

SERVED: June 16, 2023

NTSB Order No. EA-5955

UNITED STATES OF AMERICA  
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD  
at its office in Washington, D.C.  
on 14<sup>th</sup> day of June, 2023

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|----------------------------------|---|-----------------|
| _____                            | ) |                 |
| POLLY TROTTENBERG, <sup>1</sup>  | ) |                 |
| Acting Administrator,            | ) |                 |
| Federal Aviation Administration, | ) |                 |
|                                  | ) |                 |
| Complainant,                     | ) |                 |
|                                  | ) |                 |
| v.                               | ) | Docket SE-30109 |
|                                  | ) |                 |
| FOREST M. KIRST,                 | ) |                 |
|                                  | ) |                 |
| Respondent.                      | ) |                 |
|                                  | ) |                 |
| _____                            | ) |                 |

**OPINION AND ORDER**

***I. Background***

Respondent appeals the oral initial decision of Administrative Law Judge Alfonso Montaña, issued on September 2, 2016.<sup>2</sup> By that decision, the law judge affirmed the Administrator’s emergency revocation<sup>3</sup> of respondent’s commercial pilot certificate with the airplane single engine land, airplane single engine sea, and instrument ratings based on

<sup>1</sup> The original caption for this matter was Michael P. Huerta, Administrator, Federal Aviation Administration v. Forest M. Kirst.

<sup>2</sup> A copy of the initial decision, an excerpt from the hearing transcript, is attached.

<sup>3</sup> Respondent waived the emergency procedures in this case on January 5, 2016. Tr. at 13.

respondent's alleged violations of 14 C.F.R. §§ 61.2(a)(1),<sup>4</sup> 61.3(a)(1),<sup>5</sup> 91.13(a),<sup>6</sup> and 135.203(a)(1).<sup>7</sup> For the reasons set forth below, we deny respondent's appeal and affirm the law judge's decision.

**A. Facts**

In 2014, respondent owned Kirst Aviation, where he provided Part 91 tours and part 135 air taxi services in his Ryan Navion A N4827K ("Navion").<sup>8</sup> Respondent operated Kirst Aviation out of the Arctic Aviation's hangar, a business owned by Frederick Distad.<sup>9</sup> In August 2014, Daphne McCann and Marcene Nason, who are sisters, and Darrell Spencer, their brother-in-law, were in Alaska on a family vacation with their spouses.<sup>10</sup> Mr. Spencer hired respondent to fly him, Ms. McCann, and Ms. Nason to photograph polar bears in Deadhorse, Alaska, on August 24, 2014 ("August 2014 flight").<sup>11</sup> That day was clear and sunny with no or low-to-variable winds.<sup>12</sup> Respondent picked up the three passengers from their hotel room in Fairbanks and

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<sup>4</sup> Section 61.2(a)(1) prohibits exercise of privileges of a certificate, rating, endorsement, or authorization issued under 14 C.F.R. Part 61 if the certificate, rating, or authorization is surrendered, suspended, revoked, or expired.

<sup>5</sup> Section 61.3(a)(1) prohibits any person from serving as a required pilot flight crewmember of a civil aircraft of the United States without having in physical possession or readily accessible in the aircraft a pilot certificate issued under 14 C.F.R. Part 61 and in accordance with 14 C.F.R. § 61.19; a special purpose pilot authorization issued under 14 C.F.R. § 61.77; a temporary certificate issued under 14 C.F.R. § 61.17; or a document conveying temporary authority to exercise certificate privileges issued by the Administrator's Airman Certification Branch under 14 C.F.R. § 61.29(e).

<sup>6</sup> Section 91.13(a) prohibits operation of an aircraft in a careless or reckless manner so as to endanger the life or property of another.

<sup>7</sup> Section 135.203(a)(1) prohibits operation, except when necessary for takeoff and landing, of an airplane under visual flight rules during the day below 500 feet above the surface or less than 500 feet horizontally from any obstacle.

<sup>8</sup> Tr. at 1095.

<sup>9</sup> *Id.* at 314-15.

<sup>10</sup> *Id.* at 501-03, 520; Exh. A-34 at 5.

<sup>11</sup> Tr. at 447, 502; Exh. A-34 at 5-6, 19.

<sup>12</sup> Tr. at 55, 82, 126-27, 176-77, 216, 238, 520, 707-71, 1103-04, 1130; Exh. A-34 at 22.

drove them to Fairbanks Airport for their flight.<sup>13</sup> At approximately 10:00 a.m., respondent and the three passengers departed from Fairbanks in respondent's Navion, which had a Garmin GPSMAP 196 ("Garmin 196") device.<sup>14</sup> The Garmin 196's pilot's guide warns against using the device "for any purpose requiring precise measurement of direction, distance, location, or topography...[or] to determine ground proximity for aircraft navigation."<sup>15</sup>

The Navion flew from Fairbanks to Bettles, where it made a short, uneventful stop, and then took off from Bettles towards Deadhorse.<sup>16</sup> After the take-off from Bettles, the Navion circled around a lake, which was located near Dalton Highway and the Alyeska Pipeline.<sup>17</sup> The Navion then flew over Chandalar Shelf and headed in a northerly direction towards Atigun Pass, an area described in the FAA's Fairbanks Sectional Aeronautical Chart as a "rapidly rising terrain."<sup>18</sup> Shortly after entering Atigun Pass, the Navion crashed into the side of the mountain below Dalton Highway and above the pipeline access road.<sup>19</sup>

At the time of the crash, Timothy Fickus was working at the Chandalar Shelf Maintenance Station six miles away from Atigun Pass; and Matthew Gleaves, Steve Hayden, Vincent Fantazzi, and Adrian Torrez were performing maintenance on the Alyeska Pipeline near the pipeline access road in the Atigun Pass valley.<sup>20</sup> Mr. Gleaves, Mr. Fantazzi, and Mr. Torrez reported the accident and evacuated respondent and the passengers from the Navion with Mr. Fickus's help.<sup>21</sup> As a result of the accident, respondent and two of the passengers suffered serious

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<sup>13</sup> Tr. at 502-03, 520-21; Exh. A-34 at 6-7.

<sup>14</sup> Tr. at 169-70, 187-89.

<sup>15</sup> Exh. R-2 at 7.

<sup>16</sup> Tr. at 450; Exh. A-47.

<sup>17</sup> Tr. at 465, 507-11; Exh. A-34 at 12-13; Exh. A-35 at 5, 8-9; Exh. A-48.

<sup>18</sup> Exhs. A-10 at 3, A-46, A-49, A-50.

<sup>19</sup> Exh. A-4 at 3-4.

<sup>20</sup> Tr. at 43-44, 47, 50, 108-09, 123-24, 139-40, 144, 211, 221-24, 266.

<sup>21</sup> *Id.* at 68, 72, 74-75, 143, 146-48, 152, 217.

injuries, and Mr. Spencer passed away a month and a half later.<sup>22</sup>

The NTSB and the FAA launched investigations into the cause of accident.<sup>23</sup> Officer Scott Lanier, an Alaska Wildlife Trooper, responded to the scene of the accident, where he seized the Garmin 196 for evidentiary value and transferred it to NTSB in September 2014.<sup>24</sup> In November 2014, the NTSB sent the Garmin 196 to Mr. Distad, who immediately transferred the device to the FAA.<sup>25</sup> The FAA's forensic analysis of the Garmin 196's data showed that respondent operated the Navion at an altitude of below 500 feet above ground level (AGL) during numerous points in the flight between Bettles and the accident location in the Atigun Pass mountains.<sup>26</sup> This data prompted the FAA to pursue the present certificate action.

Because the investigation revealed a missing propeller blade, the propeller hub was disassembled and tested.<sup>27</sup> Hartzell Propeller, Inc. ("Hartzell") manufactured the propeller, and Ottosen Propeller ("Ottosen") sold it to respondent in 2011 as overhauled.<sup>28</sup> The metallurgical testing of the propeller by American Testing Services, Ltd. found tensile overload of a ductile material in the propeller clamp and no evidence of fatigue cracking or corrosion.<sup>29</sup> The testing by Hartzell found that the propeller damage was caused by the impact with the ground.<sup>30</sup>

### ***B. Procedural History***

On February 23, 2015, the Administrator issued an order revoking respondent's mechanic certificate. On December 11, 2015, the Administrator issued an amended order of revocation and

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<sup>22</sup> *Id.* at 429, 432.

<sup>23</sup> *Id.* at 347.

<sup>24</sup> *Id.* at 169-70, 298.

<sup>25</sup> *Id.* at 339; Exh. A-14; Exh. A-15 at 1, 3-4.

<sup>26</sup> Exh. A-16 at 12-22.

<sup>27</sup> Tr. at 591.

<sup>28</sup> *Id.* at 1230-31.

<sup>29</sup> Exh. R-95 at 1.

<sup>30</sup> Exh. R-78 at 1.

declaration of emergency, alleging respondent lacked qualification to hold his commercial pilot certificate and requesting respondent to immediately surrender his certificate. On December 21, 2015, respondent served as a pilot in command of a Cessna on a flight from Fairbanks, Alaska, to deliver propane tanks.<sup>31</sup> On December 24, 2015, the Administrator filed a second amended emergency order of revocation, which became the complaint in this case and formed the basis for the hearing in this matter. The complaint alleged respondent violated 14 C.F.R. §§ 91.13(a) and 135.203(a)(1) when, under the rules of 14 C.F.R. Part 135, respondent piloted the Navion in August 2014 in a careless or reckless manner at an altitude of less than 500 feet AGL.<sup>32</sup> The complaint also alleged respondent violated 14 C.F.R. §§ 61.2(a)(1) and 61.3(a)(1) for piloting the Cessna in December 2015 without a valid pilot certificate or authorization.<sup>33</sup>

Respondent timely filed his answer to the complaint on December 29, 2015, admitting that he piloted the Navion in August 2014 but denying that he did so under 14 C.F.R. Part 135 or that he did so in a careless or reckless manner at an altitude of less than 500 feet AGL.<sup>34</sup> Respondent admitted that he received the emergency order of revocation on December 11, 2015, and that he piloted the Cessna on December 21, 2015, but denied that he did not have a valid pilot certificate or authorization during this flight.<sup>35</sup>

The law judge conducted a hearing on April 25-29, 2016, and on June 15-16, 2016. At the hearing, the Administrator and respondent read into the record respondent's deposition from March 2016 and Ms. McCann's deposition from April 2016. The Administrator submitted into evidence Ms. Nason's deposition from April 2016 and called as witnesses: Mr. Gleaves, Mr.

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<sup>31</sup> Second Amended Compl. ¶ 20; Answer to Second Amended Compl. ¶ 1; Tr. at 1268.

<sup>32</sup> Second Amended Compl. ¶¶ 2-15.

<sup>33</sup> *Id.* ¶¶ 16-20.

<sup>34</sup> Answer to Second Amended Compl. ¶¶ 1-2.

<sup>35</sup> *Id.* ¶¶ 1-2.

Fantazzi, Mr. Torrez, and Mr. Hayden, employees of Houston Contracting Company; Mr. Fickus, a private pilot and an equipment operator at the Chandalar Shelf Maintenance Station; Officer Lanier, an Alaska Wildlife Trooper; Mr. Distad, owner of Arctic Aviation; Richard Ebert, a Front-Line Manager in the FAA's Fairbanks Flight Standards District Office (FSDO); Christopher Farnell, an FAA Operations Inspector; Jason Major and Bradford Sipperley, Aviation Safety Inspectors with the Fairbanks FSDO; and Roger Motzko, Forensic Safety Technical Analyst with the FAA's Air Traffic Organization. Respondent testified on his own behalf and called as witnesses: Robert Grediagin, respondent's friend; Tracey Kirst, respondent's spouse; and David Sperbeck, Ph.D., a clinical neurologist. The law judge issued an oral initial decision on September 2, 2016. Respondent timely appealed and filed a brief on November 23, 2016. The Administrator filed a reply brief on January 23, 2017.

*1. Deposition of Daphne McCann*

Ms. McCann testified that during the August 2014 flight, she and Ms. Nason sat in the back of the Navion and wore lap belts, and Mr. Spencer sat in the front next to respondent and wore a shoulder harness.<sup>36</sup> She indicated that during the flight from Bettles to Deadhorse, respondent made two circles around a lake so that the passengers could take good photographs of a moose standing in the lake.<sup>37</sup> She stated that she had a video camera and that Ms. Nason and Mr. Spencer had photography cameras with large lenses.<sup>38</sup> She stated that after circling the lake, respondent leveled the airplane and resumed more altitude.<sup>39</sup> She denied the altitude was too low, but felt they "were definitely closer to the ground than some other airplanes would be."<sup>40</sup> She

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<sup>36</sup> Tr. at 506, 522.

<sup>37</sup> *Id.* at 507-11.

<sup>38</sup> *Id.* at 512, 546.

<sup>39</sup> *Id.* at 513.

<sup>40</sup> *Id.* at 524-25, 545.

indicated that she soon began feeling motion sick and took Mr. Spencer's medication Gravol.<sup>41</sup> She stated she did not have any side effects from Gravol, and that Mr. Spencer did not take it.<sup>42</sup> She indicated that, approximately ten minutes later, when they were three quarters of the way to the Atigun Pass summit, the Navion banked to the right and she felt a downward thrust of an air pocket and a sensation of going down.<sup>43</sup> She denied feeling vibrations or shaking or witnessing Mr. Spencer falling over the controls.<sup>44</sup> She stated that she next recalled being on the ground and realizing they had crashed.<sup>45</sup>

## 2. *Deposition of Marcene Nason*

Ms. Nason testified that during the flight from Bettles, the passengers noticed a moose standing in a lake, and respondent offered to circle around it for good photographs.<sup>46</sup> She explained that she was a novice and took photographs as a hobby; that Mr. Spencer engaged in photography while traveling, including publishing photography books, but was not a professional photographer; and that Ms. McCann had a small digital camera that could record videos.<sup>47</sup> Ms. Nason admitted taking Gravol but denied having side effects, and did not recall if Mr. Spencer took it.<sup>48</sup> Ms. Nason testified that as the Navion approached the mountains, Mr. Spencer asked if there would be anything on the side of the mountains, and respondent answered that "normally, [they] fly over the mountains, but [they] can go through them for [Mr. Spencer]."<sup>49</sup> Ms. Nason

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<sup>41</sup> *Id.* at 513, 526-27. Gravol is a Canadian version of over-the-counter motion sickness medication Dramamine. *Id.* at 580-81, 725.

<sup>42</sup> *Id.* at 530-32, 547.

<sup>43</sup> *Id.* at 512-14, 533-35, 537-38.

<sup>44</sup> *Id.* at 506, 514-16.

<sup>45</sup> *Id.* at 513-14, 516.

<sup>46</sup> Exh. A-34 at 12-13, 20.

<sup>47</sup> *Id.* at 14, 19-20.

<sup>48</sup> *Id.* at 25-26.

<sup>49</sup> *Id.* at 14-15, 27.

stated that she felt nervous and was not enjoying this portion of the flight because she continuously felt “jarring” air pockets and because the Navion seemed too close to the mountain, “almost going through [it].”<sup>50</sup> She stated she could see the terrain on both sides of the wings and doubted respondent’s piloting abilities.<sup>51</sup> Ms. Nason indicated that her last memory before the crash was seeing rocks and trees on both sides of the airplane.<sup>52</sup> She did not recall respondent making a turn, feeling any unusual vibrations, or seeing Mr. Spencer slumped over the controls.<sup>53</sup>

### *3. Testimony of Matthew Gleaves*

Mr. Gleaves testified that Atigun Pass terrain is very steep, rugged, drastically changing, and deceptive, in that what looks close is actually far away.<sup>54</sup> He testified that around 12:40 p.m. on August 24, 2014, he and Mr. Hayden drove south on the access road in the Atigun Pass valley when they heard a loud noise from the Navion, which was flying north towards the summit.<sup>55</sup> He stated that he previously observed one-to-three airplanes flying in this area daily, but noted that the Navion’s noise was louder than those airplanes and that the Navion seemed to be flying through Atigun Pass, not over it, like the other airplanes.<sup>56</sup>

Mr. Gleaves testified he soon learned that the Navion had crashed, notified his employer, and drove up Dalton Highway to the crash site.<sup>57</sup> He stated that he got down to the Navion by jumping and traversing down due to the steepness of the hill, secured the Navion with his coworkers’ help, and pulled out respondent and the passengers.<sup>58</sup> He stated that respondent and

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<sup>50</sup> *Id.* at 16, 26, 29-30.

<sup>51</sup> *Id.* at 26, 33-34.

<sup>52</sup> *Id.* at 15.

<sup>53</sup> *Id.* at 29.

<sup>54</sup> Tr. at 49-50, 69, 84, 100.

<sup>55</sup> *Id.* at 56-57.

<sup>56</sup> *Id.* at 56-57, 83-84, 91.

<sup>57</sup> *Id.* at 59, 60-61, 68.

