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**The New York City Council**

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**Committee Report of the Infrastructure Division**

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**Committee on Sanitation & Solid Waste Management**

Hon. Sandy Nurse, Chair

**November 16, 2022**

**Oversight: The Future of the City’s Sanitation Fleet and DSNY’s 2022-2023 Snow Plan**

**Int. No. 20:** By Council Members Brannan, Mealy, Louis, Won and Restler

**Title:** A Local Law in relation to increasing penalties on chain businesses for failure to remove snow, ice and dirt from sidewalks

**Administrative Code:** Adds section 16-123.1

**Int No. 100:** By Council Members Brannan, Hudson, Lee, Yeger, Stevens, Richardson Jordan and Sanchez

**Title:** A Local Law to amend the administrative code of the city of New York, in relation to exempting or partially exempting seniors and certain persons with disabilities from penalties for failing to remove snow or ice from sidewalks, crosswalks, curbs and other locations

**Administrative Code:** Amends section 16-123(h) and adds section 16-124.2

1. **Introduction**

On November 16, 2022, the Committee on Sanitation and Solid Waste Management (“Committee”), chaired by Council Member Sandy Nurse, will hold an oversight hearing on the future of the City’s Sanitation Fleet and the New York City Department of Sanitation (“DSNY”) 2022-2023 Snow Plan. The Committee will also consider: Int. No. 20, sponsored by Council Member Brannan, in relation to increasing penalties on chain businesses for failure to remove snow, ice and dirt from sidewalks, and Int. No. 100, also sponsored by Council Member Brannan, in relation to exempting or partially exempting seniors and certain persons with disabilities from penalties for failing to remove snow or ice from sidewalks, crosswalks, curbs and other locations. The Committee expects to receive testimony from representatives of the New York City Department of Sanitation, environmental advocates, and interested members of the public.

1. **Background**

*The City’s Sanitation Fleet*

DSNY operates 59 district garages and operates a fleet of more than 2,000 collection trucks, 433 mechanical brooms, and 700 large and small salt spreaders.[[1]](#footnote-1) DCAS manages 5,855 DSNY vehicles,[[2]](#footnote-2) including 860 light duty, 317 medium duty, 3,777 heavy duty, and 901 other vehicles.[[3]](#footnote-3) The vehicle in-service rate, or percentage of the fleet in full service, for DSNY vehicles is 83 percent.[[4]](#footnote-4) As of January 16, 2020, DSNY employed 387 auto mechanics, 90 mechanics (diesel), 15 automotive service workers, 31 electricians (automobile), and 39 part time auto mechanics.[[5]](#footnote-5)

In February 2020, then-Mayor Bill de Blasio signed Executive Order 53 setting a goal that the entirety of NYC’s municipal fleet transition to all-electric, carbon neutral, vehicles by 2040.[[6]](#footnote-6) In September of 2020, DSNY began a pilot program in Brooklyn, aimed at “real world” testing of its first fully electric collection truck, a Mack LR Electric refuse truck, evaluating payload capacity, regenerative braking, overall vehicle performance, operating range and charging requirements.[[7]](#footnote-7)

According to Rocco DiRico, Deputy Commissioner of Support Services for DSNY, the Mack LR Electric refuse truck performed well during the pilot, which consisted of running the unit daily for one 8-hour shift in different neighborhoods to ensure performance under different conditions, then charging it overnight.[[8]](#footnote-8) Generally, the truck finished shifts with approximately 50% of its charge remaining.[[9]](#footnote-9) The truck was able to consistently haul the rated payload with no degradation in vehicle performance, no tailpipe exhaust emissions, and ran so quietly that DSNY opted to outfit the truck with a white noise generator to ensure pedestrian safety.[[10]](#footnote-10) According to Deputy Commissioner Dirico, the principal concern with the widespread implementation of electric refuse collection trucks will be making sure all DSNY facilities have adequate power to support a large deployment of EV chargers in a timely manner, noting that only about a dozen of DSNY’s garages then had the capacity to charge heavy duty trucks as of March, 2022.[[11]](#footnote-11) There are also concerns about the amount of electricity that a fleet of electric refuse collection trucks would require to charge, and whether local utilities will be able to consistently provide it. DSNY garages would also require backup generators capable of charging the trucks, to ensure that refuse collection is able to continue in the event of a blackout or brownout.

