

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

The Honorable Richard A. Jones

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

STATE OF WASHINGTON, CITIZENS
OF THE EBEL'S RESERVE FOR A
HEALTHY, SAFE AND PEACEFUL
ENVIRONMENT; and
PAULA SPINA,

Plaintiffs,

v.

UNITED STATES DEPARTMENT OF
THE NAVY, et al.,

Defendants.

NO. 2:19-cv-01062-RAJ-JRC

DECLARATION OF

[REDACTED]

DECLARATION OF [REDACTED]

Pursuant to 28 USC § 1746, and under penalty of perjury, I, [REDACTED] declare as follows:

1. My name is [REDACTED] I am an advanced practice nurse in community health systems with a special focus in occupational and environmental health. I have been practicing for over thirty years and I am board certified as an occupational health nurse specialist.

1 2. I own a business firm in Seattle that supports companies in their health and safety
2 compliance. Additionally, the company collaborates with local and national organizations and
3 agencies to pass legislation that supports human and environmental health.

4 3. I am a national speaker on occupational and environmental health issues. My CV is
5 attached as Exhibit A.

6 4. In 2015, I was asked to research the health effects of aircraft noise on adult health.
7 The literature that I reviewed included 40 articles, the JGL Acoustics Whidbey Island Military Jet
8 Noise Measurements (2013) and citizen surveys from community members around Coupeville,
9 Washington. The data consistently revealed that, globally, people suffer grave health effects from
10 the constant noise associated with commercial aircraft and, in particular, military aircraft and, more
11 specifically, low flying military aircraft. The effects include disruption of activities of daily living
12 (ADL), sleep disturbance, noise induced hearing loss (NIHL), stress, and severe cardiac problems.
13 Cardiopulmonary effects range from elevation in blood pressure and heart rate, atherosclerosis to
14 myocardial infarction and death. Cited rationale with associated health effects are below.

15 5. The EA-18G jet aircraft noise far exceeds noise regulations set by the state (Chapter
16 70.107 RCW (Noise Control Act); chapter 173-60 Washington Administrative Code (noise control
17 regulations)). The maximum noise in a residential setting shall be no greater than *55dBA* and from
18 10pm–7am the maximum noise level is *45dBA* (Washington Administrative Code). The 2013 JGL
19 noise report measured maximum noise levels at each of five locations ranging from 81.1 dBA to
20 119.2 dBA (JGL, 2013 at Table 1), well above the maximum noise level set out in the Washington
21 Administrative Code at WAC 173-60-040. While noise from military jets may be exempt from this
22 regulation, the health effects are still present. Noise at this level is harmful whether emanating from
23 a regulated loudspeaker or an unregulated jet engine.
24
25
26

1 6. It is distressing to review the JGL Whidbey Island Military Jet Noise Study because
2 many of these locations are right where men, women and children conduct their activities of daily
3 living. For example, position (5) in the study was inside a resident's home where she has to endure
4 a dBA of 81 decibels. Another location, the Rhododendron Park Baseball Field (where children
5 play baseball) measured at 114.3 dBA over a 36 minute period. We know children who are exposed
6 to loud noise in childhood have increased risk for noise-induced hearing loss as adults (Hong,
7 2013). Position (3) Rose Hip Farms' level was 115.7 dBA over 45 minutes.