<sup>58</sup> *Id.* at 68-69, 72, 74-75.



the passengers were injured but awake and responsive.<sup>59</sup> Mr. Gleaves indicated that the first thing respondent said after being rescued was, “There goes my business,” which surprised Mr. Gleaves because respondent’s first thought was not about the wellbeing of his passengers.<sup>60</sup> Mr. Gleaves also indicated that Mr. Spencer wore a shoulder harness, which Mr. Gleaves had to unbuckle, pull up, and help Mr. Spencer remove from both shoulders.<sup>61</sup> Mr. Gleaves denied the shoulder harness was loose.<sup>62</sup> He admitted not mentioning respondent’s utterance or Mr. Spencer’s shoulder harness in the written statements made to the FAA subsequent to the rescue, but explained that he also did not mention other details, such as taking off Ms. McCann’s and Ms. Nason’s lap belts.<sup>63</sup> Mr. Gleaves denied returning to the accident site to search for the missing propeller blade, explaining that the mountain side was too dangerous.<sup>64</sup>

#### *4. Testimony of Steve Hayden*

Mr. Hayden testified that in the six days of his work in the Atigun Pass area before August 24, 2014, he observed three or four aircraft circling around and flying to the left of Dalton Highway.<sup>65</sup> On cross-examination, he indicated that only one of these airplanes flew north.<sup>66</sup> He stated that Dalton Highway ran 800-1,000 feet above the access road, and the mountain side between them was hilly, steep, and rocky.<sup>67</sup> Mr. Hayden testified that between 1:15 p.m. and 1:30 p.m. on August 24, 2014, as Mr. Hayden and Mr. Gleaves were driving south on the access road, Mr. Hayden heard the sound of the Navion’s engine and observed it flying

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<sup>59</sup> *Id.* at 68-70.

<sup>60</sup> *Id.* at 75, 77-78.

<sup>61</sup> *Id.* at 76, 90.

<sup>62</sup> *Id.* at 77.

<sup>63</sup> *Id.* at 89-91.

<sup>64</sup> *Id.* at 84-87, 94-95, 97, 100-01.

<sup>65</sup> *Id.* at 108-09, 112-13, 120-24.

<sup>66</sup> *Id.* at 125.

<sup>67</sup> *Id.* at 111.

over him at an altitude of 500-800 feet AGL, below Dalton Highway and lower than the other airplanes he had previously seen.<sup>68</sup> Mr. Hayden denied seeing the Navion make a turn or that the Navion was out-of-control or shaking.<sup>69</sup> Mr. Hayden explained that he did not mention the Navion's altitude in his written statement to the FAA because he recalled more details with time.<sup>70</sup>

#### 5. *Testimony of Vincent Fantazzi*

Mr. Fantazzi testified that on August 24, 2014, he and Mr. Torrez were parked at the bottom of the access road when they observed the Navion hit the side of the mountain with its underside, slide down a bit, and then come to an abrupt stop.<sup>71</sup> Mr. Fantazzi denied hearing any noise prior to the crash.<sup>72</sup> Mr. Fantazzi stated that he ran towards the accident site, where he helped remove Navion's canopy and the seatbelts with respondent's instructions and pull respondent and the passengers out.<sup>73</sup> Mr. Fantazzi did not recall if Mr. Spencer wore a shoulder harness.<sup>74</sup> Mr. Fantazzi testified that respondent repeated, "What happened, what happened, I just don't know what happened;" "did I come in too low, I don't know;" and "there goes my business, there goes my insurance."<sup>75</sup> Mr. Fantazzi did not get the sense that respondent was not interested in the welfare of the passengers, noting that respondent gave helpful instructions.<sup>76</sup>

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<sup>68</sup> *Id.* at 115-16, 118, 120-121, 126-27, 130-31, 137.

<sup>69</sup> *Id.* at 121-22.

<sup>70</sup> *Id.* at 133-34.

<sup>71</sup> *Id.* at 143-44, 151-152.

<sup>72</sup> *Id.* at 143, 151-52.

<sup>73</sup> *Id.* at 143, 146-48, 152.

<sup>74</sup> *Id.* at 152, 154.

<sup>75</sup> *Id.* at 148-49, 157.

<sup>76</sup> *Id.* at 152, 154.

### 6. *Testimony of Adrian Torrez*

Mr. Torrez testified that on August 24, 2014, he and Mr. Fantazzi were in their work truck when Mr. Torrez heard a very loud, full-throttle aircraft.<sup>77</sup> He stated that he then saw the Navion flying in a controlled manner but much lower than other aircraft he had previously seen in the area.<sup>78</sup> He stated that approximately ten seconds later, he observed the Navion awkwardly landing onto the side of the mountain and then sliding a bit before coming to a stop; the Navion did not seem to violently crash.<sup>79</sup> He indicated that he reported the crash to his employer and went up to the crash site, where he helped Mr. Gleaves and others pull respondent and the passengers to safety.<sup>80</sup> He stated that Mr. Spencer wore a shoulder harness.<sup>81</sup>

### 7. *Testimony of Timothy Fickus*

Mr. Fickus testified that he had flown over Atigun Pass a dozen times.<sup>82</sup> He stated that Chandalar Shelf is a rapidly rising terrain with a 1500-foot climb from the base to the top.<sup>83</sup> He testified that on August 24, 2014, he was driving north on Dalton Highway and was two-thirds to the top of Chandalar Shelf when he heard a loud aircraft sound and saw the Navion flying north at an altitude of 300 feet overhead and 100 feet above the top of Chandalar Shelf.<sup>84</sup> Mr. Fickus indicated that this low altitude was unlike that of many other aircraft he had previously seen

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<sup>77</sup> *Id.* at 212.

<sup>78</sup> *Id.* at 212-17.

<sup>79</sup> *Id.* at 212-17.

<sup>80</sup> *Id.* at 217.

<sup>81</sup> *Id.* at 217-18.

<sup>82</sup> *Id.* at 222-23.

<sup>83</sup> *Id.* at 226.

<sup>84</sup> *Id.* at 224, 226-27, 229, 240-41, 244.

flying north over Chandalar Shelf.<sup>85</sup> He indicated that despite sounding loud, the Navion had a typical rumble and seemed to be in stable flight.<sup>86</sup>

Mr. Fickus testified that he then drove to the top of Chandalar Shelf and observed the Navion flying within two miles of the Atigun Pass summit at roughly 1,000 feet above the ground, give or take 500 feet.<sup>87</sup> Mr. Fickus indicated that the Navion's altitude concerned him because it headed towards the Atigun Pass's rapidly rising terrain and needed to make a quick, 3,000-foot climb to clear the summit.<sup>88</sup> Mr. Fickus denied seeing the Navion circle back.<sup>89</sup>

Mr. Fickus testified that he responded to the accident site after learning of the accident over the radio.<sup>90</sup> He stated that he recognized the Navion's dark underside and wingtip tanks as the same aircraft that he had earlier seen flying over Chandalar Shelf.<sup>91</sup> He stated that the Navion's flaps were halfway down, the throttle was partly in and bent, and one of its propeller blades was missing.<sup>92</sup> Mr. Fickus stated that he helped secure the Navion and tended to respondent.<sup>93</sup> Mr. Fickus indicated that respondent blamed the accident on a downdraft, but he did not believe respondent because the weather conditions that day – low winds and an absence of lenticular clouds – were not favorable for downdrafts.<sup>94</sup>

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<sup>85</sup> *Id.* at 227-28.

<sup>86</sup> *Id.* at 227, 235, 253-54.

<sup>87</sup> *Id.* at 231, 233, 245-46, 250.

<sup>88</sup> *Id.* at 228-29, 233.

<sup>89</sup> *Id.* at 231, 233-34.

<sup>90</sup> *Id.* at 235-36.

<sup>91</sup> *Id.* at 226, 236, 267.

<sup>92</sup> *Id.* at 236, 255-56.

<sup>93</sup> *Id.* at 256, 258.

<sup>94</sup> *Id.* at 237-38, 259, 264, 268.

8. *Testimony of Scott Lanier*

Officer Lanier testified that his duties involved criminal investigations and public safety, and that he was on patrol on August 24, 2014, when he learned of the accident at issue.<sup>95</sup> He stated that he drove to the accident site, where he observed a crack in the front passenger side windshield, a missing propeller blade, and black damage marks on the Garmin 196.<sup>96</sup> Officer Lanier testified that he removed the Garmin 196 and brought it to his work facility in Coldfoot.<sup>97</sup> He denied turning the Garmin 196 on.<sup>98</sup> He testified that on August 25, 2014, he documented the Garmin 196 in a property handling report and placed it in a temporary evidence storage locker.<sup>99</sup> He indicated that on August 27, 2014, he took the Garmin 196 to Fairbanks, where he placed it in an evidence locker.<sup>100</sup> He testified that on September 9, 2014, the Alaska Wildlife Troopers released the Garmin 196 to the NTSB.<sup>101</sup>

Officer Lanier testified that a week or two after the accident, he and Hartzell representative Daniel Boggs went the accident site, where they searched a 100-200-yard area for approximately one hour but only located the tip of the attached propeller blade.<sup>102</sup> He stated that he and Mr. Boggs joked that someone must have found and took the missing propeller blade as a souvenir.<sup>103</sup>

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<sup>95</sup> *Id.* at 163-65.

<sup>96</sup> *Id.* at 165-70, 177-79, 187-88.

<sup>97</sup> *Id.* at 169.

<sup>98</sup> *Id.* at 189.

<sup>99</sup> *Id.* at 169, 171-72. *See* Exh. A-57 at 7.

<sup>100</sup> Tr. at 170, 194.

<sup>101</sup> *Id.* at 170, 194-95.

<sup>102</sup> *Id.* at 179-80, 182-83, 192-93.

<sup>103</sup> *Id.* at 184.

*9. Testimony of Frederick Distad*

Mr. Distad testified that he served as the Director of Maintenance on respondent's Part 135 business.<sup>104</sup> Mr. Distad stated that he helped salvage the Navion after the August 2014 accident and kept custody of its parts at Arctic Aviation.<sup>105</sup> Mr. Distad indicated that on November 18, 2014, he received a package from the NTSB with the Garmin 196, which Inspector Sipperley collected from him on the same day.<sup>106</sup> Mr. Distad stated that Inspector Sipperley returned the Garmin 196 to Mr. Distad in April 2015, and that Mr. Distad stored the device with the rest of the Navion's parts at Arctic Aviation in a Conex container provided by respondent's insurance company.<sup>107</sup> He testified that respondent retrieved the Garmin 196 from the Conex container in the winter of 2015-2016.<sup>108</sup>

*10. Testimony of Richard Ebert*

Mr. Ebert testified that he oversaw a unit of flight safety inspectors in the FAA's Fairbanks FSDO and had previously worked as an airframe and powerplant mechanic and an airworthiness maintenance inspector.<sup>109</sup> He testified that Inspectors Farnell and Major investigated the operations side of the August 2014 accident, and Inspector Sipperley investigated the enforcement side.<sup>110</sup> Mr. Ebert stated that he received a UPS box with the Garmin 196 from Inspector Sipperley on November 18, 2014.<sup>111</sup> Mr. Ebert denied turning on the device but stated that it had a damaged screen.<sup>112</sup> He denied documenting the damage because

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<sup>104</sup> *Id.* at 314-15.

<sup>105</sup> *Id.* at 320, 322-23.

<sup>106</sup> *Id.* at 315-17, 321.

<sup>107</sup> *Id.* at 317-18, 322-23.

<sup>108</sup> *Id.* at 318-19.

<sup>109</sup> *Id.* at 333-35, 343.

<sup>110</sup> *Id.* at 335-37, 346.

<sup>111</sup> *Id.* at 339-40.

<sup>112</sup> *Id.* at 356, 358-59.

the damage was known to have been caused by the crash and because he documented the chain of custody, not the device's condition.<sup>113</sup> Mr. Ebert stated that he placed the Garmin 196 into his locked desk drawer.<sup>114</sup>

Mr. Ebert testified that on December 2, 2014, he took the UPS box with the Garmin 196 out of his locked desk drawer, ensured the device was in the box, and gave the box to Inspector Farnell to transport it to Mr. Motzko in Anchorage for data download.<sup>115</sup> Mr. Ebert testified that two days later, Inspector Farnell returned the box with the Garmin 196 back to Mr. Ebert, who placed it back into the locked desk drawer.<sup>116</sup> Mr. Ebert indicated that the box with the Garmin 196 stayed in his locked desk drawer for several months until Mr. Motzko finished the data analysis.<sup>117</sup> Mr. Ebert stated that he then gave the box with the Garmin 196 to Inspector Sipperley, who returned it to Mr. Distad.<sup>118</sup> Mr. Ebert confirmed that the Garmin 196 device in evidence during the hearing was the same device Mr. Ebert received on November 18, 2014, from Inspector Sipperley.<sup>119</sup>

### *11. Testimony of Christopher Farnell*

Inspector Farnell testified that he had been employed as an Operations Inspector for the FAA for 18 years.<sup>120</sup> He stated that on August 25, 2014, he travelled with Inspector Major to the accident site where they inspected the slope and found that the Navion had impacted the ground with its underside and then slid 50-60 yards.<sup>121</sup> Inspector Farnell indicated that they also

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<sup>113</sup> *Id.* at 349-55.

<sup>114</sup> *Id.* at 340.

<sup>115</sup> *Id.* at 340-41, 349-50.

<sup>116</sup> *Id.* at 342.

<sup>117</sup> *Id.*

<sup>118</sup> *Id.* at 342-43, 350-51.

<sup>119</sup> *Id.* at 351-52.

<sup>120</sup> *Id.* at 373-74.

<sup>121</sup> *Id.* at 373-75, 385-87.

unsuccessfully searched the entire hillside for the missing propeller blade.<sup>122</sup> Inspector Farnell stated that the vertical break in the engine mount, which could have only been caused by impact, indicated to him that the propeller blade did not break-off in-flight.<sup>123</sup> He explained that an in-flight loss of the blade would have ripped the engine out and would not have been survivable.<sup>124</sup> He denied encountering an in-flight propeller blade loss during his career with the FAA.<sup>125</sup>

Inspector Farnell testified that Atigun Pass is famous for accidents involving attempts to outclimb the terrain, with pilots at times landing on the access road.<sup>126</sup> He explained that a pilot without sufficient altitude to clear Atigun Pass must either lower the flaps and turn around or land on Dalton Highway or the access road.<sup>127</sup> He stated that the Navion's flaps were down, which indicated a landing or a speed maneuver.<sup>128</sup> He did not recall the throttle position but stated that the flaps in a down position and a throttle all the way in would likely indicate a controlled landing.<sup>129</sup> Inspector Farnell agreed that the passenger side of the windshield was cracked, but stated he had never seen in his career windshield cracks caused by someone hitting their head.<sup>130</sup>

Inspector Farnell testified that on September 9, 2014, he and Inspector Major conducted a 30-minute telephonic interview of respondent while respondent was in the hospital.<sup>131</sup> Inspector Farnell stated that respondent was taking pain medications, but that he felt "okay" to be

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<sup>122</sup> *Id.* at 387, 388-90, 394-96.

<sup>123</sup> *Id.* at 390-91.

<sup>124</sup> *Id.* at 392.

<sup>125</sup> *Id.* at 393.

<sup>126</sup> *Id.* at 420.

<sup>127</sup> *Id.* at 419-420.

<sup>128</sup> *Id.* at 400, 419.

<sup>129</sup> *Id.* at 400-01, 426-28.

<sup>130</sup> *Id.* at 401-02.

<sup>131</sup> *Id.* at 376-77, 404-05, 407-08.



interviewed.<sup>132</sup> Inspector Farnell explained that respondent understood the questions asked and answered some of them with “I don’t remember” or “I don’t recall.”<sup>133</sup> Inspector Farnell stated that respondent blamed the accident on Mr. Spencer falling over the controls due to drowsiness from Graval.<sup>134</sup> Inspector Farnell indicated that he interviewed Mr. Spencer, who did not recall anything about the accident.<sup>135</sup> Inspector Farnell also stated that, during another interview, respondent blamed the accident on a downdraft.<sup>136</sup>

Inspector Farnell further testified that he took the Garmin 196 from Mr. Ebert to transport it to Mr. Motzko for data download.<sup>137</sup> Inspector Farnell indicated that he and Mr. Ebert first opened the box, confirmed the serial number, and retaped it closed.<sup>138</sup> Inspector Farnell then locked box with the Garmin 196 in a drawer in his office and transported it the next morning to Mr. Motzko.<sup>139</sup> Inspector Farnell indicated that he stayed with Mr. Motzko during the data download and then brought the Garmin 196 back to Mr. Ebert, who reverified the serial number and resealed the box.<sup>140</sup>

## *12. Testimony of Jason Major*

Inspector Major testified that he was employed as an FAA Aviation Safety Inspector since 2011 and had previously worked as an avionics technician in the Air Force.<sup>141</sup> He stated that he conducted five aircraft investigations between 2011 and 2014 and took multiple courses in

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<sup>132</sup> *Id.* at 409-10.

<sup>133</sup> *Id.* at 408-09, 418-19.

<sup>134</sup> *Id.* at 377, 430-32.

<sup>135</sup> *Id.* at 421-23.

<sup>136</sup> *Id.* at 430-32, 434-38.

<sup>137</sup> *Id.* at 377-78, 415.

<sup>138</sup> *Id.* at 378, 415.

<sup>139</sup> *Id.* at 378, 416-17.

<sup>140</sup> *Id.* at 378, 416.

<sup>141</sup> *Id.* at 566-67, 569.

aircraft accident investigations.<sup>142</sup> He testified that on August 25, 2014, he and Inspector Farnell arrived at the accident site and had to stop the tourists, who had learned of the accident from the news, from approaching the Navion.<sup>143</sup> Inspector Major stated that he observed that the Navion had slid 20-25 feet down from the impact point; its flaps were down, which was a landing position; its throttle was out, indicating the power had been cut from the engine; and the windshield on the front passenger side was cracked, likely due to Mr. Spencer's camera striking it during the crash.<sup>144</sup> Inspector Major also stated that one of the propeller blades was missing, which he and Inspector Farnell unsuccessfully searched for, given the grey color of the blade and the terrain and the shifting rocks under their feet.<sup>145</sup> Inspector Major indicated that he had never encountered an in-flight propeller blade loss as a pilot or an investigator.<sup>146</sup>

Inspector Major testified that the teardown of the propeller revealed a similar manner of shearing on the pilot tubes from each propeller blade; the head from the missing propeller blade's clamp bolt lying near the bolt; a torn firewall sheet; an absence of any grease on the fuselage, in the engine, or the tail; and a bend in the front of the engine.<sup>147</sup> Inspector Major stated that if the propeller blade had broken off in-flight, the pilot tube would have been intact; the bolt head would have flown out; the propeller rotation would have slung the grease all over the aircraft; and the engine would have been kinked and detached, resulting in a catastrophic loss.<sup>148</sup> He concluded that the propeller blade broke off on impact.<sup>149</sup> He added that the propeller bolts were

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<sup>142</sup> *Id.* at 570, 648-50.