In June of 2021, Mack announced that DSNY had plans to purchase seven additional Mack LR Electric refuse trucks.[[12]](#footnote-12) According to Mack’s technical specifications sheet, these trucks feature two AC motors with 400 kilowatt (kW) peak power (536 horsepower) and 334 kW (448 horsepower) continuous power, powered by four 600 Volt NMC lithium-ion batteries (Lithium Nickel Manganese Cobalt Oxide) that can be charged in two hours, and have an operating range of up to 100 miles. The trucks are capable of carrying up to 25,000 lbs of refuse per load.[[13]](#footnote-13)

*December 2010 Snowstorm*

On December 26 and 27, 2010, a blizzard hit New York City, overwhelming the city for several days.[[14]](#footnote-14) Snowfall totals for the storm ranged from 14 to 24 inches throughout the five boroughs, and wind gusts were reported to be as strong as 60 miles per hour.[[15]](#footnote-15) DSNY was unable to clear snow in a timely fashion from a significant number of city streets.[[16]](#footnote-16) As a result, the blizzard crippled a host of basic and emergency services, most notably the city’s transportation and emergency response services, and significantly impacted the daily lives of New Yorkers.[[17]](#footnote-17) Examples of the breakdown in basic and emergency services included the inability of ambulance, fire and police services to function properly, with many emergency vehicles, especially ambulances, becoming stuck in unplowed – or partially plowed – streets;[[18]](#footnote-18) the inability of the 911 and 311 call systems to keep up with and respond to the extremely high volume of calls;[[19]](#footnote-19) and the abandonment of hundreds of vehicles, including approximately 600 Metropolitan Transportation Authority buses, on roads throughout the City.[[20]](#footnote-20) In the aftermath of the December blizzard, the Council held a series of hearings focused on the City’s preparedness for future storm events and subsequently enacted several laws, including Local Law 28 of 2011.

*Local Law 28 of 2011*

Local Law 28 of 2011 requires the DSNY Commissioner to submit to the Council and make available to the public, borough-specific plans for snow plowing and removal no later than November 15th of each year. Prior to the November 15th submission of the plan, the Commissioner is required to submit a draft plan for comment to Council members, community boards, and borough presidents in October of each year. Approved amendments to the draft are to be included in the final version of the plan released in November. The plan is required to include the following:

(1) The address of each DSNY facility that has a role in snow management in each borough, including the sanitation district that the facility is located in and the number of uniformed DSNY employees assigned to the facility;

(2) An inventory of DSNY- and city-owned snow management equipment and resources that could be made available during a snow event;

(3) Definitions and criteria for selecting priority plow routes and an online map of each community district including the priority designation of each street in the district;

(4) How DSNY will remove snow and ice from streets, curb cuts and pedestrian medians at intersections on primary streets, crosswalks, and sidewalks adjacent to parks and bus stops, as well as how DSNY will disperse salt, sand, and other materials applied to roads in icy or snowy conditions; and

(5) Identification of the borough chiefs responsible for implementing the plan in each borough, DSNY personnel who will liaise with the Office of Emergency Management (OEM) during snow events, and DSNY personnel who will communicate with Council members, community boards, and borough presidents.

*2021-2022 Snow Season*

New York City had just under 18 inches of snow during the 2021-2022 snow season.[[21]](#footnote-21) It was the second-least snowy winter in a decade, with about ten inches less than the City’s average snowfall in a season.[[22]](#footnote-22)

*DSNY Budget*

DSNY’s Fiscal 2023 Adopted Budget provides for 9,767 positions, of which 7,449 are uniform and 2,318 are civilian. Compared to the Fiscal 2022 Adopted Budget of 9,667 positions, the Fiscal 2023 budgeted headcount decreased by 33 uniformed positions and increased by 133 civilian positions. As of November 4, 2022 (Fiscal 2023) - the current actual (field effective) headcount is 7,928 uniformed positions and 1,881 civilian positions.

