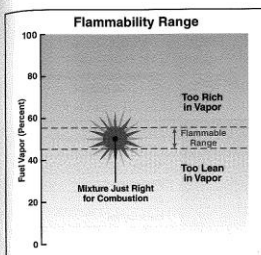


Figure 4.31 Flammable vapors and gases can burn or explode when they are mixed with the right concentration of air. If there is too little air, the mixture is too lean to ignite; with too much flammable vapor or gas, the mixture is too rich to ignite.

Corrosivity

Chapter 1 introduced corrosives as materials that destroy living tissue and damage or destroy metal. Corrosives are commonly divided into two broad categories: acids and bases (bases are sometimes called *alkalis* or *caustics*). However, some corrosives (such as hydrogen peroxide) are neither acids nor bases. The corrosivity of acids and bases is often measured or expressed in terms of **pH** (Figure 4.32, p. 158). Acids and bases have the following characteristics:

- **Acid** — Any chemical that ionizes (dissociates) to yield hydrogen ions (hydronium) in water. Acids have pH values of 0 to 6.9. An acid may cause severe chemical burns to flesh and permanent eye damage. Contact with an acid typically causes immediate pain. Hydrochloric acid, nitric acid, and sulfuric acid are examples of common acids.
- **Base (alkalis)** — A water-soluble compound that chemically dissociates in water to form a negatively charged hydroxide ion. Bases react with an acid to form a salt by releasing an unshared pair of electrons to the acid or by receiving a proton (hydrogen ion) from the acid. Bases have pH values of 7.1 to 14. A base breaks down fatty skin tissues and can penetrate deeply into the body. Bases tend to adhere to the tissues in the eye, which makes them difficult to remove. Bases often cause more eye damage than acids due to the longer duration of exposure. Contact with a base does not normally cause immediate pain. A common sign of exposure to a base is a greasy or slick feeling of the skin, which is caused by **saponification**, the breakdown of fatty tissues. Examples of bases include caustic soda, potassium hydroxide, and other alkaline materials commonly used in drain cleaners.

Table 4.1
Flammable Ranges for Selected Materials

| Material | Lower Flammable Limit (LFL) (percent by volume) | Upper Flammable Limit (UFL) (percent by volume) |
|-----------------|--|--|
| Acetylene | 2.5 | 100.0 |
| Carbon Monoxide | 12.5 | 74.0 |
| Ethyl Alcohol | 3.3 | 19.0 |
| Fuel Oil No. 1 | 0.7 | 5.0 |
| Gasoline | 1.4 | 7.5 |
| Methane | 5.0 | 15.0 |
| Propane | 2.1 | 9.5 |

Source: NIOSH Pocket Guide to Chemical Hazards

pH — Measure of the acidity or alkalinity of a solution.

Acid — Compound containing hydrogen that reacts with water to produce hydrogen ions; a proton donor; a liquid compound with a pH less than 7. Acidic chemicals are corrosive.

Ion — Atom that has lost or gained an electron, thus giving it a positive or negative charge.

Base — Any alkaline or caustic substance; corrosive water-soluble compound or substance containing group-forming hydroxide ions in water solution that reacts with an acid to form a salt.

Dissociation (Chemical) — Process of splitting a molecule or ionic compounds into smaller particles, especially if the process is reversible. Opposite of Recombination.

Saponification — Reaction between an alkaline and a fatty acid that produces soap.