<sup>143</sup> *Id.* at 570-73, 590, 727.

<sup>144</sup> *Id.* at 573, 672-75.

<sup>145</sup> *Id.* at 590, 669, 681-82, 727.

<sup>146</sup> *Id.* at 649, 652.

<sup>147</sup> *Id.* at 591-92, 600-02, 643-44.

<sup>148</sup> *Id.* at 591-93, 600-02, 643-44, 647, 670-71.

<sup>149</sup> *Id.* at 597, 600-602, 643-44.

not installed in compliance with the Hartzell's service letter, but that this did not cause the damage to the propeller blade.<sup>150</sup> He asserted that the investigation, including Hartzell's accident report, concluded that the propeller blade was fractured on impact with the ground.<sup>151</sup>

Inspector Major further testified that he and Inspector Farnell interviewed the witnesses, the passengers, and respondent while he was in the hospital.<sup>152</sup> Inspector Major stated that respondent reported making a U-turn before entering Atigun Pass; that Mr. Spencer became listless from Gravol and fell over the controls, putting the Navion into a dive; that respondent fought to get Mr. Spencer off the controls and asked for help from Ms. McCann and Ms. Nason, but did not get a response; and that respondent cut the throttle and opened half flaps.<sup>153</sup> Inspector Major stated that Mr. Gleaves denied that he or anyone from his team had seen respondent make a U-turn, and that Mr. Gleaves attested to Mr. Spencer's wearing the shoulder harness.<sup>154</sup> Inspector Major also stated that Mr. Spencer denied taking Gravol during the August 24, 2014, flight or having any adverse side effects from Gravol in the past.<sup>155</sup>

### *13. Testimony of Roger Motzko*

Mr. Motzko testified that his work as a Forensic Safety Technical Analyst involved air traffic event reconstruction from various data, including GPS data.<sup>156</sup> He had previously specialized in using aircraft tracking systems in the U.S. Navy, was educated in mechanical engineering, and taught computational forensics at the Transportation Safety Institute.<sup>157</sup> He

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<sup>150</sup> *Id.* at 711-13, 728. *See* Exh. R-54.

<sup>151</sup> Tr. at 593-97, 645, 710, 713, 727, 729-30.

<sup>152</sup> *Id.* at 579-81, 722-24.

<sup>153</sup> *Id.* at 580, 700.

<sup>154</sup> *Id.* at 580, 720-23.

<sup>155</sup> *Id.* at 581, 723-25.

<sup>156</sup> *Id.* at 742-43, 903.

<sup>157</sup> *Id.* at 743-44.

indicated that he held a private pilot license and used a Garmin 196 for missions and track logging.<sup>158</sup> He explained that a Garmin 196 is used for orientation, track logging, and flight planning, but not for navigation, such as an instrument landing system approach, which requires greater accuracy and a self-assessment capability.<sup>159</sup>

Mr. Motzko testified that upon being powered on, a Garmin 196 starts searching for at least four satellites that are giving it a good signal and then accumulates information from those satellites to determine a position by making a significant number of calculations and averaging them to identify a point in space and time.<sup>160</sup> Mr. Motzko explained that if a Garmin 196 does not receive a signal from at least four satellites, it does not create such a point and instead skips a reading until it receives adequate signal that renders recordable information.<sup>161</sup>

Mr. Motzko testified that in December 2014, Inspector Farnell delivered to him for data extraction the Garmin 196 from respondent's Navion.<sup>162</sup> Mr. Motzko explained that he downloaded the data using ExpertGPS Pro software, which is commonly used by forensic technicians to extract GPS data.<sup>163</sup> He added that he also used BaseCamp and Google Earth Pro to validate the data.<sup>164</sup> He denied turning on the Garmin 196 to determine if it was operational or if it had the latest software, explaining its screen was cracked and he did not want to risk erasing the data.<sup>165</sup> He further explained that a lack of a current update would not have had much effect

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<sup>158</sup> *Id.* at 751-52, 815-17.

<sup>159</sup> *Id.* at 817-19, 823, 863-67, 870-71, 892, 908-09.

<sup>160</sup> *Id.* at 767-69, 830-32, 846-47.

<sup>161</sup> *Id.* at 832, 877.

<sup>162</sup> *Id.* at 747-48, 751. Mr. Motzko also testified that the Navion had a Garmin GNS-430 device but explained that it was useless to the investigation because its function is navigation, not tracking, and it does not save any past data, such as a location log. *Id.* at 800-01, 829-30.

<sup>163</sup> *Id.* at 748-50.

<sup>164</sup> *Id.* at 750, 763, 862.

<sup>165</sup> *Id.* at 748, 829.

on the tracking log because software updates do not affect the acquisition engines in this GPS device and because its tracking log represented a reasonable trajectory of the Navion on August 24, 2014.<sup>166</sup> Mr. Motzko stated that he extracted the data without any problems, and that the extracted data was not corrupt and showed the Garmin 196 operated “very well” on August 24, 2014.<sup>167</sup> He indicated that it would not have been reasonable for him or someone else to forge the data on the Garmin 196 because they would have had to change entire lines of data and resubmit it back to the device to make it look like the forged data was received in the past on a certain day and at a certain time.<sup>168</sup>

Mr. Motzko testified that he calculated the Navion’s AGL altitude by subtracting the ground elevation data contained in the United States Geological Survey’s (USGS) database<sup>169</sup> from the mean sea level (MSL) altitude data he downloaded from the Garmin 196.<sup>170</sup> He indicated that he also validated the Navion’s altitude data against the elevations of known geographical locations, such as airports.<sup>171</sup> He stated that the Navion’s AGL altitude data was exact 90-95 percent of the time, and the rest of the time the AGL data was within the 50-foot (or 15-meter) tolerance, which is the tolerance level indicated in the Garmin 196’s operating manual.<sup>172</sup> Mr. Motzko agreed that the Garmin website generally warned of a 400-foot difference in altitude readings, but explained that this warning applied only to Garmin’s terrestrial hand-

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<sup>166</sup> *Id.* at 871, 877-78.

<sup>167</sup> *Id.* at 752, 767-68, 773.

<sup>168</sup> *Id.* at 772-73.

<sup>169</sup> *Id.* at 1565-66.

<sup>170</sup> *Id.* at 749-50, 763, 776, 862. For example, to obtain the AGL altitude of 264.066 feet for Data Point 666, Mr. Motzko indicated that he subtracted the USGS’s elevation of 1,453.7 feet for that geographical point from the Navion’s MSL altitude of 1,717.766 feet, which the Garmin 196 recorded at 12:43 p.m. at that geographical point. *Id.* at 794; Exh. A-16 at 19.

<sup>171</sup> Tr. at 758-62, 767.

<sup>172</sup> *Id.* at 759-60, 764-65, 776-77, 794-95, 798, 824, 872, 1592-96. *See* Exh. R-89.

held GPS devices, such as those used by hikers, and not to Garmin's aviation products.<sup>173</sup> Mr. Motzko testified that his own error analysis established a good quality of the Garmin 196's data: the first few data points showed incorrect altitudes, which meant the Garmin 196 had been powered on and began narrowing the data until it became more accurate; the ground and the altitude elevation values correlated well with each other; and the data showed normal climb altitudes and normal orientation and altitude when compared to surveyed points, such as Bettles Airport runway.<sup>174</sup> Mr. Motzko explained that, for example, the Navion's altitude drop from 638 to 172 feet AGL correlated to the rising Chandalar Shelf terrain below.<sup>175</sup> He also explained that the Navion then climbed 300-500 feet per minute until the final data point, which was consistent with its crash on the mountain slope below Dalton Highway.<sup>176</sup> He stated that the Navion did not make a U-turn after entering Atigun Pass.<sup>177</sup> He also stated that the last "dip" on respondent's own chart of the Navion's headings merely indicated a shift from left to right or right to left and not necessarily a U-turn.<sup>178</sup>

Mr. Motzko rejected as irrelevant respondent's Standard Positioning Service Receiver Autonomous Integrity Monitoring (RAIM) map, which showed RAIM unavailability for August 24, 2014.<sup>179</sup> Mr. Motzko explained that a RAIM map is used to predict the availability of vertical slope guidance, such as when a pilot needs to certify an approach to an airport in an IFR flight, and not for tracking purposes or positioning data.<sup>180</sup> Mr. Motzko also rejected as irrelevant

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<sup>173</sup> Tr. at 896-98, 912-13.

<sup>174</sup> *Id.* at 765-66, 768-70, 771, 872-74, 905.

<sup>175</sup> *Id.* at 784-85. *See* Exh. A-16 at 22, Data Points 780-81.

<sup>176</sup> Tr. at 785, 875. *See* Exh. A-16 at 22, Data Points 782-806.

<sup>177</sup> Tr. at 891.

<sup>178</sup> *Id.* at 880-91. *See* Exh. R-18.

<sup>179</sup> Tr. at 1564-65, 1580. *See* Exh. R-1.

<sup>180</sup> Tr. at 1563-65, 1578-82.

respondent's map reflecting "Wide Area Augmentation System for Localizer Precision with Vertical Guidance 200" (WAAS) outages for the third quarter of 2014.<sup>181</sup> Mr. Motzko explained that a WAAS outage map is used by pilots conducting very tight approaches within three-to-seven meters of tolerance; here, Mr. Motzko analyzed the Navion's altitude and navigation, not whether the Navion followed proper instrument approach procedures.<sup>182</sup> Mr. Motzko stated that the Garmin 196's data would be within the 50-foot tolerance regardless of whether the Garmin 196 was receiving a WAAS signal; a WAAS signal would merely have improved the confidence level in the Garmin 196's tracking data from 90 percent to 99 percent.<sup>183</sup> Mr. Motzko added that the WAAS performance analysis report indicated that in the third quarter of 2014, the necessary four satellites were always available to navigation systems to determine their point in space and time.<sup>184</sup>

#### *14. Testimony of Bradford Sipperley*

Inspector Sipperley testified that he worked as an Aviation Safety Inspector with the Fairbanks FSDO and had conducted three or four investigations before August 24, 2014.<sup>185</sup> He stated that he previously inspected aviation weather stations for the National Weather Service and investigated aviation accidents in the Air Force.<sup>186</sup> He had not testified in cases involving airmen until the current case.<sup>187</sup>

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<sup>181</sup> *Id.* at 1570-71, 1584. *See* Exh. R-20 at 3.

<sup>182</sup> *Tr.* at 1570-71, 1585.

<sup>183</sup> *Id.* at 821, 868-70, 875-76, 1571, 1589-90.

<sup>184</sup> *Id.* at 1567-69, 1573. *See* Exh. R-20 at 2.

<sup>185</sup> *Tr.* at 280-81, 295-96, 307, 986-88.

<sup>186</sup> *Id.* at 939-41.

<sup>187</sup> *Id.* at 988.

Inspector Sipperley testified that he assisted Inspector Major in investigating the cause of the August 2014 accident and prepared the investigative report.<sup>188</sup> He stated that he did not visit the accident site but had visited the Atigun Pass area several times before as part of his job.<sup>189</sup> He described the Dalton Highway as steep, requiring the drivers to warn each other over the radio.<sup>190</sup> He stated that the Atigun Pass is a “classic location for aircraft accidents that come in too low: the terrain rises extremely rapidly, requiring a pilot to make a U-turn and to fly at an altitude of at least 2,000 feet AGL (or 6,000 MSL).<sup>191</sup>

Inspector Sipperley testified that respondent put forth several theories about the cause of the accident: respondent blamed a downdraft, stated that he was flying too low, and indicated that Mr. Spencer fell over the controls.<sup>192</sup> Inspector Sipperley stated that the investigation showed that Mr. Spencer wore a shoulder harness and the weather conditions on August 24, 2014, were inconsistent with a downdraft.<sup>193</sup> He explained that respondent described a significant downdraft of 1,000-2,000 feet per minute, but that such winds were not observed by the weather stations or the witnesses on the ground, the clouds that day were not the type that indicated downdrafts, and the descriptions of Ms. Nason and Ms. McCann of what happened several minutes prior to the accident were inconsistent with a downdraft.<sup>194</sup>

Inspector Sipperley testified that the NTSB picked up the Garmin 196 from the Alaska Wildlife Troopers’ evidence locker in September 2014 and returned it to Mr. Distad upon the

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<sup>188</sup> *Id.* at 282, 297, 942.

<sup>189</sup> *Id.* at 942, 946, 1044.

<sup>190</sup> *Id.* at 946-47.

<sup>191</sup> *Id.* at 943-46, 973.

<sup>192</sup> *Id.* at 949-50, 989-99.

<sup>193</sup> *Id.* at 1002-03. A downdraft normally occurs in a mountainous area and is caused by mountain wave turbulence or some type of convective activity. *Id.* at 950-04, 1000-01.

<sup>194</sup> *Id.* at 955-59, 990-92.



completion of its investigation.<sup>195</sup> Inspector Sipperley indicated that he collected the Garmin 196 from Mr. Distad the same day Mr. Distad received the device and documented the chain of custody.<sup>196</sup> Inspector Sipperley stated that he then gave the Garmin 196 to Mr. Ebert to secure it in a locked drawer until its transfer to Mr. Motzko.<sup>197</sup> Inspector Sipperley stated that he took the Garmin 196 from Mr. Ebert and returned it to Mr. Distad in April 2015.<sup>198</sup>

Inspector Sipperley testified that the data from respondent's Garmin 196 showed that approximately 68 percent of respondent's flight from Bettles was below 500 feet AGL, including in the airspace above the pipeline and Dalton Highway.<sup>199</sup> He stated the Garmin 196's altitude data was consistent with witness observations: Mr. Fickus observed respondent passing over the Chandalar Shelf at about 100 feet AGL, which corresponded to Data Point 781, showing the Navion's altitude at 172 feet AGL in that location; and Mr. Hayden's report of respondent flying over the bottom part of the access road at an altitude of 500-800 feet was consistent with Data Point 800, reflecting the Navion's altitude of 450 feet AGL in that area.<sup>200</sup>

Inspector Sipperley stated that an in-flight loss of the propeller blade did not cause the August 2014 accident: such loss would have caused a cylindrical pattern of grease around the engine cowling, while the investigation revealed only one splat of grease over the aileron, indicative of detachment from the impact with the ground; and such loss would have caused the Navion to violently vibrate or shake, which neither respondent nor the passengers described.<sup>201</sup>

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<sup>195</sup> *Id.* at 282-84, 298-99.

<sup>196</sup> *Id.* at 284, 300-01. *See* Exh. A-14.

<sup>197</sup> Tr. at 284-86, 302.

<sup>198</sup> *Id.* at 293.

<sup>199</sup> *Id.* at 973-74, 1036-38.

<sup>200</sup> *Id.* at 974-79. *See* Exh. A-16 at 22.

<sup>201</sup> Tr. at 959-64, 968-71, 1004-08, 1011-13.

He added that a loose bolt would have caused only a negligible vibration.<sup>202</sup> He testified that if the propeller blade was lost in-flight and respondent had sufficient altitude, respondent would have pulled back the mixture control, lowered the nose, and flown down and out of the canyon; respondent instead turned north toward the rising terrain, which did not make sense in the scenario involving a broken propeller blade.<sup>203</sup>

Inspector Sipperley testified that the passengers' descriptions of air pockets and the Navion's speed of 50 miles per hour indicated the Navion had stalled before the accident.<sup>204</sup> He indicated that respondent attempted to create as much thrust as possible: the propeller control was all the way in, signifying a low pitch and a high RPM, which was normally done during climbs; the mixture control was full in to pour all fuel into the engine, which was also done during climbs; and the flaps were in the full down position either to slow and lift the aircraft or to land.<sup>205</sup> Inspector Sipperley stated that respondent found himself boxed in the canyon and, since he could not turn around due to the extremely low altitude, performed "a classic controlled flight into terrain."<sup>206</sup> Inspector Sipperley opined respondent was reckless in flying so low into Atigun Pass because it was an area marked as dangerous and highly known for aircraft accidents and because respondent left himself no room to handle an emergency.<sup>207</sup> Inspector Sipperley further opined that respondent acted recklessly when he turned right instead of left into Atigun Pass because it did not give him ample view of the valley to assess the terrain, and that

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<sup>202</sup> *Id.* at 1006-07.

<sup>203</sup> *Id.* at 962-64. A mixture control is a manual valve that allows a pilot to adjust the fuel-to-air mixture, including shutting off fuel to the engine. *See* Federal Aviation Administration, FAA-H-8083-25B, Pilot's Handbook of Aeronautical Knowledge, Chapter 7 Aircraft Systems, p. 9 (2016).

<sup>204</sup> Tr. at 990-92. *See id.* at 513-14, 533-35, 537-38.

<sup>205</sup> *Id.* at 980-82.

<sup>206</sup> *Id.* at 982-84, 1032.