1. **DSNY 2022-2023 Draft Snow Plan**

*Overview*

On September 30, 2022, Commissioner Jessica Tisch transmitted DSNY’s 2022-2023 Draft Borough-based Snow Plans (the “Draft Plans”) to the Council.[[23]](#footnote-23) The Draft Plans cover DSNY’s planning, training, snow removal priority designation categories, assigned equipment and personnel, and implementation of the Plans during a snow event. Implementation details include preparation for a forecasted snow event, salting and plowing operations during a snow event, situational awareness and adjustments during a snow event, collaborations with other city agencies, customer service during and after a snow event, snow clearing operations after precipitation ceases, clearing pedestrian and bicycle infrastructure, responsibilities of property owners and managers, and route adjustments due to the City’s Open Restaurants program.[[24]](#footnote-24)

The Draft Plans also include several key statistics. The number of miles of roadway that DSNY is responsible for plowing is 19,000 miles.[[25]](#footnote-25) There are 31 permanent and 11 seasonal salt storage locations, with a capacity of over 300,000 tons of rock salt, and 52 citywide calcium chloride storage locations with a capacity to store 365,500 gallons.[[26]](#footnote-26)

*Forecast and Preparation*

According to the Draft Plans, in the event of an impending snowstorm, the DSNY Bureau Operations Chief will brief the Commissioner, First Deputy Commissioner, and Bureau Director. The First Deputy Commissioner will then make the decision of whether to activate personnel. If plows will be needed, personnel are scheduled into two 12-hour shifts, normally from 7:00am to 7:00pm and from 7:00pm to 7:00am, and days off are canceled. DSNY then makes a series of decisions about how to respond based on predicted conditions. A “snow alert” is issued to all DSNY personnel, as well as to other city agencies.[[27]](#footnote-27)

*Salting and Plowing Operations*

At the first sign of snow or frozen precipitation, salt spreaders are to begin dispensing salt on roadways. Plowing is to begin when snowfall exceeds two inches.[[28]](#footnote-28) Plow operators are to follow their assigned routes in order to avoid missing street segments. Once roadways are cleared, municipal parking lots, bike lanes, and pedestrian infrastructure are to be cleared next. In heavy snow events, DSNY may activate emergency hired equipment contracts as needed.[[29]](#footnote-29) However, customer complaints would not be resolved until snow has stopped falling and assigned roadways are clear.

DSNY uses a sodium brine solution to pre-treat roadways.[[30]](#footnote-30) The sodium brine solution is designed to reduce snow and ice adhesion to pavement, and helps to suppress snowfall accumulation, increasing plowing operation effectiveness, and providing motorists with greater roadway traction.[[31]](#footnote-31)

*Situational Awareness*

DSNY has an extensive communications plan, which allows DSNY headquarters at 125 Worth Street to monitor conditions on the street and quickly deploy resources as needed. DSNY communicates with other city agencies through New York City Emergency Management (NYCEM) Emergency Operations Center. DSNY has GPS devices on all snow-fighting equipment to improve the quality of signal and accuracy of data received during snow operations.[[32]](#footnote-32)

*Other City Agencies*

DSNY coordinates with NYCEM. DSNY meets with the Police Department (NYPD) to exchange contract information with the NYPD Traffic and Tow and Highways Divisions and to review the use of NYPD tow trucks during and after heavy snow. In addition, the Port Authority of New York and New Jersey (Port Authority) is responsible for clearing snow from bridges and tunnels between New York and New Jersey as well as airports in New York City and Northern New Jersey.[[33]](#footnote-33)

*Customer Service*

DSNY has a system through which it can assess customer complaints through 311. Conditions that are highlighted through this system are addressed once planned snow clearing operations are finished.[[34]](#footnote-34) New Yorkers can use the PlowNYC online mapping tool to track the progress of DSNY snow operations throughout the five boroughs.[[35]](#footnote-35) During the 2017-2018 snow season, PlowNYC data was made available during snow events, with plow locations being updated several times per hour, and older records being archived.[[36]](#footnote-36) The data for the 2022-2023 snow season will again be made available via the Open Data Portal.[[37]](#footnote-37)

*Snow Clearing Operations*

If snow accumulations approach 6 to 8 inches, snow is supposed to be plowed and piled to keep main streets open.[[38]](#footnote-38) The snow piles should then be hauled to approved snow disposal locations until they can be melted or transported to snow melter locations. DSNY has 29 small snow melters that can each melt 60 tons of snow per hour, as well as two larger mega-melters that can melt 135 tons of snow per hour.[[39]](#footnote-39) Water from the melted snow is discharged directly into City sewers that the DEP has preapproved for melting.[[40]](#footnote-40) The snow clearing operations continue until all public streets have been serviced.