9 7. We know that the EA-18G Field Carrier Landing Practice (FCLP) continues for
10 hours. The Occupational Safety and Health Act (OSHA) and subsequently the Washington State
11 Department of Labor and Industry requires the implementation of a Hearing Conservation Program,
12 as an administrative control, when employees are subjected to noise at or equal to 85dBA with an
13 8 hour Time Weighted Average (TWA), along with requiring employees to be trained in hearing
14 conservation and how to don and doff hearing protection. At 90 dBA with a TWA of 8 hours,
15 engineering controls are required (Washington State Department of Labor and Industries Hearing
16 Loss Prevention Program). At 110 dBA maximum exposure is 1 minute 29 seconds. Continued
17 exposure over time at 85 dBA will cause hearing damage. At 140 dBA, one exposure may cause
18 permanent damage and pain (Center for Hearing and Communication). The Growler noise at all
19 five measured locations in the JGL study has the potential to cause human health harm. As stated
20 in the February 24, 2017 letter from the Washington Department of Health to the Navy at pg. 1:
21 "Current scientific literature suggests that noise at levels similar to those reported on Whidbey
22 Island is associated with annoyance, sleep disturbance, cognitive impairment, and adverse
23 cardiovascular outcomes[.]" Furthermore, the JGL maximum sound levels are well above the levels
24 requiring hearing protection and are high enough to potentially result in permanent hearing loss.

1 8. There is robust data correlating coronary vascular disease, including increases in
2 blood pressure and myocardial infarction (heart attacks), to aircraft noise. This is directly related
3 to sleep disruption at night which creates a cascading effect of stress hormones, specifically
4 cortisol. The reason for this is because hearing is 10 times more sensitive than eyesight and it is the
5 primary sense that conveys danger. Unlike the human eye that has a lid to stop visual sensation,
6 the ear cannot shut itself off from hearing which creates a significant problem when people are
7 trying to sleep at night. Exposed citizens are constantly in a state of vigil as they try to sleep. In a
8 2010 study conducted by Anke Huss, et al, "*Aircraft Noise, Air Pollution, and Mortality from*
9 *Myocardial Infarction,*" the researchers conclude that "Aircraft noise was associated with mortality
10 from myocardial infarction, with a dose-response relationship for level and duration of exposure,
11 meaning, more flights and longer exposures equals increased cardiac events[,]" and as previously
12 stated in this document, myocardial infarction is the primary cardiac condition associated with
13 exposure to this hazard.
14

15
16 9. There is a statistically significant relationship between aircraft noise and higher
17 relative rate for hospitalizations (heart failure, ischemic heart disease, and peripheral vascular
18 disease) of people 65 years old and older living near airports (Correia, et al, 2013, pg. 5).

19 10. Aircraft noise significantly increases sleeping problems (Boes, 2013). There is a
20 growing amount of data linking short sleep duration or sleep disruption of various kinds to the
21 development of cardiovascular disease and other conditions negatively affecting the cardiovascular
22 system, and chronic exposure may predispose an individual to hypertension (Schmidt, et al, 2013,
23 pg. 3512–3513).
24

25 11. There is a higher prevalence of hypertension with increasing exposure to night time
26 aircraft noise exposure. "Physical characteristics of military low-altitude flight noise are different

1 in terms of other aircraft flight noise; the extremely high maximal sound level and the very rapid
2 increase in sound level during direct over-flights.” (Jarup, Babisch, et al, 2008). Low altitude
3 overflight noise is associated with cardiovascular disease and sleep disturbances even during quiet
4 nights (Hartmut, Rebentisch, Poustka, & Curio, 1990).

5
6 12. Qualitative general health measure surveys of neighborhoods around commercial
7 aircraft airports consistently display the same poor health indicators and outcomes as the Citizens
8 of Ebey’s Reserve’s qualitative health effects surveys. Additionally, the greater the severity of
9 noise, ranked by loudness and frequency, the worse the health measures were (Meister, 2000).

10 13. Multiple studies suggest a link between residents who live around airports and
11 metabolic syndrome which includes body mass index, waist circumference, type 2 diabetes, cardiac
12 disease such as hypertension, and increased triglycerides (Eriksson, 2014). This makes sense given
13 that sleep disturbance and increased cortisol levels are consistent findings in these individuals
14 (Swift, 2010). This not only causes pain and suffering of citizens but also creates a financial burden.
15 A 2009 study quantifying health care utilization and the economic costs of metabolic syndrome in
16 Washington State found that study participants with metabolic syndrome had a higher rate of health
17 care utilization and costs compared to non-metabolic disorder subjects. The average annual total
18 costs between subjects with metabolic syndrome versus no metabolic syndrome were \$5,732 and
19 \$3,581 respectively—a difference of \$2,151. (Boudreau, 2009).