<sup>207</sup> *Id.* at 984-85.

respondent acted recklessly when he flew through the valley's center because it left him nowhere to turn.<sup>208</sup>

*15. Testimony of Robert Grediagin*

Mr. Grediagin testified that he had known respondent since 2000 and befriended him after the August 2014 accident.<sup>209</sup> Mr. Grediagin stated that he visited respondent in the hospital, and that respondent was unable to communicate during his hospitalization due to his severe injuries.<sup>210</sup> Mr. Grediagin stated that he assisted in the recovery of the Navion and searched a 100-yard perimeter for the missing propeller blade but did not find it.<sup>211</sup> He stated that he noticed engine grease on the ground and on the Navion's wing but did not recall seeing any grease on its tail.<sup>212</sup>

*16. Testimony of Tracey Kirst*

Mrs. Kirst testified that she had been married to respondent since 1988.<sup>213</sup> She stated that she visited respondent in the hospital, that respondent was in and out of consciousness due to pain medications, and that respondent at one point did not recall her visiting him and mistook her for someone else over the phone, but she also stated that respondent conversed with her and directed the nursing staff.<sup>214</sup> She testified that respondent's pain levels improved and he started to behave more like himself on September 19, 2014.<sup>215</sup>

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<sup>208</sup> *Id.* at 1038-41. *See* Exh. A-49.

<sup>209</sup> Tr. at 1050-53.

<sup>210</sup> *Id.* at 1068.

<sup>211</sup> *Id.* at 1053-54, 1062-67, 1069.

<sup>212</sup> *Id.* at 1064-65.

<sup>213</sup> *Id.* at 1072.

<sup>214</sup> *Id.* at 1072-75.

<sup>215</sup> *Id.* at 1075-76.

*17. Testimony of David Sperbeck, Ph.D.*

Dr. Sperbeck testified that he was a clinical neuropsychologist practicing in Anchorage, Alaska, with experience evaluating soldiers with combat trauma and police officers after their involvement in a shooting.<sup>216</sup> Dr. Sperbeck indicated that he did not examine respondent but reviewed respondent's medical records.<sup>217</sup> He agreed that he must examine a patient prior to rendering a diagnosis.<sup>218</sup>

Dr. Sperbeck testified that respondent's medical records reflected a Glasgow Coma Scale rating of 11, indicating a moderately severe brain injury followed by a severe level of lost or dazed consciousness.<sup>219</sup> He opined that respondent suffered post-traumatic amnesia, which caused a severe clouding of memory of events just prior to the injury and an inability to encode and recall new memories after the injury.<sup>220</sup> Dr. Sperbeck stated that respondent's post-traumatic amnesia caused respondent to fill the gaps left by his inhibited explicit memory with his procedural memory; meaning, respondent filled the gaps of what he thought had happened by logically deducing the events in a plausible but incorrect way.<sup>221</sup> Dr. Sperbeck stated that respondent felt confused during his September 2014 interview with Inspectors Farnell and Major due to his trauma and the pain medications, and that the Inspectors could not have determined the truth of respondent's statements, unless they knew the truth of what had happened during the accident before the interview.<sup>222</sup>

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<sup>216</sup> *Id.* at 605, 607-08, 610-11.

<sup>217</sup> *Id.* at 616, 618, 641.

<sup>218</sup> *Id.* at 616.

<sup>219</sup> *Id.* at 618, 636.

<sup>220</sup> *Id.* at 618, 620-22.

<sup>221</sup> *Id.* at 620-24, 636-40.

<sup>222</sup> *Id.* at 624-31.

18. *Testimony of respondent*<sup>223</sup>

Respondent testified that he had been a pilot since 2008; had flown 5,000 hours in a small engine aircraft, including about a dozen times in the Atigun Pass area; and surveyed the terrain by flying airplanes equipped with special cameras.<sup>224</sup> Respondent testified that he had gained an experience in interpreting GPS data from this aviation instruction business and during the surveying flights.<sup>225</sup> Respondent stated that Mr. Spencer paid him \$3,500 to fly him, Ms. McCann, and Ms. Nason to take aerial photography of polar bears in Deadhorse, Alaska, on August 24, 2014.<sup>226</sup> Respondent testified that his standard charter rate was \$330 per hour, and that the round trip flight from Fairbanks to Deadhorse would have taken him 10-12 hours.<sup>227</sup> Respondent stated the plan was to fly from Fairbanks to Deadhorse, stop in Deadhorse, and then continue the flight from Deadhorse towards the polar bears.<sup>228</sup>

Respondent testified that the flight from Fairbanks to Deadhorse was a Part 91 flight because he was not compensated for it: Mr. Spencer only paid for the flight *from* Deadhorse, and the passengers chose to fly with respondent to Deadhorse after Mr. Spencer had balked at the additional cost of a separate commercial flight to Deadhorse.<sup>229</sup> Respondent indicated that, on return, the passengers could have either flown with him or taken a separate commercial flight without any change in the sum Mr. Spencer paid respondent.<sup>230</sup> Respondent denied using a

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<sup>223</sup> The summary of respondent's testimony reflects the relevant parts of his deposition on March 2, 2016, and his testimony during the hearing.

<sup>224</sup> Tr. at 459-60, 1088-93, 1098-1106.

<sup>225</sup> *Id.* at 1515-18.

<sup>226</sup> *Id.* at 445-47, 1279.

<sup>227</sup> *Id.* at 1280-81.

<sup>228</sup> *Id.* at 1542, 1554-55.

<sup>229</sup> *Id.* at 445-48, 1102-03, 1140, 1282, 1524-25.

<sup>230</sup> *Id.* at 448.

written contract for the flight, stating that “aviation is built on trust.”<sup>231</sup> Respondent further testified that the August 2014 flight from Fairbanks to Deadhorse was a Part 91 flight because the passengers were professional photographers who were flying to photograph the polar bears: their cameras had professional zoom and video capabilities; the passengers documented the trip; and Mr. Spencer, who had published wildlife photography books, was training one of the other passengers on the use of her camera during the flight.<sup>232</sup> Respondent agreed that he had no purpose in being in Deadhorse on August 24, 2014, other than taking the passengers to see the polar bears.<sup>233</sup>

Respondent testified that Mr. Spencer wore only the lap belt so that he could turn around to take photos out of the plane’s window with his professional camera.<sup>234</sup> Respondent asserted that “[o]ne of the witnesses was coached to keep putting a shoulder harness in his statement,” but respondent did not recall the name of the witness.<sup>235</sup> Respondent also testified that Mr. Spencer took Gravol during the Fairbanks-Bettles leg of the flight.<sup>236</sup> Respondent testified that after the departure from Bettles, the passengers wanted to take photos of a moose standing in a lake, so he circled around the animal a few times at an altitude of 500-1000 feet AGL.<sup>237</sup> He stated that he then proceeded up the river to Dalton Highway, keeping to its right and shifting to the canyon’s center to monitor the oncoming traffic.<sup>238</sup>

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<sup>231</sup> *Id.* at 1529-31.

<sup>232</sup> *Id.* at 1521-23, 1524-26, 1539-41.

<sup>233</sup> *Id.* at 1282.

<sup>234</sup> *Id.* at 457, 491, 1114, 1128-29.

<sup>235</sup> *Id.* at 1448-49.

<sup>236</sup> *Id.* at 450-51, 1128.

<sup>237</sup> *Id.* at 453-54, 480, 1136.

<sup>238</sup> *Id.* at 1094-95, 1141, 1148-49.

Respondent testified that he was climbing from 5,600 feet towards 6,000 feet MSL and could see through the Atigun Pass when the Navion nose-dropped into the rising terrain and started “going down...over a thousand feet a minute” at the speed of 130-160 mph.<sup>239</sup> Respondent stated that he tried reducing back pressure and engine power and opening partial flaps, but that this did not work because Mr. Spencer fell over respondent and the yoke twice, and respondent had to pull Mr. Spencer back.<sup>240</sup> Respondent stated that he unsuccessfully yelled to Ms. McCann and Ms. Nason to hold on to Mr. Spencer.<sup>241</sup> Respondent indicated that the proof of Mr. Spencer’s falling over him was the fact that respondent’s entire right side was covered in Mr. Spencer’s blood after the accident.<sup>242</sup> Respondent stated that, despite having a cut on his forehead and eyebrow, “[his] blood just doesn’t leak,” and that the witnesses and the medical reports stated that respondent was not bleeding.<sup>243</sup> Respondent denied knowing if Mr. Spencer was injured from the plane pitching over or from the impact.<sup>244</sup> Respondent agreed that Mr. Spencer’s falling over the controls was a nuisance and did not cause the accident.<sup>245</sup>

Respondent asserted during the deposition that he made a 180-degree turn after the Navion had pitched over, but testified at the hearing that he made a 270-degree turn.<sup>246</sup> On questioning by the law judge, respondent testified he made two turns: one to go down the valley and another up the valley, which were “very close together so it just ended up looking like one turn,” and then making another 360-degree turn.<sup>247</sup> Respondent testified that he then tried to

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<sup>239</sup> *Id.* at 454-456, 1149-50, 1153, 1495-98, 1503.

<sup>240</sup> *Id.* at 455, 457, 490, 1149-51, 1299-30.

<sup>241</sup> *Id.* at 455.

<sup>242</sup> *Id.* at 1443-44, 1447-48.

<sup>243</sup> *Id.* at 1468-70.

<sup>244</sup> *Id.* at 1499-1500.

<sup>245</sup> *Id.* at 1492-93.

<sup>246</sup> *Id.* at 455, 1307-08, 1313-14.

<sup>247</sup> *Id.* at 1501-02, 1504-05.

make the inevitable crash survivable by fully lowering the flaps and bringing back the power.<sup>248</sup> Respondent agreed that the Navion had no forward momentum as its speed was 35-40 miles per hour, which is a “full stall landing.”<sup>249</sup> Respondent indicated that he could not land on Dalton Highway due to oncoming road traffic and road curves.<sup>250</sup> During the deposition, respondent stated that he “parked [the Navion] as slowly as possible,” but he denied having any recollection of the landing during the hearing.<sup>251</sup> Respondent testified that he regained memory in the hospital three-to-four weeks after the crash, and that he began feeling well in January 2015.<sup>252</sup> He denied recalling the September 2014 interview with Inspectors Major and Farnell apart from being asked why he did not land on the road.<sup>253</sup> Respondent stated that he began putting together what happened in the accident after he recovered and reviewed the photographs of the accident site.<sup>254</sup>

Respondent acknowledged that the GPS data analyzed by Mr. Motzko had come from respondent’s Garmin 196, but asserted that the GPS data was incorrect because he did not fly below 500 feet AGL on August 24, 2014.<sup>255</sup> Respondent asserted that a Garmin 196 device is not a certified precision instrument because it depends on inaccurate government satellites.<sup>256</sup> Respondent also asserted that his GPS antenna received poor signal: being located on the windshield, it was blocked by the airplane’s metal frame or the mountains, and flying near the North Pole prevented him from receiving the signals from the satellites located by the equator.<sup>257</sup>

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<sup>248</sup> *Id.* at 1299-1300, 1316.

<sup>249</sup> *Id.* at 1153, 1302-04, 1450-54.

<sup>250</sup> *Id.* at 1152.

<sup>251</sup> *Id.* at 455, 461, 1150.

<sup>252</sup> *Id.* at 1156-58.

<sup>253</sup> *Id.* at 1321-22.

<sup>254</sup> *Id.* at 1158-59, 1493.

<sup>255</sup> *Id.* at 468-72.

<sup>256</sup> *Id.* at 1323, 1160-62, 1323

<sup>257</sup> *Id.* at 1163, 1181-82.



Respondent further indicated that a GPS device could not position an airplane accurately on August 24, 2014, due to the wide RAIM unavailability that day and the significant WAAS outages in the fourth quarter of 2014.<sup>258</sup> Respondent conceded that it was not known whether the Garmin 196 received WAAS signal on August 24, 2014.<sup>259</sup>

Respondent testified that after receiving his Garmin 196 back from the FAA, he downloaded the data using Map Source software.<sup>260</sup> Respondent asserted that Mr. Motzko corrupted the GPS data from his Garmin 196 because Mr. Motzko used the wrong program to download it.<sup>261</sup> Respondent initially explained that respondent's longitude and latitude values did not match Mr. Motzko's longitude and latitude values, but respondent later agreed on cross-examination that they were the same.<sup>262</sup> Respondent added that his own chart of the Navion's headings showed a big dip at the end of the flight, which represented a U-turn respondent made.<sup>263</sup> Respondent also indicated that he flew another airplane in November-December 2015 to test the altitude readings on his Garmin GNS-430 device, and that those readings were off by 800 feet when compared to the FAA-certified pressure altimeter and transponder.<sup>264</sup> But, respondent admitted that he was climbing during part of this test, that an altimeter may give incorrect values if not given a correct setting, and that a transponder's settings may be influenced by low pressure or low temperatures.<sup>265</sup>

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<sup>258</sup> *Id.* at 1166-72, 1176-79, 1183-86, 1374-75. *See* Exhs. R-1, R-19, R-20 at 2-3.

<sup>259</sup> Tr. at 1188.

<sup>260</sup> *Id.* at 1191-93. *See* Exhs. R-4, R-5.

<sup>261</sup> Tr. at 1194-96.

<sup>262</sup> *Id.* at 1194-95, 1197-98, 1293. *See* Exhs. R-4, R-5, A-16, A-41.

<sup>263</sup> Tr. at 1207. *See* Exh. R-18.

<sup>264</sup> Tr. at 1212-21, 1421, 1519-20, 1550. *See* Exhs. R-9 through R-11, R-13.

<sup>265</sup> Tr. at 1381-82, 1543-45.

Respondent testified that Ottosen failed to properly overhaul the Hartzell propeller before selling it to him in 2011. Specifically, he claimed that Ottosen had kept the propeller in storage for ten years prior to the overhaul, instead of the required two years; had failed to magnetically inspect the propeller; installed the bolts incorrectly because they could be unscrewed by hand; and the propeller had old, hardened grease.<sup>266</sup> Respondent agreed that he had been using the propeller for 3 years before the accident, but stated that he had no reason to unscrew the nuts and bolts.<sup>267</sup> Respondent asserted that the accident was caused by propeller failure: the propeller clamps became loose and disconnected the propeller blade from the engine, causing a disbalance, a vibration, and the Navion pitching over.<sup>268</sup> Respondent indicated that the accident photographs taken by the FAA showed cracks in the motor mounts, which were caused by vibration or the engine trying to leave the airplane; a white powdery substance on the clamp of the attached propeller blade represented corrosion; and the rub marks in the pilot tube on the missing propeller blade meant the propeller blade was pulling forward due to a loose clamp.<sup>269</sup> Respondent indicated that the motor mounts would have been kinked, not cracked, if the propeller was damaged due to impact.<sup>270</sup>

Respondent asserted that the Hartzell and the metallurgical reports improperly ignored the cracked motor mounts, the fact that the clamp bolts could be unscrewed using fingers, the rub marks in the pilot tube on the missing propeller blade, the old grease, and the corrosion.<sup>271</sup> He indicated that Hartzell's 2001 service bulletin on propeller hub fractures warned against internal

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<sup>266</sup> *Id.* at 1231-34, 1237-40, 1246-48, 1395-1402, 1410, 1425, 1481-82, 1486-87. *See* Exhs. R-38, R-44.

<sup>267</sup> *Tr.* at 1126.

<sup>268</sup> *Id.* at 1224-26, 1263.

<sup>269</sup> *Id.* at 1226-29, 1248, 1256, 1261-62, 1429-35, 1442-43, 1483. *See* Exhs. R-44, R-45.

<sup>270</sup> *Tr.* at 1479-80.

<sup>271</sup> *Id.* at 1325-30, 1426-27, 1462.

corrosion,<sup>272</sup> but he agreed that the metallurgical report found no evidence of it.<sup>273</sup> Respondent also agreed that before the take-offs from Fairbanks and Bettles on August 24, 2014, respondent checked the propeller by rotating the blades and did not see any evidence of looseness or grease leakage.<sup>274</sup> Respondent testified that he assessed the rub marks and the corrosion solely from the photographs and did not test the parts to confirm his assessments.<sup>275</sup> He explained that Hartzell did not return several parts to him after the testing because Hartzell was concerned about being liable for the accident.<sup>276</sup> Respondent denied knowing at what point during the flight the propeller blade had broken off and suggested it could have broken off ten feet off the ground.<sup>277</sup> Respondent stated that, even if the propeller blade was intact, the loose clamp would have created a “horrible vibration,” yet respondent did not recall experiencing any unusual vibration prior to the accident.<sup>278</sup>

Respondent testified that he received the emergency order of revocation on December 11, 2015; that he “looked the documents over” and did not read them in their entirety; and that he subsequently flew on December 21, 2015.<sup>279</sup> Respondent explained that he discussed the emergency order of revocation with his attorney on December 14, 2014, and that, “through

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<sup>272</sup> *Id.* at 1243-44. *See* Exhs. R-79, R-95. The Hartzell’s 2001 service bulletin stated, “An unusual form of corrosion, possibly caused by bacteria, has been observed. If left undetected, this corrosion may lead to a crack that could result in clamp failure. Clamp failure can result in the loss of the propeller blade and aircraft...An in-flight blade separation can result in a catastrophic aircraft accident.” Exh. R-79 at 1, 4.

<sup>273</sup> Tr. at 1393-94. *See* Exh. R-95.

<sup>274</sup> Tr. at 1391-92.

<sup>275</sup> *Id.* at 1387, 1459, 1483-84.

<sup>276</sup> *Id.* at 1461, 1487-88.

<sup>277</sup> *Id.* at 1337.

<sup>278</sup> *Id.* at 1337-38, 1391-92.

<sup>279</sup> *Id.* at 483, 488-89, 1208, 1212, 1274-75.

miscommunication or whatever, [respondent] thought [he] was still allowed to fly.”<sup>280</sup> He stated that he loves flying, that he is a very good pilot, and that safety is most important to him.<sup>281</sup>

### *C. Law Judge’s Oral Initial Decision*

In the oral initial decision, the law judge determined that the Administrator proved the regulatory violations of 14 C.F.R. §§ 61.2(a)(1), 61.3(a)(1), 91.13(a), and 135.203(a)(1), as alleged by a preponderance of reliable, probative, and substantial evidence.<sup>282</sup> In making this determination, the law judge summarized the regulatory violations alleged in the complaint; discussed respondent’s admissions and denials in his answer; listed the admitted exhibits; summarized the testimony of respondent and the witnesses; summarized the facts relevant to the statutory violations; discussed relevant case law; and made credibility determinations.