*Clearing Pedestrian and Bicycle Infrastructure*

Once salting and plowing is complete, DSNY addresses bike lanes, pedestrian overpasses and step streets, bus stops, and crosswalks through its temporary seasonal laborers while DSNY resumes refuse collections.[[41]](#footnote-41) DSNY has a fleet of 100 skid-steer loaders, which are smaller machines with lift arms to improve efficiency in clearing these areas.[[42]](#footnote-42) Temporary snow laborers are paid at a rate of $17.00 per hour, which increases to $25.50 per hour after completing the first 40 hours in a given week.[[43]](#footnote-43) Citibike, a public-private partnership between the City, represented by DOT, and Lyft, is required to remove snow in a 6-foot radius around bike stations to create a buffer so that DSNY can navigate its plows.[[44]](#footnote-44)

*Property Owner Responsibilities*

Property owners and managers are required to remove snow and ice from sidewalks adjacent to their properties and, where possible, a continuous path at least four feet wide must be cleared.[[45]](#footnote-45) Property owners are also responsible for shoveling the area around fire hydrants adjacent to their property and clearing a path to any catch basin. Property owners can face fines of $100-250 for not complying with these requirements.[[46]](#footnote-46)

*Open Restaurants*

During the 2020-2021 snow season, DSNY adjusted some routes to account for changes in roadway conditions because of the City’s Open Restaurants program. If there is a DSNY-issued snow alert, restaurants are prohibited from seating diners in roadway areas and must remove or secure tables and chairs located there.[[47]](#footnote-47) When the forecast is for 12” or more of snow accumulation, DSNY may require restaurants to remove or consolidate their roadway setups.[[48]](#footnote-48) DSNY partners with SBS, DOT and the Office of Nightlife to communicate to business owners in advance of winter weather forecasts.[[49]](#footnote-49)

1. **Legislation**

Below is a brief summary of the legislation being heard today by this Committee. This summary is intended for informational purposes only and does not substitute for legal counsel. For more detailed information, review the full text of the bill, which is included below.

*Int. No. 20-2022*

Int. No. 20 would increase the penalties on chain business owners for failing to properly remove snow, ice and dirt from sidewalks after a snowfall event. This local law would take effect immediately.

*Int. No. 100-2022*

Int. No. 100 would require DSNY to establish a program to assist seniors and persons with disabilities with snow removal from sidewalks abutting buildings such individuals own, lease or occupy. It would also reduce the fines by at least 50 percent for seniors and persons with disabilities who fail to remove snow from these sidewalks. This local law would take effect immediately.

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| Int. No. 20    By Council Members Brannan, Mealy, Louis, Won and Restler    A Local Law to amend the administrative code of the city of New York, in relation to increasing penalties on chain businesses for failure to remove snow, ice and dirt from sidewalks    Be it enacted by the Council as follows:  Section 1. Chapter 1 of title 16 of the administrative code of the city of New York is amended by adding a new section 16-123.1 to read as follows:  §16-123.1 Increased penalties for chain businesses for failure to remove snow, ice and dirt from sidewalks. a. Definitions. For the purposes of this section, the following terms have the following meanings:  Chain business. The term “chain business” means any establishment that is part of a group of establishments that share a common owner or principal who owns at least thirty percent of each establishment where such establishments (i) engage in the same business or (ii) operate pursuant to franchise agreements with the same franchisor as defined in general business law section 681.  b. Notwithstanding the penalties contained in subdivision h of section 16-123, any chain business that violates the provisions of subdivisions a or b of section 16-123 shall be liable and responsible for a civil penalty of not less than $500 nor more than $1,000 for the first violation, except that for a second violation of either such subdivision within any 12-month period, such chain business shall be liable for a civil penalty of not less than $1,000 nor more than $3,000 and for a third or subsequent violation of either such subdivision within any 12-month period, such chain business shall be liable for a civil penalty of not less than $3,000 nor more than $5,000. Penalties for the violations mentioned herein shall be imposed in lieu of, not in addition to, those fixed by subdivision h of section 16-123.  § 2. This local law takes effect immediately.              Session 12  NAW  LS 899  1/14/2022 1:29 PM    Session 11  NJC  LS 5395.1  Int. 619-2018 |

