

LOS ANGELES FIRE COMMISSION

January 21, 2020

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October 7, 2019

BOARD OF FIRE COMMISSIONERS
FILE NO. BFC 19-130C

TO: Board of Fire Commissioners

FROM: Independent Assessor

SUBJECT: QUARTERLY PROGRESS REPORT REGARDING AUDIT OF RECRUIT
PROGRESS IN SPECIFIED DRILL TOWER CLASSES

FINAL ACTION: ☐ Approved
☐ Denied

☐ Approved w/Corrections
☐ Received & Filed

☐ Withdrawn
☐ Other

SUMMARY

On February 19, 2019, the Board of Fire Commissioners (BOFC or Commission) requested that the Independent Assessor provide quarterly reports of audits. This Report is prepared in compliance with that direction and specifically addresses the Audit of Recruit Progress in Specified Drill Tower Classes.

RECOMMENDATIONS

1. That the Board approve the OIA's Quarterly Progress Report regarding the Audit of Recruit Progress in Specified Drill Tower Classes.
2. Adopt the recommendation.

DISCUSSION

This is a progress report for third quarter 2019, related to the Audit of Recruit Progress in Specified Drill Tower Classes being conducted by the Office of the Independent Assessor (OIA).

The preliminary objectives remain as previously stated:¹

- Determine if similar audits or reviews have been conducted of other fire department recruit academies.
- Identify any nexus between recruit progress through the drill tower and gender/race/ethnicity.
- Determine if inconsistencies existed in the grading process.

¹ Objectives are subject to change based on research.

- Identify any nexus between recruit performance and background (e.g., high school or college athlete, military service, prior fire service experience).
- Identify any nexus between drill tower performance and a recruit's height/reach or weight.
- Determine effectiveness of remediation "class."
- Determine effectiveness of reassignment.
- Determine the ratio of substandard performance in academic coursework versus substandard performance on manipulative skills.

The Department provided the OIA with recruit data related to gender and ethnicity, and corresponding graduation rates in the drill tower. The Independent Assessor previously reported to the BOFC (BFC No. 19-067) that the OIA was working with the Department to ensure that the data is complete. The OIA now believes a comprehensive data set has been compiled.

Furthermore, the OIA met with data scientists from Mayor Garcetti's Innovation Team and, based on their advice, ran calculations related to the data in pursuit of sampling the population of recruits for this audit. Subsequent discussions with the data scientists yielded two options for sampling the population. Those options are presented along with a recommendation for the audit sample.

Classes to be included in the audit

As previously reported (BFC No. 19-067), the OIA originally decided to limit the audit to drill tower classes 13-1 through 17-3 because the Department changed the curriculum and extended the length of time a recruit spends at the drill tower (to include California State Firefighter I certification), beginning with class 18-1. Later, however, the OIA contemplated including classes 18-1 and 18-2. At the BOFC meeting on July 2, 2019, the BOFC suggested addressing this issue with the data scientists. The data scientists advised the OIA that without further analysis it was difficult to determine if the extra time in the drill tower had an impact on recruit performance. Therefore, the safest way to proceed is without classes 18-1 and 18-2. Furthermore, including the extra analysis necessary for these classes in order to include them in the audit will extend the amount of time it will take to complete the audit. Considering these issues, the OIA decided not to include classes 18-1 and 18-2 in the audit.

Determining a Sample of the Population

The OIA determined, based on the amount of data to be analyzed and the resources of the OIA, the sample size will be 250 recruits. A temporary employee will assist the OIA with data entry.

The data scientists suggested that the OIA has two options for sampling the population;

1) Statistically, using a two sample binomial proportions test or 2) Proportionally.

1. Statistically

This entails using a two sample binomial proportions test to determine if two proportions (graduation rates) are statistically significantly different from one another. The test involves two equations. The first equation determines if there is a valid statistical test for various population comparisons -- are both populations large enough for this statistical test? After determining whether there is validity, the next equation determines if the difference between the graduation proportions of two groups is statistically significant at the 90%, 95%, and 99% confidence levels.

2. Proportionally

This involves sampling the population by taking subgroup proportions and applying them to the sample population.

The results of the tests showed that sampling the population statistically does not result in an audit sample population representative of every gender and ethnic combination. However, sampling the population proportionally does include recruits of every gender and ethnic combination.

RECOMMENDATION

The OIA believes the audit should examine the progress of recruits of every gender and ethnic combination. Therefore, the OIA recommends that the proportional method be used to sample the audit population.

I am available to provide any additional information the Commission may require.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Sue Stengel". The signature is written in a cursive, flowing style.

SUE STENGEL

Independent Assessor

Board of Fire Commissioners