Specifically, the law judge individually found credible Ms. McCann, Ms. Nason, Mr. Gleaves, Mr. Hayden, Mr. Fantazzi, Mr. Fickus, Mr. Motzko, Inspector Sipperley, and Mr. Grediagin.<sup>283</sup> The law judge indicated that Mr. Motzko’s analysis and calculations were persuasive, compelling, and supported by the preponderance of the evidence.<sup>284</sup> The law judge noted that Inspector Sipperley’s “courtroom demeanor required some adjustment” but reiterated that his testimony was credible.<sup>285</sup> The law judge did not make individual credibility findings of Mrs. Kirst, Dr. Sperbeck, Mr. Torrez, Mr. Lanier, Mr. Distad, Mr. Ebert, and Inspectors Farnell and Major, but stated that he found all the Administrator’s witnesses credible.<sup>286</sup>

The law judge found respondent not credible, describing his testimony as evasive, non-

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<sup>280</sup> *Id.* at 483-84, 487-88, 1268, 1272-73, 1275.

<sup>281</sup> *Id.* at 1269-70.

<sup>282</sup> Oral Initial Decision at 175, 184, 224.

<sup>283</sup> *Id.* at 13, 17, 19, 28, 60, 88, 100, 106.

<sup>284</sup> *Id.* at 199.

<sup>285</sup> *Id.* at 100.

<sup>286</sup> *Id.* at 230.

responsive, condescending during cross-examination, self-serving, not corroborated by the evidence, attempting to deflect the facts, and making the matters more complex and confusing.<sup>287</sup> The law judge gave as one example of respondent's incredible testimony respondent's assertions about Mr. Spencer as the source of blood on respondent's clothing.<sup>288</sup> The law judge explained that this testimony raised a concern to respondent's veracity since it concerned an immaterial matter in the case – respondent testified that Mr. Spencer's falling over the controls did not cause the crash.<sup>289</sup>

In finding respondent violated 14 C.F.R. §§ 61.2(a)(1) and 61(3)(a), the law judge pointed out that respondent presented no evidence or testimony to establish he had a valid pilot's certificate when he piloted the Cessna in December 2015, and that respondent did not testify about what he was advised regarding his certificate or who rendered this advice to him.<sup>290</sup>

In finding respondent violated 14 C.F.R. 135.203(a)(1), the law judge found that the August 2014 flight was a Part 135 flight because respondent provided no evidence documenting the flight as a Part 91 flight, because the flight was “for compensation or hire,” and because the passengers were not aerial photographers.<sup>291</sup> The law judge further found that respondent piloted the August 2014 flight below 500 feet AGL.<sup>292</sup> In so finding, the law judge gave no weight to respondent's testimony that Mr. Motzko corrupted or mishandled the Garmin 196 data, and indicated that none of respondent's evidence diminished Mr. Motzko's testimony.<sup>293</sup> The law judge found Mr. Motzko credible and his analysis and calculations of the GPS data persuasive,

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<sup>287</sup> *Id.* at 228-30.

<sup>288</sup> *Id.* at 228-29.

<sup>289</sup> *Id.* at 229-30.

<sup>290</sup> *Id.* at 174-75.

<sup>291</sup> *Id.* at 182-84.

<sup>292</sup> *Id.* at 185-204.

<sup>293</sup> *Id.* at 195-98.

compelling, and supported by the evidence.<sup>294</sup>

In finding respondent violated 14 C.F.R. § 91.13(a), the law judge stopped short of determining the cause of the accident but found that respondent did not prove that the accident was caused by an in-flight loss of the propeller blade.<sup>295</sup> The law judge explained that the testimonies of the witnesses on the ground and the two surviving passengers contradicted respondent's version of the events, and that respondent provided no evidence to support his claim of purported problems with the propeller, including an improper overhaul by Ottosen.<sup>296</sup>

The law judge thus found that the Administrator proved by a preponderance of the evidence that respondent violated 14 C.F.R. §§ 61.2(a)(1), 61.3(a)(1), 91.13(a), and 135.203(a)(1). The law judge next assessed the Administrator's choice of sanction to determine whether revocation was appropriate.<sup>297</sup> The law judge found no mitigating factors that warranted the imposition of a lesser sanction and agreed with the Administrator that respondent's past history of suspension was an aggravating factor.<sup>298</sup>

#### *D. Issues on Appeal*

Respondent contends that the law judge erred in two evidentiary rulings: 1) the law judge improperly admitted Exhibit A-11 into evidence under the hearsay exception in Federal Rule of Evidence (FRE) 803(18),<sup>299</sup> and 2) the law judge's admission into evidence of the Garmin 196 device and data was in error and prejudiced respondent.<sup>300</sup> Respondent argues that the law judge's credibility determinations are improper because they are arbitrary and capricious.

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<sup>294</sup> *Id.* at 199.

<sup>295</sup> *Id.* at 214-15, 223.

<sup>296</sup> *Id.* at 204-23.

<sup>297</sup> *Id.* at 230-34.

<sup>298</sup> *Id.* at 231-34.

<sup>299</sup> Appeal Br. at 29-30.

<sup>300</sup> *Id.* at 29-31.

Respondent further argues that the law judge erred in finding that respondent operated the August 2014 flight under Part 135, that respondent did so at an altitude of less than 500 feet above the surface, and that respondent did so carelessly or recklessly.<sup>301</sup> In appealing the law judge's finding respondent piloted the Cessna in December 2015 without a valid pilot's license, respondent asserts an affirmative defense of reasonable reliance.<sup>302</sup> Respondent further alleges that in affirming the sanction of revocation, the law judge did not make a proper evaluation of aggravating and mitigating factors.<sup>303</sup> The Administrator argues the law judge committed no error and opposes respondent's arguments for reversal.

## II. Decision

While we give deference to the law judge's rulings on certain issues, such as credibility determinations,<sup>304</sup> we review the law judge's decision *de novo*.<sup>305</sup>

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<sup>301</sup> *Id.* at 13-20.

<sup>302</sup> *Id.* at 8-12.

<sup>303</sup> On January 31, 2017, respondent submitted a Propeller Failure Analysis report from George A. Morse with Failure Analysis Service Technology, Inc., dated January 16, 2017 ("FAST report"), purporting to show that the August 2014 accident was due to an in-flight propeller failure. On May 15, 2017, respondent submitted e-mail correspondence between the FAA and the NTSB investigators discussing concerns about the propeller clamp bolts in September-October 2014. We decline to consider this evidence on appeal. Under 49 C.F.R. § 821.48(d), after the parties' briefs had been filed, we allow new submissions only upon a showing of good cause. Respondent does not provide good cause for his failure to earlier submit the e-mail correspondence and only asserts that the FAST report was not previously available. This explanation does not rise to the level of good cause necessary for submission of late evidence. *See Administrator v. Wilke, Selva and Heath*, NTSB Order No. EA-5565 (2011) ("We have long held that we will not, on appeal, entertain new evidence or attempt to resolve factual conflicts that the parties could have, but did not, litigate before the law judge"). *See also Administrator v. Guy America Airways, Inc.*, 4 NTSB 888 at n.2 (1983) (denying respondent's motion to supplement the appeal brief and stating that the documents respondent sought to introduce were not "newly discovered evidence" simply because respondent's counsel did not know of them at the time of the hearing).

<sup>304</sup> *Administrator v. Porco*, NTSB Order No. EA-5591 at 13 (2011), *aff'd sub nom.*, *Porco v. Huerta*, 472 Fed.Appx. 2 (D.C. Cir. 2012) (per curiam).

<sup>305</sup> *Administrator v. Smith*, NTSB Order No. EA-5646 at 8 (2013); *Administrator v. Frohmuth and Dworak*, NTSB Order No. EA-3816 at 2 n. 5 (1993); *Administrator v. Wolf*, NTSB Order

A. *Admission into Evidence of Exhibit A-11*

The Administrator introduced Exhibit A-11, which represents excerpts from the FAA's Advisory Circular No. 00-6B, titled "Aviation Weather," to refute respondent's statements to the witnesses and the investigators that a downdraft caused the accident.<sup>306</sup> Respondent argues that the law judge improperly admitted Exhibit A-11 into evidence under the hearsay exception found in FRE 803(18), which allows the proponent to read into evidence a statement contained in a learned treatise, periodical, or pamphlet if the statement is called to the attention of an expert witness on cross-examination or relied on by the expert on direct examination; and the publication is established as a reliable authority by the expert's admission or testimony, by another expert's testimony, or by judicial notice. FRE 803(18) does not, however, allow the statement to be admitted as an exhibit.<sup>307</sup> Respondent asserts that the admission of the document prejudiced respondent because Inspector Sipperley partly relied on this exhibit in rendering his opinion about the absence of downdrafts on the day of the accident, and the law judge relied on this opinion in rendering his decision.<sup>308</sup>

We review the law judge's procedural rulings under an abuse of discretion after a party can show such a ruling prejudiced him or her.<sup>309</sup> We agree with respondent that the law judge erred in admitting Exhibit A-11 into evidence. However, we see no prejudice to respondent's defense from the law judge's admission. Respondent testified that he did not experience a

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No. EA-3450 (1991); *Administrator v. Schneider*, 1 N.T.S.B. 1550 (1972) (in making factual findings, the Board is not bound by the law judge's findings).

<sup>306</sup> See Tr. at 237-38, 259, 264, 268, 430-32, 434-38.

<sup>307</sup> Appeal Br. at 29-30.

<sup>308</sup> *Id.*

<sup>309</sup> *Administrator v. Yerby*, NTSB Order No. EA-5771 at 10-11 (2016). See, e.g., *Administrator v. Giffin*, NTSB Order No. EA-5390 at 12 (2008); *Lackey v. FAA*, 386 Fed. Appx. 689, 696 (9th Cir. 2010).



downdraft on August 24, 2014.<sup>310</sup> In that, the content of the advisory circular supports, not contradicts, respondent's position about downdrafts that day. Additionally, while the law judge summarized Inspector Sipperley's and respondent's statements concerning a downdraft, the law judge did not rely on the advisory circular when making his findings and did not draw any conclusions as to whether downdrafts caused the accident.<sup>311</sup> Since there is no prejudice to respondent, we need not address whether the law judge's admission of Exhibit A-11 amounted to an abuse of discretion.

*B. Admission into Evidence of the Garmin 196 Device and Data*

Respondent argues that the law judge's admission into evidence of the Garmin 196 device was in error because the chain of custody for the device is insufficient under FRE 901(a) and *United States v. Espinal-Almeida*<sup>312</sup> and because the data was improperly authenticated under FRE 901(b)(9).<sup>313</sup> Respondent also maintains that the data recovered from the Garmin 196 is unreliable because the Administrator provided no evidence of what happened to the device from the time it was recovered by Officer Lanier until it was received by Inspector Sipperley.<sup>314</sup> Respondent states that the admission of the Garmin 196's data prejudiced him because the law judge relied on this data to find in favor of the Administrator.<sup>315</sup>

We find that the law judge did not commit any error in finding sufficient chain of custody of the Garmin 196 device.<sup>316</sup> FRE 901(a) states that "the proponent must produce evidence sufficient to support a finding that the item is what the proponent claims it is." The court in

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<sup>310</sup> Tr. at 1494.

<sup>311</sup> See Oral Initial Decision at 90-91, 96-97, 156, 170-234.

<sup>312</sup> 699 F.3d 588 (1st Cir. 2012).

<sup>313</sup> Appeal Br. at 30-31.

<sup>314</sup> *Id.* at 31.

<sup>315</sup> *Id.* at 31, n. 27.

<sup>316</sup> See Tr. at 738-39.

*Espinal-Almeida* noted that the FRE 901(a) authentication standard “is one of reasonable likelihood,”<sup>317</sup> and that the “[e]vidence is properly admitted if it is ‘readily identifiable by a unique feature or other identifying mark,’” but if this is not possible, “a testimonial tracing of the chain of custody’ is needed.”<sup>318</sup> Testimony and the record show that on the day of the accident, Officer Lanier removed the Garmin 196 device from the Navion and placed it in his evidence locker.<sup>319</sup> The NTSB picked up the device from this locker in September 2014 and returned it to Mr. Distad on November 18, 2014.<sup>320</sup> The same day, Inspector Sipperley picked up the device from Mr. Distad and gave it to Mr. Ebert.<sup>321</sup> On December 2, 2014, Mr. Ebert gave the device to Inspector Farnell to transport it to Mr. Motzko for data download.<sup>322</sup> After Mr. Motzko downloaded the data, Inspector Farnell returned the device to Mr. Ebert.<sup>323</sup> In April 2015, Mr. Ebert gave the device to Inspector Sipperley, who in turn gave it to Mr. Distad.<sup>324</sup> Months later, respondent picked up the device from Mr. Distad.<sup>325</sup> At the hearing, respondent conceded that the Garmin 196 device proffered by the Administrator during the hearing was the same device recovered from the Navion on the day of the accident.<sup>326</sup> In addition, Mr. Motzko, Officer Lanier, and the FAA Inspectors identified the Garmin 196 device at the hearing based on its brand, serial number, and the unique appearance reflecting the damage to the screen from the crash and confirmed it was the same GPS device that Officer Lanier had removed from the

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<sup>317</sup> 699 F.3d at 609, citing *United States v. Savarese*, 686 F.3d 1, 11 (1st Cir. 2012).

<sup>318</sup> 699 F.3d at 609, citing *United States v. Luna*, 649 F.3d 91, 103 (1st Cir. 2011).

<sup>319</sup> Tr. at 169.

<sup>320</sup> Tr. at 282-84, 298-99; Exh. A-14.

<sup>321</sup> Tr. at 282-86, 302.

<sup>322</sup> Tr. at 340-41, 349-50, 377-78, 415.

<sup>323</sup> Tr. at 342.

<sup>324</sup> Tr. at 293, 342-43, 350-51.

<sup>325</sup> Tr. at 318-19.

<sup>326</sup> See Tr. at 737.

Navion.<sup>327</sup> Since respondent provided no evidence to controvert these facts, the preponderance of the evidence constitutes sufficient chain of custody of the Garmin 196 device. In other words, there is a reasonable likelihood that the Garmin 196 device proffered by the Administrator at the hearing is the same Garmin 196 device that had been recovered from respondent's Navion.

Respondent also contends that the law judge erred in admitting the Garmin 196 data into evidence because it had not been properly authenticated under FRE 901(b)(9).<sup>328</sup> We find respondent's contention lacks merit. FRE 901(b)(9) specifies that data generated by a mechanism may be authenticated by evidence "describing [the mechanism's] process or system and showing that it produces an accurate result."<sup>329</sup> Concerning this rule, *Espinal-Almeida* held that the "evidence derived from the operation of a machine or instrument normally depends for its validity on the premise that the device was in proper working order."<sup>330</sup> The Court's analysis in *Espinal-Almeida* indicated that a testimony of a forensic scientist, who is "knowledgeable, trained, and experienced" in GPS data analysis, describing the processes employed by the GPS device itself and the applicable GPS software sufficiently authenticates GPS data under FRE 901(b)(9).<sup>331</sup> The Court also noted that such testimony need not specifically include "whether the GPS and the software were in good working order or whether [the forensic scientist] was

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<sup>327</sup> See Tr. at 190-191, 284, 286, 351-52, 356, 378, 747-48, 751.

<sup>328</sup> Appeal Br. at 30-31. Respondent did not specify at the hearing or in his Appeal Brief which exhibits the law judge erred in admitting. We consider that respondent challenges here the admission of Exhibits A-16, A-41, A-43 through A-50, and A-52, since they represent the data extracted by Mr. Motzko from respondent's Garmin 196. Mr. Motzko used these exhibits to render his opinion at the hearing, and the law judge relied on Mr. Motzko's opinion in finding respondent piloted the Navion on August 24, 2014, at an altitude below 500 feet AGL, in violation of 14 C.F.R. § 135.203(a)(1). See Oral Initial Decision at 195-99.

<sup>329</sup> Fed. R. Evid. 901(b)(9).

<sup>330</sup> 699 F.3d at 610, citing *United States v. Doyon*, 194 F.3d 207, 212 (1st Cir.1999).

<sup>331</sup> See 699 F.3d at 610-13.

confident they produced accurate results.”<sup>332</sup>

Here, Mr. Motzko’s testimony sufficiently authenticates the Garmin 196 data. Before the admission of the data into evidence, Mr. Motzko described his ample qualifications as a forensic scientist specializing in GPS data and technology; testified about the Garmin 196’s process of capturing and processing of satellite data, including what happens in the absence of a signal; and described in detail what software he used and how he used it to download the data from the Garmin 196.<sup>333</sup> Mr. Motzko also stated that he had no problems extracting the data, that the data was not corrupt, and that the data showed that the Garmin 196 operated “very well” on August 24, 2014.<sup>334</sup> Respondent provided no evidence to controvert these statements. Thus, Mr. Motzko’s testimony meets the standard for authentication under FRE 901(b)(9), as interpreted by *Espinal-Almeida*. Respondent’s argument that the Administrator did not establish the Garmin 196 was in proper working order given the damage it sustained from the accident is meritless: the Administrator established that despite the damage, the retrieved data indicated the device’s normal operation on August 24, 2014, and was consistent with respondent’s admitted flight path, including takeoffs, landings, and climbs.<sup>335</sup> The Administrator’s case rests on the data retrieved by Mr. Motzko, and Mr. Motzko’s testimony and his data graphs establish the reliability of the Garmin 196’s data.<sup>336</sup> Respondent provides no evidence showing the data is misleading such that it outweighs its probative value.<sup>337</sup> Thus, we find no error in the law judge’s admission of the Garmin 196’s data.