20
21
22 14. I have continued to research the health effects of chronic aircraft noise exposure on
23 human health, specifically cardiac health. The actual mechanism of action has been unclear but
24 through new research conducted by Drs. Osborne, Azar Radfar and others in “*A Neurobiological*
25 *Mechanism Linking Transportation Noise to Cardiovascular Disease in Humans*” we now
26 understand the link between noise exposure and major cardiac diseases. The study analyzed the

1 relationship between ambient noise and cardiac events like heart attacks and stroke among 499
 2 individuals that had no cardiac issues prior to the study. The study analyzed images of brain and
 3 blood vessel health. Imaging assessed the activity of the amygdala, an area of the brain involved
 4 with stress regulation and emotional response (AHA, 2018). New insights into the biology of
 5 cardiac disease stemming from noise exposure show that people with the greatest noise exposure
 6 suffer higher levels of amygdalar activity and more inflammation in their arteries.
 7

8 15. "Researchers evaluated and reviewed medical records of the participants and of the
 9 499 study participants, 40 individuals experienced a cardiovascular event such as myocardial
 10 infarction and stroke in the five years following the initial testing." (AHA, 2018). This study further
 11 articulates the serious cardiac health effects associated with chronic noise exposure. Increased
 12 stress leads to increased cardiac events. I have attached the 2018 study "*A Neurobiological*
 13 *Mechanism Linking Transportation Noise to Cardiovascular Disease in Humans*" as Exhibit B and
 14 a complete citation appears below:
 15

16 Osborne, M., Radfar, A., Hassan, M., Abohashem, S., Oberfeld, B.,
 17 Patrich, T., Tung, B., Y. Wang, Ishai, A., Scott, J., Shin, L., Fayad,
 18 Z., Koenen, K., Rajagopalan, S., Pitman, R., and Tawakol, A. A
 19 neurobiological mechanism linking transportation noise to
 cardiovascular disease in humans. *European Heart Journal* (2019), 0,
 1-11, doi. 10.1093/euroheartj/ehz820.

20 American Heart Association, Public Release (5, Nov 2018). Chronic
 21 exposure to excess noise may increase risk for heart disease, stroke.
 22 American Heart Association Meeting Report=Poster presentation
 Su1287, Session: PR.APS.02.
 23 [https://www.eurekalert.org/pub_releases/2018-11/aha-
 cet102618.php](https://www.eurekalert.org/pub_releases/2018-11/aha-cet102618.php)

24 16. It is my professional opinion that the citizens around OLF Coupeville have
 25 increased risk of cardiac disease, specifically myocardial infarction from the frequent noise
 26 exposure from the EA-18G Growler jet aircraft field carrier landing practice (FCLP) operations at

1 OLF Coupeville. The number of FCLP operations has greatly increased since the March 2019
2 Record of Decision, with a corresponding increase in the health risks faced by the citizens near the
3 OLF. The nighttime, sleep-disturbing FCLP operations seriously exacerbate the stress reaction.
4 This sleep-disturbance, especially combined with the frequent daytime disruptions, can cause the
5 cascade of health effects listed above. Nighttime operations have also greatly increased since the
6 March 2019 Record of Decision.
7

8 17. It is my opinion that the OLF Coupeville should be closed and relocated to a safe
9 and more remote location away from such heavily populated areas. No public health official armed
10 with the information and health statistics surrounding this blatant disregard for citizen health and
11 rights would think differently.
12

13 I declare under penalty of perjury that the foregoing is true and correct.

14 Executed on this 7th day of February, 2020, in Seattle Washington.

15 
16  MN, RN, COTN-S

17
18
19
20
21
22
23
24
25
26