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| Int. No. 100  By Council Members Brannan, Hudson, Lee, Yeger, Stevens, Richardson Jordan and Sanchez    A Local Law to amend the administrative code of the city of New York, in relation to exempting or partially exempting seniors and certain persons with disabilities from penalties for failing to remove snow or ice from sidewalks, crosswalks, curbs and other locations    Be it enacted by the Council as follows:    Section 1. Subdivision h of section 16-123 of the administrative code of the city of New York, as amended by local law number 1 for the year 2003, is amended to read as follows:  h. 1. Any person violating the provisions of subdivisions [(a)] a or [(b)] b of this section shall be liable and responsible for a civil penalty of not less than [ten dollars] $10  nor more than [one hundred fifty dollars] $150 for the first violation, except that for a second violation of subdivision [(a)]  a or [(b)] b within any [twelve-month] 12-month period such person shall be liable for a civil penalty of not less than [one hundred fifty dollars] $150 nor more than [two hundred fifty dollars] $250 and for a third or subsequent violation of subdivision [(a)] a or [(b)] b within any [twelve-month] 12-month period such person shall be liable for a civil penalty of not less than [two hundred fifty dollars] $250 nor more than [three hundred fifty dollars] $350.  2. Notwithstanding paragraph 1, the minimum and maximum civil penalties set forth in this subdivision shall be mitigated by 50 percent where such person establishes the following, to the satisfaction of the office of administrative trials and hearings or the court, as applicable:  (a) The person is at least 65 years old or has a disability that substantially interferes with the person’s ability to comply with subdivision a of this section, with such disability defined by rules promulgated by the department, in conjunction with the department of health and mental hygiene and the mayor’s office for people with disabilities; and  (b) The building or lot for which the notice of violation was issued is the person’s primary residence.  § 2. Chapter 1 of title 16 of the administrative code of the city of New York is amended by adding a new section 16-124.2 to read as follows:  § 16-124.2 Snow removal; assistance for seniors and certain persons with disabilities. No later than November 1, 2023, the commissioner shall establish a program, which may include contracting with not-for-profit organizations, for the removal of snow or ice from crosswalks, curb cuts, bus stops and other city property and from sidewalks and gutters abutting residential buildings, where (i) the owner, lessee, tenant, occupant or other person having charge of such building or lot is 65 years or older or has a disability that substantially interferes with such person’s ability to comply with subdivision a of section 16-123, as such disability is defined by rules that the department shall promulgate in conjunction with the department of health and mental hygiene and the mayor’s office for people with disabilities, and (ii) such person registers with the department for such program. The department, in conjunction with the department for the aging, the department of health and mental hygiene and the mayor’s office for people with disabilities, shall develop the procedure for registering for such program. Where snow is removed from curb cuts pursuant to such program, such removal shall provide for a cleared path of at least 40 inches in width to accommodate safe access, by wheelchair or other mobility device, between streets and sidewalks.  § 3. This local law takes effect immediately.        Session 12  NLB  LS #240  3/10/2022    Session 11  JCH/KS  LS #1196  Int. #234-2018 |