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<sup>332</sup> See 699 F.3d at 612.

<sup>333</sup> See Tr. at 742-52, 763, 767-69, 830-35, 846-47, 858-59, 862, 877, 899-90.

<sup>334</sup> See Tr. at 752, 767-68, 773.

<sup>335</sup> See Tr. at 752, 765-66, 767-70, 771, 773, 872-74, 905; Exhs. A-16, A-41, A-43 through A-50, A-52.

<sup>336</sup> See *infra* text at p. 51-54.

<sup>337</sup> See *Doyon*, 194 F.3d at 212-13.

### C. Law Judge's Credibility Evaluations

Our long-standing precedent indicates that credibility determinations are “within the exclusive province of the law judge.”<sup>338</sup> We have explained that because our law judges see and hear the witnesses, they are in the best position to evaluate witness credibility.<sup>339</sup> We have held that the law judge's credibility findings must be explicitly based on the factual findings in the record, and we will not overturn such findings unless they are arbitrary and capricious.<sup>340</sup>

Respondent argues that the law judge's credibility determinations are arbitrary and capricious because the law judge solely summarized the Administrator's witnesses' testimonies and did not explain how these summaries led him to conclude they were credible but respondent was not.<sup>341</sup> Respondent also argues that the law judge erred when he failed to address multiple discrepancies in the Administrator's witnesses' testimonies and failed to make credibility determinations as to Mr. Torrez and Officer Lanier.<sup>342</sup> Respondent asserts the law judge arbitrarily based respondent's entire credibility assessment on the testimony about the blood on respondent's clothes and made no credibility findings as to respondent's violations of 14 C.F.R. §§ 61.2(a)(1) and 61.3(a)(1).<sup>343</sup>

We find no error in the law judge's credibility determinations. The law judge considered respondent's credibility as it related to all regulatory violations, finding him “not credible in any of [his] arguments and defenses.”<sup>344</sup> After providing a detailed discussion of the testimonies and

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<sup>338</sup> *Administrator v. Kocsis*, 4 NTSB 461, 465 n.23 (1982). See *Administrator v. Smith*, 5 NTSB 1560, 1563 (1986); *Administrator v. Sanders*, 4 NTSB 1062 (1983).

<sup>339</sup> *Administrator v. Taylor*, NTSB Order No. EA-4509, 1996 WL 738720 at 3 (1996).

<sup>340</sup> *Dillmon v. NTSB*, 588 F.3d 1085, 1094 (D.C. Cir. 2009); *Administrator v. Reynolds*, NTSB Order No. EA-5641 at 8 (2012); *Porco*, NTSB Order No. EA-5591 at 20-21.

<sup>341</sup> Appeal Br. at 20-24.

<sup>342</sup> *Id.* at 23.

<sup>343</sup> *Id.* at 23-25, n. 16.

<sup>344</sup> Oral Initial Decision at 228.

the evidence in this case, the law judge explained that he found respondent not credible because he was “evasive, non-responsive and at times, condescending during cross-examination,” because he “was trying to make matters more complex and confusing, to deflect facts and questions that were detrimental to his case,” and because his testimony is contrary to the evidence in the case.<sup>345</sup> The law judge did not base these conclusions solely on respondent’s testimony regarding the source of the blood on his clothes but provided several examples of respondent’s incredible testimonies. For example, law judge noted respondent’s claim that the passengers were professional photographers and the evidence showing the contrary, discussed respondent’s uncorroborated testimony regarding an in-flight loss of the propeller blade and his unsubstantiated claim that Hartzell intentionally left out findings in its report to avoid liability, and observed the discrepancies between respondent’s account of the events of August 24, 2014, and that of the eyewitnesses.<sup>346</sup> Because the law judge provided well-reasoned and well-supported rationale for his finding respondent not credible, his credibility determination as to respondent is not arbitrary or capricious.<sup>347</sup>

We also find the law judge adequately assessed the credibility of the Administrator’s witnesses. The law judge’s failure to individually assess the credibility of Mr. Torrez and Officer

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<sup>345</sup> *See id.* at 228.

<sup>346</sup> *See id.* at 182-83, 204-15, 218, 222.

<sup>347</sup> Respondent also argues that the law judge arbitrarily based the credibility assessment of respondent on respondent’s testimony that he had no reason to lie because he would be liable for the accident no matter what. Appeal Br. at 24. In his decision, the law judge commented that it was respondent’s airman certificate, not his liability for the accident, that was at issue. Oral Initial Decision at 230. Respondent claims that the law judge arbitrarily assumed, without questioning respondent further, that respondent meant financial liability and not a revocation of his airman certificate. *Id.* at 24. Even if the law judge misunderstood respondent’s testimony here, we find no error in the law judge’s overall assessment that respondent was not credible. The law judge provided sufficient instances of respondent’s claims that were either uncorroborated or contrary to the greater weight of the evidence. Thus, we find no reason to overturn this determination.

Lanier is not a reversible error because his finding of all the Administrator's witnesses credible can be logically interpreted to mean he found Mr. Torrez and Officer Lanier credible. Respondent argues that the law judge overlooks in his credibility determinations the inconsistencies in Mr. Fickus's testimony as to respondent's altitude; the inconsistencies between the testimonies of Mr. Gleaves and Mr. Hayden and their written statements; the inconsistencies between Mr. Motzko's testimony and his declaration regarding a purchase of a Garmin 196 device and his use of the BaseCamp program to retrieve the data; and Inspector Sipperley's attempt during the hearing to mouth questions to the FAA counsel.<sup>348</sup> We disagree with respondent. Mr. Fickus was not inconsistent in his testimony regarding the Navion's altitude; rather, Mr. Fickus estimated the Navion's altitude at different points in its flight as it was heading away from Chandalar Shelf and towards Atigun Pass.<sup>349</sup> Although the law judge acknowledged that Inspector Sipperley's attitude at the hearing required "some adjustment," there is nothing incredible about the content of Inspector Sipperley's testimony.<sup>350</sup> We also find no error in the law judge's credibility assessment of Mr. Gleaves, Mr. Haden, and Mr. Motzko despite the noted inconsistencies<sup>351</sup> since we do not withhold deference to a law judge's credibility finding simply because other evidence in the record could have been given greater weight.<sup>352</sup> The Administrator's witnesses' testimonies are sufficiently consistent with each other and the GPS data to reflect the absence of arbitrariness or capriciousness in the law judge's

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<sup>348</sup> Appeal Br. at 21-23.

<sup>349</sup> See Tr. at 224, 226-27, 229, 231, 233, 240-41, 244-46, 250.

<sup>350</sup> Oral Initial Decision at 100.

<sup>351</sup> See *id.* at 11-12, 16-17, 83-84.

<sup>352</sup> *Administrator v. Swaters*, NTSB Order No. EA-5400 at n.8 (2008), citing *Administrator v. Crocker*, NTSB Order No. EA-4565 at 6 (1997); *Administrator v. Klock*, 6 NTSB 1530, 1531 (1989).

credibility findings.<sup>353</sup>

*D. Violations of 14 C.F.R. §§ 91.13(a) and 135.203(a)(1)*

*1. The August 2014 flight as a Part 135 flight*

From the outset, respondent argues that the 14 C.F.R. § 135.203(a)(1) charge was erroneous as a matter of law because Part 135 does not apply to flights for “[a]erial photography or survey.”<sup>354</sup> Respondent argues that the purpose of the August 2014 flight was aerial photography; therefore, Part 91 – not Part 135 – governs the flight.<sup>355</sup> We disagree with respondent’s argument. When a flight involves the carriage of persons or property “for compensation or hire,” the flight’s operator must hold a Part 119 air carrier or commercial operator certificate and operate such flights under Parts 121 or 135.<sup>356</sup> But, Part 119 provides several exceptions for operations involving flights “for compensation or hire.”<sup>357</sup> One exception is “[a]erial work operations such as aerial photography or survey,” which may be conducted under Part 91 rules.<sup>358</sup> This exception does not extend to commercial operations where sightseeing is the primary purpose.<sup>359</sup> Thus, at issue here is 1) whether the August 2014 flight was “for compensation or hire,” and 2) whether the primary purpose of the August 2014 flight was aerial work operations or sightseeing. Once the Administrator presents some evidence that

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<sup>353</sup> See *infra* text at pp. 53-54.

<sup>354</sup> Appeal Br. at 13-16.

<sup>355</sup> *Id.*

<sup>356</sup> See generally 14 C.F.R. § 119.1 *Applicability*. See also FAA Advisory Circular No. 12-12A, Private Carriage Versus Common Carriage of Persons or Property (1986), establishing that a flight is conducted under Part 135, not Part 91, when its operator exhibits “(1) a holding out of a willingness to (2) transport persons or property (3) from place to place (4) *for compensation* (emphasis added).

<sup>357</sup> See 14 C.F.R. § 119.1(e)

<sup>358</sup> See 14 C.F.R. § 91.501(b)(2).

<sup>359</sup> See, e.g., Ragland-Double Eagle Aviation 2015 Legal Interpretation from the FAA Deputy Assistant Chief Counsel for Regulations Lorelei Peter (May 5, 2015).



the August 2014 flight was a Part 135 flight (here, that it was “for compensation or hire”), the burden shifts to respondent to show that the flight was a Part 91 flight (here, that its primary purpose was aerial work operations and not sightseeing).<sup>360</sup>

First, we find no error in the law judge’s determination that the August 2014 flight was “for compensation.”<sup>361</sup> Our precedent shows that a flight is “for compensation” when the pilot and the passengers do not share a common purpose in the flight; meaning, a flight that is “for a different purpose of that of the pilot from that of the passengers.”<sup>362</sup> We have indicated that “for compensation” need not be monetary since future business or goodwill is sufficient;<sup>363</sup> thus, the flight having no common purpose could violate Part 135 even if the pilot is not paid.<sup>364</sup> Here, the law judge correctly pointed out respondent’s conflicting testimony regarding what respondent was paid for: respondent asserted that Mr. Spencer paid him only for the leg of the flight from Deadhorse, yet the record demonstrates that Mr. Spencer paid respondent \$3,500, which corresponds to respondent’s \$330 hourly rate for what would have been a 10-12-hour roundtrip flight from Fairbanks to Deadhorse.<sup>365</sup> Even if respondent was not paid for the Fairbanks-Deadhorse leg, it would have been in respondent’s economic interest to transport the passengers to Deadhorse to maintain their goodwill and secure the payment for their flight from Deadhorse.

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<sup>360</sup> See *Administrator v. Brown*, NTSB Order No. EA-3698 at 6 (1992), citing *Administrator v. Bowen*, NTSB Order No. EA-3351 at 14-15 (1991); *Administrator v. Woolsey*, NTSB Order No. EA-3391 (1991).

<sup>361</sup> See *id.* at 183-84.

<sup>362</sup> *Administrator v. Ferguson*, NTSB Order No. EA-5590 at 6-7, 12 (2011), citing *Administrator v. Rountree*, 2 NTSB 1712 (1975), *pet. for rev. denied*, *Rountree v. NTSB*, 556 F. 2d 588 (9th Cir. 1977).

<sup>363</sup> *Administrator v. Ferguson*, NTSB Order No. EA-5590 at 6, 12-13 (2011), citing *Administrator v. Wallace*, NTSB Order No. Ea-5461 at 16 (2009) (quoting *Administrator v. Clair Aero, Inc.*, NTSB Order No. EA-5181 at 11 (2005)).

<sup>364</sup> *Administrator v. Croy and Rich*, NTSB Order No. EA-4306 at 4 (1994), citing *Administrator v. Hagerty*, NTSB Order No. EA-3549 (1992).

<sup>365</sup> See Oral Initial Decision at 137-38. See also Tr. at 1280-81.

Respondent concedes at the hearing and in his appeal brief of not having any purpose of being in Deadhorse on August 24, 2014, besides flying the passengers to see the polar bears.<sup>366</sup> In the appeal brief, respondent confuses the definition of “common purpose” when he essentially argues that he had no choice but to fly the Fairbanks-Deadhorse leg to make happen the leg from Deadhorse.<sup>367</sup> It is clear that respondent did not plan to be in Deadhorse on August 24, 2014, to look for the polar bears irrespective of being hired by Mr. Spencer. Given the absence of a common purpose for the flight and respondent’s economic interest, the evidence sufficiently establishes that the August 2014 flight was “for compensation” and, therefore, subject to Part 135.

Second, we find no error in the law judge’s determination that Part 91’s aerial photography exception does not apply to the August 2014 flight.<sup>368</sup> Respondent denied having a contract for the August 2014 flight and provided no evidence to corroborate his assertion that the flight fell under Part 91 rules.<sup>369</sup> The credible testimony of the surviving passengers shows that the purpose of the August 2014 flight was sightseeing, not aerial photography: the passengers stated that they were family members on a vacation with their spouses and that they were not professional photographers.<sup>370</sup> The fact that the passengers wished to photograph polar bears and had recording devices of various types did not convert them into a crew performing an aerial work operation on August 24, 2014.<sup>371</sup> Otherwise, every flight with a tourist taking amateur

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<sup>366</sup> See Tr. at 1282; Appeal Br. at 16.

<sup>367</sup> See Appeal Br. at 16-17.

<sup>368</sup> See Oral Initial Decision at 180-83.

<sup>369</sup> See Tr. 1529-31.

<sup>370</sup> See Tr. at 501-03, 520; Exh. A-34 at 5, 14, 19-20.

<sup>371</sup> See Tr. at 445-47, 512, 546, 1279; Exh. A-34 at 5-6, 19. Mr. Spencer’s past publishing photography is insufficient to designate the August 24, 2014, flight as an aerial work operation, since “each person on board... [must be] necessary to perform the aerial work operation” for the flight to fall within the exception. See, e.g., Sapp-USHelicopters 2007 Legal Interpretation from

photos of objects on the ground would qualify as a Part 91 flight, allowing commercial operators to curtail the more restrictive Part 135 rules. As such, we agree with the law judge that respondent did not meet his burden of showing that the August 2014 flight was a Part 91 flight.<sup>372</sup>

## 2. *Operation of the August 2014 Flight Below 500 Feet AGL*

We find no error in the law judge's conclusion that respondent violated § 135.203(a)(1) by operating the Navion on August 24, 2014, below 500 feet AGL, when doing so was unnecessary for takeoff and landing. Respondent contends that the Garmin 196 data is unreliable and invalid because Mr. Motzko corrupted it by using incorrect software; a Garmin 196 device cannot be used to determine altitude; the WAAS and the RAIM coverages were poor on August 24, 2014; and the eyewitness accounts contradict each other and the GPS data.<sup>373</sup> The law judge determined that respondent's exhibits and testimony relative to these contentions merit no weight, and we find this determination well-supported.<sup>374</sup>

Respondent first argues that Mr. Motzko corrupted the Garmin 196 data by using incorrect software to download it.<sup>375</sup> To support this contention, respondent introduced Exhibit

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the FAA Assistance Chief Counsel for Regulations Rebecca McPherson (May 17, 2007). Even if Mr. Spencer had intended to take the flight as part of his photography book business, the other passengers were not part of this business: Ms. Nason intended to take up photography merely as a hobby, and there is no evidence of Ms. McCann's interest in photography apart from leisure. *See* Tr. at 512, 546; Exh. A-34 at 14, 19-20.

<sup>372</sup> Respondent also makes an argument about inapplicability of the "dual purpose" rule, which essentially states that the aerial photography exception does not apply to flights that serve the purpose of transportation in addition to aerial work. *See* Appeal Br. at 16-17. *See also, e.g., Administrator v. Henderson*, NTSB Order No. EA-3335 (1991). We do not need to consider this argument since respondent presents no evidence that the August 2014 flight involved aerial photography in the first place.

<sup>373</sup> Appeal Br. at 17-19.

<sup>374</sup> *See* Oral Initial Decision at 190-98.

<sup>375</sup> Appeal Br. at 19. *See* Tr. at 1190-96.

R-4, which reflects the Garmin 196 data respondent downloaded using Map Source software.<sup>376</sup> Respondent explains that Mr. Motzko's data as reflected in Exhibit A-16 is corrupted because it reflects latitude/longitude figures different from those reflected in Exhibit R-4.<sup>377</sup> The law judge rejected respondent's contention in his decision, noting respondent's admission on cross-examination that the latitude/longitude figures in Exhibit R-4 were the same as those in Exhibit A-41, which reflects the Navion's position data, and that the difference between Exhibits A-16 and A-41 is merely how the latitude/longitude data is expressed.<sup>378</sup> Indeed, Exhibit A-16 expresses the latitude/longitudes using a "decimal degree" system, while Exhibits R-4 and A-41 express the latitude/longitudes using the "degree and minutes" system. Since the law judge's ruling is consistent with the evidence, we have no reason to overturn it.

Respondent argues that the Garmin 196 data is unreliable because the pilot guide for a Garmin 196 device warns against its use "for any purpose requiring precise measurement of direction, distance, location, or topography...[or] to determine ground proximity for aircraft navigation."<sup>379</sup> Respondent adds that the poor WAAS coverage and the unavailability of RAIM indicated that the Garmin 196 device onboard the Navion was not receiving adequate signal on August 24, 2014.<sup>380</sup> The law judge properly rejected these arguments, citing Mr. Motzko's testimony that the pilot guide warning and the quality of WAAS and RAIM signals are irrelevant because they concern the use of a GPS device for instrument navigation.<sup>381</sup> Here, respondent's Garmin 196 was used for tracking, not navigation.<sup>382</sup> The law judge also noted that respondent's

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<sup>376</sup> See Exh. R-4.

<sup>377</sup> Tr. at 1190-97.

<sup>378</sup> Oral Initial Decision at 196-97. See Tr. at 1291-93.

<sup>379</sup> Appeal Br. at 18. See Exh. R-2 at 7.

<sup>380</sup> Appeal Br. at 18-19.

<sup>381</sup> See Oral Initial Decision at 190-95.

<sup>382</sup> See Tr. at 1160-61.

WAAS report actually indicated that the necessary number of satellites was always available to provide respondent's Garmin 196 its three-dimensional position (latitude, longitude, and altitude) on August 24, 2014.<sup>383</sup> We have no reason to overturn the law judge's ruling as it is based on the evidence.

Respondent finally argues that the Garmin 196 data is unreliable because it contradicts the accounts of the eyewitnesses, specifically, Mr. Hayden's estimation of the Navion's altitude at 500-800 feet AGL and Mr. Fickus's estimation of the Navion's altitude at 100-1,000 feet AGL.<sup>384</sup> The law judge made an adequate assessment of these testimonies: Mr. Fickus's estimation of Navion's altitude of 100 feet AGL above the top of the Chandalar shelf is consistent with the GPS data's 172 feet AGL at that location; and Mr. Hayden's estimation of the Navion's altitude of 500-800 feet AGL in the Atigun Pass canyon is consistent with the GPS data's altitude of 450 feet AGL in that location.<sup>385</sup> It is reasonable to infer that Mr. Hayden's location at the bottom of the canyon could have inhibited his ability to more precisely estimate the Navion's altitude against the Atigun Pass's rapidly rising terrain and its relation to the Dalton Highway, which was 800-1,000 feet above Mr. Hayden's location.<sup>386</sup> Mr. Fickus's rough estimation of the Navion's altitude of 1,000 feet AGL, "give or take 500 feet," when the Navion was within two miles of the Atigun Pass summit, and several miles away from Mr. Fickus, is reasonably consistent with the GPS data's altitude of 539-690 feet AGL in that location.<sup>387</sup> We see no error in the law judge's assessment of Hayden's and Mr. Fickus's testimonies as

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<sup>383</sup> See Oral Initial Decision at 167, 169, 194.

<sup>384</sup> Appeal Br. at 18-19.

<sup>385</sup> See Oral Initial Decision at 200-03. See also Tr. at 117, 227; Exh. A-16 at 22, Data Points 781, 800.

<sup>386</sup> See Tr. at 115-17.

<sup>387</sup> See Tr. at 250.

consistent with the GPS data.

Considering the Garmin 196's 50-foot tolerance, over 100 data points between the Navion's takeoff from Bettles and its crash in Atigun Pass reflect the Navion's altitude below 450 feet AGL.<sup>388</sup> Although the eyewitnesses could not precisely estimate Navion's altitude from the ground, their accounts uniformly echo the data. The surviving passengers expressed feeling that the Navion's altitude was too low when it flew around the lake or as it entered the Atigun Pass canyon.<sup>389</sup> Three pipeline maintenance workers on the ground – Mr. Gleaves, Mr. Haden, and Mr. Torrez – stated that they had not seen any other airplane flying in the Atigun Pass area as low to the ground as the Navion was on August 24, 2014.<sup>390</sup> Mr. Fickus, a Dalton Highway maintenance worker, conveyed a concern about the Navion's low altitude and its inability to outclimb the fast approaching Atigun Pass terrain.<sup>391</sup> The testimonies from these distinct groups of eyewitnesses and the valid GPS data demonstrate that respondent piloted the Navion on August 24, 2014, below 500 feet AGL in violation of § 135.203(a)(1).

### 3. *Operation of the August 2014 Flight in a Careless or Reckless Manner*

We find no error in the law judge's conclusion that respondent violated § 91.13(a) because he operated the Navion on August 24, 2014, in a careless or reckless manner. Our precedent indicates that the § 91.13(a) charge requires no additional proof after a violation of an operational regulation is sustained.<sup>392</sup> Section 135.203(a)(1) is such an operational regulation,

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<sup>388</sup> See Exh. A-16.

<sup>389</sup> See Tr. at 524-25, 545; Exh. A-24 at 26, 29, 34.

<sup>390</sup> See Tr. at 83-84, 91, 116, 120-21, 212.

<sup>391</sup> See Tr. at 228-29, 233.

<sup>392</sup> See *Administrator v. Pritchett*, NTSB Order EA-3271 at n. 17 (1991); *Administrator v. Richard*, NTSB Order No. EA-4223 at 13-14, n. 17 (1994); *Administrator v. Rogers*, NTSB Order No. EA-4428 at 5-6 (1996); *Administrator v. Wilbur*, NTSB Order No. EA-4669 at 3-4 (1998).

and we find no error in the law judge's finding that respondent violated it on August 24, 2014.<sup>393</sup> Thus, no further proof is necessary to establish that respondent operated the Navion on August 24, 2014, carelessly in violation of § 91.13(a).

The Administrator specifically alleged that respondent was reckless in his operation of the Navion when he ignored the "rapidly rising terrain" warning on the aeronautical chart for the Atigun Pass region and failed to maintain proper altitude throughout the flight, thus endangering the life or property of another.<sup>394</sup> On appeal, respondent counters that the inaccurate GPS data and inconsistent witness accounts disprove he acted recklessly in violation of § 91.13(a).<sup>395</sup> We have already rejected these arguments as unconvincing.<sup>396</sup>

In finding respondent violated § 91.13(a), the law judge sufficiently discussed relevant evidence and testimony, particularly, the Navion's controlled yet low flight and respondent's offer to fly through the canyon as opposed to over it.<sup>397</sup> We also note the testimony of respondent and Ms. Nason regarding respondent's offer to circle around the lake, which respondent did at an

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<sup>393</sup> See *supra* text at p. 48-54.

<sup>394</sup> See Second Amended Compl. ¶ 15; Reply Br. at 19.

<sup>395</sup> See Appeal Br. at 19-20, n. 15. Respondent also contends that the law judge misstated the evidence when he indicated that the tip from the broken propeller had been found at the accident scene. See *id.* at 20, n. 15. See also Oral Initial Decision at 218. While respondent is correct, it is not a reversible error since the law judge declined to make a finding as to the cause of the accident. See Oral Initial Decision at 223. The law judge only found that respondent did not meet his burden of proving the affirmative defense that an in-flight propeller break caused the accident. See *id.* Respondent does not appeal this finding and notably describes the lost propeller blade merely as an "idea" for the cause of the accident. See *id.* at 6, 20, n. 15. We find no reason to reverse the law judge's finding as to this affirmative defense. We also note that the exact cause of the accident is immaterial to the 91.13(a) charge of recklessness because the Administrator must only show potential endangerment. See *Administrator v. Martz*, NTSB Order No. EA-5447 (2009), citing *Administrator v. Lorenz*, NTSB Order No. EA-5205 at 2-3 (2006). Here, the Administrator met his burden.

<sup>396</sup> See *supra* text at 51-54.

<sup>397</sup> See Oral Initial Decision at 204-23.

altitude of 122 feet AGL.<sup>398</sup> Such conduct does not reflect a mistake by respondent, but rather a “deliberate action” based on a “purposeful choice” to engage in low flying so that his passengers could take better photographs.<sup>399</sup> Doing so, respondent endangered the life of his passengers: respondent chose to fly low in an area known for its rapidly raising terrain and frequent low-flying accidents; one witness on the ground, Mr. Fickus, felt respondent flew so low that he would not be able to gain enough altitude to clear the Atigun Pass summit; and one of the surviving passengers, Ms. Nason, described her fear and apprehension about respondent’s low altitude and her safety.<sup>400</sup> Respondent’s reckless action endangered the lives of his fare-paying passengers, who rightfully expected respondent to operate his aircraft with the highest possible degree of safety. We thus affirm the law judge’s finding that respondent violated § 91.13(a) on August 24, 2014.

*E. Violations of 14 C.F.R. §§ 61.2(a)(1) and 61.3(a)(1)*

We find no error in the law judge’s finding that respondent violated 14 C.F.R. §§ 61.2(a)(1) and 61.3(a)(1) when respondent piloted the Cessna on December 21, 2015, after his commercial pilot certificate had been revoked on December 11, 2015.<sup>401</sup> The law judge explained that respondent provided no evidence, through his own testimony or otherwise, to support his affirmative defense that he piloted the Cessna without a valid pilot certificate or authorization in reliance on a bad advice by an attorney.<sup>402</sup> Respondent argues that the law judge ignored the contradictory FAA pleadings, overlooked respondent’s difficulty to testify about his

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<sup>398</sup> See Exh. A-34 at 12-13; Exh. A-16 at 20, Data Point 713; Tr. at 507-11, 978-79.

<sup>399</sup> See *Administrator v. Kolodziejczyk*, NTSB Order No. 5909 at 51 (2021). See also, e.g., *In re Nicolet*, Docket No. SE-14569, 1996 WL 784083 at 2, 5 (1996); *Administrator v. Harvill*, Docket No. SE-15099, 1998 WL 715485 at 2-3 (1998).

<sup>400</sup> See Exh. A-10 at 3; Exh. A-34 at 26, 29, 34; Tr. at 228-29, 233, 973.

<sup>401</sup> See Oral Initial Decision at 170-75.

<sup>402</sup> See Oral Initial Decision at 172-73, 175.



attorney Brent Cole's incompetence, and ignored the attorney-client privilege of the conversations between respondent and Mr. Cole.<sup>403</sup>

We reject respondent's arguments. Despite the amended pleadings, the December 11, 2015, emergency order of revocation was clear and unambiguous that respondent's commercial pilot certificate was revoked "[e]ffective immediately" and subject to "immediate[] surrender."<sup>404</sup> The law judge did not err when he did not consider respondent's potential difficulty in testifying about Mr. Cole's incompetence or the attorney-client privilege because respondent raised neither issue at the hearing.<sup>405</sup> We find that respondent's vague assertion of reliance on a bad legal advice does not meet his evidentiary burden to prove his affirmative defense by a preponderance of the evidence.<sup>406</sup>

Respondent argues that we must consider respondent's reliance on his attorney's bad advice under the reasonable reliance doctrine.<sup>407</sup> The Administrator responds that the reasonable

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<sup>403</sup> See Appeal Br. at 10-11.

<sup>404</sup> See Amended Compl. at 3.

<sup>405</sup> See Tr. at 483-84, 487-88, 1268, 1272-73, 1275, 1689-91. We find the law judge's confusion about the details of the alleged bad advice reasonable given Mr. Cole's closing statement, "[Respondent] talked to his attorney about [the emergency order of revocation], and as I said, it's kind of hard to visualize that he wasn't told with no uncertain terms that he couldn't fly, yet he did." See Tr. at 1687.

<sup>406</sup> See *Miranda v. NTSB*, 866 F.2d. 805, 806 (5th. Cir. 1989).

<sup>407</sup> Appeal Br. at 8-9. Respondent cites to *Administrator v. Goade*, NTSB Order No. EA-2636, 5 N.T.S.B. 2403 (1987), in support of this assertion. *Id.* at 12. We find *Goade* unhelpful to respondent's case. In contrast to respondent's argument, *Goade* does not stand for the proposition that reasonable reliance is applicable to legal advice. Moreover, *Goade* supports respondent's violation of 14 C.F.R. §§ 61.2(a)(1) and 61.3(a)(1). Both Mr. Goade and respondent here acknowledged piloting an aircraft after receiving an emergency order of revocation requesting them to surrender their pilot certificates. See *Goade*, 5 N.T.S.B. at 2404; Tr. at 483-84. Both Mr. Goade and respondent here claimed that they reasonably believed they were nevertheless legal to fly because of the advice of their counsel. See *Goade*, 5 N.T.S.B. at 2404-05; Tr. at 484. We rejected Mr. Goade's arguments because Mr. Goade provided no evidence of such legal advice and noted that "no certificate holder could truthfully maintain the belief that it was permissible to exercise the privileges of a surrendered certificate." See *id.* We reject respondent's arguments here for the same reason.

reliance doctrine is a narrow doctrine applicable to airmen’s reliance on each other and does not apply to an attorney-client relationship.<sup>408</sup> In support, the Administrator cites to *Administrator v. Fay and Takacs*,<sup>409</sup> where we defined the reasonable reliance doctrine and held that the doctrine applies to cases “involving specialized, technical expertise where a flight crew member could not be expected to have the necessary knowledge.”<sup>410</sup> Interpreting our holding in *Fay*, the DC circuit stated that “[a]n element of the reasonable reliance defense is that the duty being relied upon must be one that has been assigned to the co-pilot or other crew member.”<sup>411</sup>

The Administrator is correct that the reasonable reliance doctrine as contemplated in *Fay* is not applicable to the current case. However, we have previously considered reasonable reliance in other contexts, including that of an attorney-client relationship.<sup>412</sup> In *Administrator v. Philips*, for example, we discussed *in dicta* an airman’s reliance on his employer’s counsel’s advice that he may continue flying despite the fact that the employer had been issued a cease and desist order.<sup>413</sup> We “decline[d] to state unequivocally that it is per se unreasonable...for an airman ..‘not to inquire into the status of the flight and the passengers’... and to instead rely on the advice of his or her employer or the employer’s counsel, if the overall circumstance suggest such advice is reliable.”<sup>414</sup> We noted that if “the circumstances suggest such advice may be

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<sup>408</sup> Reply Br. at 22.

<sup>409</sup> NTSB Order No. EA-3501 (1992).

<sup>410</sup> *Id.* at 10.

<sup>411</sup> *Nutsch v. NTSB*, 55 F.3d 684, 1 (D.C. Cir. 1995).

<sup>412</sup> *See, e.g. Administrator v. Tseng*, NTSB Order No. 5687 at 18-19 (2017) (considering whether an airman reasonably relied on a nurse at an aviation medical examiner’s office advising applicants how to fill out a medical certificate application); *Administrator v. Grossman*, NSTB Order No. 4752 at 3, n.6 (1999), *aff’d Grossman v. DOT & NTSB*, 11 F. App’x 780, 785 (9th Cir. 2001) (considering an airman’s reliance on an attorney’s advice regarding notifying the FAA of a driver’s license suspension/revocation).

<sup>413</sup> NSTB Order No. 5877 at 19-20 (2020).

<sup>414</sup> *Id.*

unreliable, then the airman does have a duty to ensure the legality of the flight.”<sup>415</sup> Here, we do not find respondent established the defense of reasonable reliance. Aside from respondent’s vague allusion to bad advice, respondent asserted at the hearing that he and his attorney “miscommunicated.”<sup>416</sup> Nothing in respondent’s account of why he continued to fly after receiving the emergency order of revocation shows that he did so because of his reliance on the advice of counsel. The emergency order of revocation unequivocally stated that respondent’s airman pilot certificate was revoked, and that respondent must surrender it.<sup>417</sup> Even if respondent had relied on counsel’s advice stating the contrary, such reliance would clearly be unreasonable. Thus, we affirm the law judge’s finding that respondent violated 14 C.F.R. §§ 61.2(a)(1) and 61.3(a)(1) on December 21, 2015.

*F. Sanction*

Respondent asserts that the law judge erred by not considering the mitigating factors when determining the proper sanction, namely, respondent’s confusion about the emergency order of revocation caused by his attorney’s bad advice and the period of inactivity between the Administrator’s initial order of revocation and the emergency order of revocation, when respondent was allowed to continue flying.<sup>418</sup> Respondent also asserts that the law judge improperly considered the “sister” case involving respondent’s mechanic certificate still pending before us as an aggravating factor of “past history of regulatory violations.”<sup>419</sup>

We find no error in the law judge’s affirmation of the Administrator’s choice of sanction. We deny respondent’s “bad legal advice” argument as mitigating for the same reasons discussed

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<sup>415</sup> *Id.*

<sup>416</sup> Tr. at 483-84, 487-88, 1268, 1272-73, 1275.

<sup>417</sup> Compl. at 3.

<sup>418</sup> Appeal Br. at 25-28.

<sup>419</sup> *Id.* at 28.

above.<sup>420</sup> Respondent did not articulate either at the hearing or on appeal *how* the Administrator’s eight-and-a-half month delay in issuing the emergency order of revocation confused respondent about the order’s request to immediately surrender his certificate.<sup>421</sup> We see no error in the law judge’s conclusion that respondent was not confused or prejudiced by this delay.<sup>422</sup> We also find no error in the law judge’s consideration of respondent’s past history of a regulatory violation as an aggravating factor since the law judge referenced the 2009 suspension of respondent’s pilot certificate, not the concurrent action against respondent’s mechanic certificate.<sup>423</sup>

The recent D.C. Circuit decision in *Pham v. NTSB* recently instructed us to defer to the Administrator’s sanction unless it is “unwarranted in law or without justification in fact.”<sup>424</sup> We consider both the Administrator’s recommendation and our own precedent in determining the appropriate sanction. The FAA’s sanction guidance provides that when an airman’s conduct evidences a lack of qualifications to hold an airman certificate, such conduct generally warrants revocation.<sup>425</sup> The sanction guidance lists “[e]xercising the privileges of a certificate while that certificate is suspended” as a single act generally warranting a revocation.<sup>426</sup> Certainly, exercising the privileges of a certificate while that certificate is revoked falls under the same

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<sup>420</sup> See *supra* text at p. 56-59.

<sup>421</sup> See Tr. at 1688-90; Appeal Br. at 27-28.

<sup>422</sup> See Oral Initial Decision at 233. For the same reason, we reject respondent’s argument that the Administrator’s delay in issuing the emergency order of revocation distinguishes his case from *Administrator v. Muscatine Flying Services, Inc. & Anderson*, NTSB Order No. EA-2553 (1987) and *Administrator v. Guy America Airways, Inc.*, NTSB Order No. EA-1944 (1983), where we affirmed revocations of certificates of pilots who piloted aircraft after receiving emergency orders of revocations. See Appeal Br. at 25, n. 20.