1. New York City Mayor’s Office of Operations. 2022 Mayor’s Management Report, page 133. <https://www.nyc.gov/assets/operations/downloads/pdf/mmr2022/2022_mmr.pdf> (last accessed 11/7/22) [↑](#footnote-ref-1)
2. *Id*. at 444. [↑](#footnote-ref-2)
3. *Id*. [↑](#footnote-ref-3)
4. *Id*. [↑](#footnote-ref-4)
5. Information provided by the Department of Sanitation by email on January 28, 2020 [↑](#footnote-ref-5)
6. Executive Order 53/2020, available at: https://www1.nyc.gov/assets/dcas/downloads/pdf/fleet/NYC-Mayoral-Executive-Order-EO-53-All-Electric-and-Safe-Fleets-of-the-Future.pdf  
   DSNY. Going Green. <https://www1.nyc.gov/assets/dsny/site/about/going-green> (last accessed 11/9/22) [↑](#footnote-ref-6)
7. David Sickels. Fleet Equipment Magazine. First Mack LR Electric Truck begins service with DSNY. September, 2020. <https://www.fleetequipmentmag.com/first-mack-lr-electric-truck-dsny/> (last accessed 11/9/22) [↑](#footnote-ref-7)
8. Shelley Mika. What happens when refuse collection goes electric? Government Fleet. March, 2021. <https://www.government-fleet.com/10162366/what-happens-when-refuse-collection-goes-electric> (last accessed 11/10/22) [↑](#footnote-ref-8)
9. Id. [↑](#footnote-ref-9)
10. Id. [↑](#footnote-ref-10)
11. Id. [↑](#footnote-ref-11)
12. Mack press release. New York City Department of Sanitation to Purchase Seven Mack® LR Electric models. <https://www.macktrucks.com/mack-news/2021/new-york-city-department-of-sanitation-to-purchase-seven-mack-lr-electric-models/> (last accessed 11/9/22) [↑](#footnote-ref-12)
13. Mack Trucks. LR Electric Specs. <https://www.macktrucks.com/trucks/lr-electric/specs/> (last accessed 11/9/22) [↑](#footnote-ref-13)
14. Liz Robbins “After Blizzard Ends, A Slow Recovery” NY Times, December 26, 2010. [↑](#footnote-ref-14)
15. *See* National Weather Service, Forecast Office New York, NY, “Preliminary Data Report; New York City Blizzard of December 26-27, 2010 (January 2011). Copies of preliminary report available with Committee staff. [↑](#footnote-ref-15)
16. *E.g.*, Sarah Kugler Frazier “Buses, Ambulances Stuck in Unplowed NY Streets” Huffington Post, December 28, 2010. [↑](#footnote-ref-16)
17. *Id*; Robbins, *supra* at n. 1. [↑](#footnote-ref-17)
18. *Id*; Sharon Otterman and Al Baker “With Ambulances Stuck in Snow, City Resorted to Triage” NY Times, December 28, 2010. [↑](#footnote-ref-18)
19. Sharon Otterman “’It Was Hell: Dispatchers Tell of Flood of 911 Calls During Storm” NY Times, December 30, 2010. [↑](#footnote-ref-19)
20. Jim O’Grady “Claim: MTA’s Technical, Supervisory Failures Led to 600 Snowbound Buses” WNYC Transportation Nation, December 30, 2010. [↑](#footnote-ref-20)
21. John Davitt, NY1, This winter was an easy one for New Yorkers (March 21, 2022), available at <https://www.ny1.com/nyc/all-boroughs/weather/2022/03/17/winter-2021-22-summary--snow-was-a-no-show-->. [↑](#footnote-ref-21)
22. *Id.* [↑](#footnote-ref-22)
23. See September 30, 2022 Transmittal Letter from Commissioner Jessica Tisch to Council Speaker Adrienne Adams [↑](#footnote-ref-23)
24. 2022-2023 Draft Snow Plan for the Borough of Queens [↑](#footnote-ref-24)
25. 2022-2023 Draft Snow Plan for the Borough of Manhattan, at 1. [↑](#footnote-ref-25)
26. *Id.* at 2. [↑](#footnote-ref-26)
27. 2022-2023 Draft Snow Plan for the Borough of Queens, at 3-4. [↑](#footnote-ref-27)
28. *Id*. at 4. [↑](#footnote-ref-28)
29. *Id.* at 5. [↑](#footnote-ref-29)
30. *Id.* at 4. [↑](#footnote-ref-30)
31. *Id.* [↑](#footnote-ref-31)
32. *Id*. at 5. [↑](#footnote-ref-32)
33. *Id*. at 6. [↑](#footnote-ref-33)
34. *Id.* at 7 [↑](#footnote-ref-34)
35. *Id*. at 6-7 [↑](#footnote-ref-35)
36. 2017-2018 Snow Plan for the Borough of Queens at 7. [↑](#footnote-ref-36)
37. 2019-2020 Draft Snow Plan for the Borough of Queens at 7. [↑](#footnote-ref-37)
38. *Id.* at 7. [↑](#footnote-ref-38)
39. *Id.* at 8. [↑](#footnote-ref-39)
40. *Id.*  [↑](#footnote-ref-40)
41. *Id.* [↑](#footnote-ref-41)
42. *Id.* [↑](#footnote-ref-42)
43. *Id.* [↑](#footnote-ref-43)
44. *Id*. at 9. [↑](#footnote-ref-44)
45. *Id.* [↑](#footnote-ref-45)
46. *Id.* [↑](#footnote-ref-46)
47. *Id.* [↑](#footnote-ref-47)
48. *Id.* at 10*.* [↑](#footnote-ref-48)
49. *Id.* [↑](#footnote-ref-49)