<sup>423</sup> See Oral Initial Decision at 231, 233; Tr. 1688; Exh. A-3 at 17-23.

<sup>424</sup> 33 F.4th 576, 583 (D.C. Cir. 2022) (citing *Amer. Power & Light Co. v. SEC*, 329 U.S. 90, 112-13 (1946)).

<sup>425</sup> FAA Order 2150.3C, Chapter 9, ¶ 8.a.(1)-(2).

<sup>426</sup> FAA Order 2150.3C, Chapter 9, ¶ 8.a., Figure 9-5(27).

category. In addition, our jurisprudence supports revocation as the appropriate sanction for low flying in a careless or reckless manner<sup>427</sup> and for operating an aircraft after emergency order of revocation.<sup>428</sup> Respondent has provided no convincing mitigating factors demonstrating the sanction of revocation was unwarranted in law or without justification in fact. We thus find no error in the law judge's affirmation of the Administrator's choice of sanction.

**ACCORDINGLY, IT IS ORDERED THAT:**

1. Respondent's appeal is denied;
2. The law judge's oral initial decision is affirmed; and
3. The Administrator's revocation of respondent's commercial pilot certificate with the airplane single engine land, airplane single engine sea, and instrument airplane ratings is affirmed.

HOMENDY, Chair; LANDSBERG, Vice Chairman; GRAHAM and CHAPMAN, Members of the Board, concurred in the above opinion and order.

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<sup>427</sup> See, e.g., *Administrator v. Frost*, NTSB Order No. EA-3856 (1993); *Administrator v. Poland*, NTSB Order No. 5449 (2009); *Administrator v. Kolodziejczyk*, NTSB Order No. EA-5909 (2021).

<sup>428</sup> See, e.g., *supra* cases cited in n. 422.

UNITED STATES OF AMERICA  
NATIONAL TRANSPORTATION SAFETY BOARD  
OFFICE OF ADMINISTRATIVE LAW JUDGES

-----x  
MICHAEL P. HUERTA, :  
ADMINISTRATOR, FEDERAL :  
AVIATION ADMINISTRATION :  
:   
Complainant, :  
: Docket No.  
v. : SE-30109  
:   
FOREST M. KIRST, :  
:   
Respondent. :  
-----x

409 L'Enfant Plaza, S.W.  
Washington, D.C.

Friday,  
September 2, 2016

The above-entitled matter came on for hearing,  
pursuant to notice, at 1:00 p.m.

BEFORE:

THE HONORABLE ALFONSO J. MONTAÑO,  
Chief Administrative Law Judge

## APPEARANCES:

On Behalf of the Complainant:

GLENN H. BROWN, ESQ.

of: Federal Aviation Administration  
Western Enforcement Team  
222 West 7th Avenue, #14  
Anchorage, Alaska 99513  
907-271-5271

LAUREN HOYSON, ESQ.

of: Federal Aviation Administration  
Midwest Enforcement Team  
2300 East Devon Avenue  
Room 479  
Des Plaines, Illinois 60018  
847-294-7165

On Behalf of the Respondent:

PATRICK BERGT, ESQ.

of: The Law Office of Brent R. Cole, PC  
821 N Street  
Suite 208  
Anchorage, Alaska 99501  
907-277-8001 (phone)  
907-277-8002 (fax)  
patrick@akcolelaw.com

BRENT R. COLE, ESQ.

The Law Office of Brent R. Cole, PC  
821 N Street  
Suite 208  
Anchorage, Alaska 99501  
907-277-8001 (phone)  
907-277-8002 (fax)  
brent@akcolelaw.com

## ORAL INITIAL DECISION AND ORDER

1  
2 JUDGE MONTAÑO: This is a proceeding under  
3 the provisions of 49 U.S.C. Section 44709, formerly  
4 Section 609 of the Federal Aviation Act, and the provi-  
5 sions of the Rules of Practice in Air Safety Proceed-  
6 ings of the National Transportation Safety Board. This  
7 matter has been heard before me as the Administrative  
8 Law Judge assigned to this case, and as provided by the  
9 Board's rules, I have elected to issue an oral initial  
10 decision in this matter.

11 Pursuant to notice, this matter came on for  
12 hearing on April 25th through the 29, 2016, in Anchor-  
13 age, Alaska. The case was continued due to lack of  
14 time to complete the hearing. The trial in this matter  
15 was completed on June 15, 2016.

16 The Administrator is represented by two of  
17 his staff counsel, Mr. Glenn H. Brown, Esquire and Ms.  
18 Laura Hoyson, Esquire, Federal Aviation Administration.  
19 The office of Mr. Brent Cole, Esquire, represents the  
20 Respondent.

21 My decision for the Board is based upon the  
22 pleadings filed in this case, and the evidence offered  
23 and received during the course of the proceedings. On  
24 April 1, 2015 the Respondent appealed the Administra-

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1 tor's Order of Revocation, which was initially filed as  
2 a non-emergency case on March 24th, 2015. The Admin-  
3 istrator filed his complaint in the case, and the Re-  
4 spondent subsequently filed his answer to the complaint  
5 on December 11, 2015. On December 11, 2015, the Admin-  
6 istrator filed an amended Order of Revocation and Dec-  
7 laration of Emergency in this matter.

8 The Administrator asserted in his filings  
9 that at the time the Administrator filed the non-emer-  
10 gency Order in March of 2015, the Respondent was unable  
11 to exercise the privileges of his airman certificate,  
12 due to injuries sustained in the aircraft accident that  
13 is the subject of this case. The Administrator further  
14 asserted that because Respondent was not able to exer-  
15 cise the privileges of his airman certificate, the  
16 Administrator determined the public interest in air  
17 safety did not require that Respondent's certificate to  
18 be revoked on an emergency basis. However, the Admini-  
19 strator asserted that he learned that the Respondent  
20 was now able to exercise the privileges of his airman  
21 certificate, which prompted the filing of the amended  
22 order of revocation and declaration of emergency in  
23 this case. The Respondent filed an unsuccessful chal-  
24 lenge to the emergency nature of the revocation.

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1           On December 24, 2015, the Administrator  
2 filed a second amended Emergency Order of Revocation,  
3 which included two additional allegations of violations  
4 of the Federal Aviation Regulations, which were alleged  
5 to have occurred on December 21, 2015. The Respondent  
6 subsequently timely filed an answer to the second  
7 amended order of revocation and asserted six affirma-  
8 tive defenses.

9           The emergency nature of these proceedings  
10 were waived by the Respondent, and a hearing in this  
11 matter was set for February 26, 2016, before Judge Pat-  
12 rick Geraghty. Judge Geraghty passed away. This case  
13 was subsequently assigned to me, and in conjunction  
14 with the parties, a hearing was scheduled in this case  
15 and its companion case, for the week of April 25th  
16 through the 29th, 2016.

17           The parties were afforded full opportunity  
18 to offer evidence, to call, examine and cross-examine  
19 witnesses and to make arguments in support of their  
20 respective positions. I will not discuss all of the  
21 evidence in detail. I have, however, considered all of  
22 the evidence both oral and documentary in this case.  
23 That which I do not specifically mention, is viewed by  
24 me as being corroborative or as not materially

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1 affecting the outcome of the decision.

2 I will not discuss the specific provisions  
3 of the complaint at this point, as I will discuss them  
4 in detail in the body of this decision. As far as the  
5 agreements between the parties in his answer to the  
6 Administrator's Second Amended Emergency Order of Revo-  
7 cation, the Respondent admitted paragraphs 1, 2, 3, 5,  
8 6, 7, 8, 14, 16, 17, 18, 19 and 20 of the Administra-  
9 tor's second amended Emergency Order of Revocation. As  
10 the Respondent has admitted to those allegations, they  
11 are deemed to be established for the purposes of the  
12 decision in this case. The Respondent has denied the  
13 allegations in paragraphs 3, 4, 9, 10, 11, 12, 13, 15,  
14 and paragraph 21A, B, C, and D, which are the cited  
15 violations in this case.

16 As far as the exhibits are concerned, let me  
17 start by saying that I will list the exhibits in the  
18 order that they were admitted into evidence and are  
19 marked in the -- identified in the transcript. Because  
20 of some difficulties we have had with the exhibits, I  
21 will double-check these, and when I edit the decision,  
22 and if the parties, in their review of the exhibits,  
23 find some discrepancy, I invite them to copy each other  
24 with those discrepancies, and send me a copy, so that

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1 we'll have a complete record, in the event that either  
2 or both parties wish to appeal this decision.

3 So, let me say that the Administrator moved  
4 for the following exhibits in the order they were in-  
5 troduced and are discussed in the record. A53, A4, A5,  
6 A6, A7, A54, A55, A56, A57, A58, A14, A15, A33, A34,  
7 A36, A37, A83, A39, A9, A16, A18, A41, A43, A44, A45,  
8 A46, A47, A48, A49, A50, A51, A52, A1, A2, A3, A4, A8,  
9 A10, A11, A19, A24, A32, A35, A40, A23, A39, A59, A60  
10 and A62. These were admitted into evidence in this  
11 case. R61 was offered in the Administrator's rebuttal  
12 case, but was not admitted into evidence.

13 The Respondent moved for the admission of  
14 Exhibits R80, R81, R82, R60, R84, R85, R86, R88, R18,  
15 R23, R25, R39, R43, R61, R89, R90, R1, R2, R4, R5, R18,  
16 R19, R20, R56, R62, R92, R59, R9, R10, R11, R13, R44,  
17 R45, R40 -- R53, R54, R79, R93, R94, R78, R95, R38,  
18 R66, R96, R97, R98, R99, R102, R103, R104, R105, R106,  
19 R77. Those exhibits were entered into evidence in this  
20 case. From the record, it appears that R91 and R111  
21 were marked, but not admitted into evidence. As I  
22 stated earlier, I will double-check those exhibits, to  
23 ensure that we have copies of all of those exhibits and  
24 my description of the admission or non-admission of

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1 those exhibits is correct, and by the time that this  
2 decision is edited, I will ensure that the evidence I  
3 have is correct, relative to the exhibits.

4 I will first discuss the testimony in this  
5 case, and then I will discuss how that testimony re-  
6 lates to the issues I must decide in this case. So,  
7 first, I will try to summarize the testimony of the  
8 witnesses in this case.

9 The first witness called by the Administra-  
10 tor was Mr. Matthew Gleaves. He currently resides and  
11 works in North Carolina. On August 24, 2014 he worked  
12 for Houston ARS as a pipe fitter on the Alaska pipe-  
13 line. He testified he was working in the area of Ati-  
14 gun Pass that day, repairing heat tubes. He identified  
15 and sponsored Exhibit-A53, A4, A5, A6 and A23. He tes-  
16 tified about the terrain at Atigun Pass, the roads and  
17 the Dalton Highway as are depicted in the photographs.

18 Mr. Gleaves testified that on August 24, it  
19 was a very nice day and there was no wind, the sky was  
20 clear. At about 12:30, he heard an aircraft. He re-  
21 membered the time of 12:30 because he had just finished  
22 lunch and he had just completed an ice bucket chal-  
23 lenge. He testified he was with Steve Hayden and was  
24 driving down the right-of-way road at about 10 miles an

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1 hour, when they heard the aircraft heading north. He  
2 testified that aircraft flying over the Atigun Pass in  
3 that area are common. However, he testified that the  
4 aircraft in this case seemed to be very loud. He tes-  
5 tified that Steve Hayden also said the aircraft seemed  
6 particularly loud.

7 He then received a call, he testified, on  
8 his CB, from his welder, who indicated that there had  
9 just been a plane crash. Mr. Gleaves indicated he  
10 heard the news of the crash just minutes after he heard  
11 the aircraft fly overhead.

12 Mr. Gleaves testified he notified Houston  
13 ASRC of the crash. He testified that he did not hear  
14 any other aircraft in the area, after he was informed  
15 of the crash. He testified that he and Mr. Hayden then  
16 drove up the hill and stopped his vehicle on the road,  
17 just above where the aircraft had crashed. He testi-  
18 fied the road was about 70 feet above the crash site.  
19 Mr. Gleaves identified photos of the crash site at  
20 Exhibit-5 and 6, A5 and A6. He notified the pump  
21 station that he was at the scene of the crash.

22 He testified that he and others at the crash  
23 site were able to get the canopy open with the help of  
24 Mr. Kirst, who was the pilot of the aircraft. Mr.

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1 Gleaves testified he got there about 15 minutes after  
2 the crash, and he talked to the passengers. He testi-  
3 fied that Mr. Kirst was alert and knew what was going  
4 on. All the passengers were awake and were able to  
5 respond. Mr. Gleaves indicated that they were in a bit  
6 of a daze, but were awake and were able to respond.

7 He testified he helped to get Mr. Kirst out  
8 of the aircraft first. He said that Mr. Kirst com-  
9 plained of lower back pains, and when he was out of the  
10 airplane, according to Mr. Gleaves, Mr. Kirst said,  
11 "There goes my business."

12 Daphne McCann was removed next, as she was  
13 directly seated behind Mr. Kirst. Then Ms. Nason was  
14 removed. He then testified that Mr. Darrel Spencer was  
15 removed from the aircraft, as he was older, and they  
16 wanted to be careful in removing him. Mr. Gleaves  
17 testified that Mr. Spencer was in the co-pilot seat and  
18 was wearing a five-point safety harness. It had to be  
19 unbuckled on his chest. He testified that the shoulder  
20 harnesses over Mr. Spencer's shoulders -- it appeared  
21 that he had slid down in the co-pilot seat, as a result  
22 of the impact.

23 Mr. Gleaves testified that he had been work-  
24 ing construction for over 20 years, and he had always

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1 been concerned with the safety of his employees or  
2 crew. He testified that he was surprised when Mr.  
3 Kirst stated that, "There goes my business," rather  
4 than showing some concern for his passengers.

5 On cross-examination, Mr. Gleaves testified  
6 that the weather the day of the accident was very simi-  
7 lar to the weather depicted in photographs in Exhibit-  
8 A4. The sky was similar and there was no wind that  
9 day. He testified that there was very little vegeta-  
10 tion at the crash site. He testified there was some  
11 brush at the lower levels, as depicted in the photo-  
12 graphs, but nothing greater than waist high.

13 Mr. Gleaves testified he continue working in  
14 the area the rest of the week and left the area on  
15 Friday. He testified that while he was there, he did  
16 not attempt to look for the propeller of the plane. It  
17 never occurred to him to do so. He testified he commu-  
18 nicated with Jason Majors by email, and he was told by  
19 Inspector Majors that they, meaning the FAA, were  
20 searching for a propeller. He testified he prepared a  
21 statement for Alyeska and one for Mr. Majors. He iden-  
22 tified his statement that he provided on August 24th,  
23 2014, but did not remember providing a second state-  
24 ment. He stated he provided that second statement

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1 after an 18-hour day. He agreed that the statements  
2 did not include references to Mr. Kirst's statement  
3 that, "There goes my business." He also agreed that  
4 his statement did not include any reference to the  
5 shoulder harness worn by Mr. Spencer.

6 Mr. Gleaves testified that he had seen other  
7 aircraft in the area over Atigun Pass, but had never  
8 seen an aircraft fly through the pass. Mr. Gleaves  
9 initially testified that he did not have any communica-  
10 tion regarding efforts to locate a propeller at the  
11 crash site. However, he was shown an email that such a  
12 communication had taken place, which indicated Mr.  
13 Majors was looking for the missing propeller, and was  
14 trying to determine if the aircraft was attempting to  
15 make a U-turn before the crash. Mr. Gleaves testified  
16 that he did not know if Mr. Kirst had attempted to make  
17 a U-turn, but he testified he believed that Mr. Kirst  
18 should have made a U-turn in this situation.

19 He testified that he did not see anyone  
20 looking for the lost propeller. He testified that he  
21 had seen a propeller on the underside of the aircraft  
22 at the time he was there at the crash scene. Mr.  
23 Gleaves testified that he asked Mr. Majors, as to what  
24 the cause of the crash was, and Mr. Majors told him he

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1 could not discuss the cause of the crash with him. He  
2 testified that he continued working in the area, but he  
3 did not see anyone looking for a propeller blades while  
4 he was in the area. Mr. Gleaves testified he believed  
5 the aircraft had hit the side of the hill and it slid  
6 about 30 feet.

7 On re-direct, he testified he did not look  
8 for a prop blade because it did not cross his mind that  
9 he should search for a prop blade. He testified his  
10 only involvement in the crash was to help the passen-  
11 gers. He testified that if he had found the prop  
12 blade, he would have reported it to everyone involved.  
13 I found Mr. Gleaves to be credible, both on direct and  
14 cross-examination.

15 Mr. Hayden was the second witness called by  
16 the Administrator. He testified that he has had prior  
17 aviation experience. He worked for American War Birds,  
18 which involves restoring vintage aircraft and subse-  
19 quently selling them. He testified that he was also a  
20 member of the crash response team for the Reno Air  
21 Show. Mr. Hayden testified he has taken flight lessons  
22 -- however, his first attempt to pass the knowledge  
23 exam was unsuccessful. He testified that from 2001 to  
24 2007, he was involved with the Civil Air Patrol, and

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1 then, subsequently, he became the Squadron Commander.  
2 He testified that he has logged some 70 to 80 hours of  
3 flight time.

4 He testified that on August 24, 2014, he was  
5 working for the Houston contractor, doing pipeline  
6 maintenance. He was working at Atigun Pass, working on  
7 the heating tubes at the bottom of the canyon. He tes-  
8 tified that the terrain where he was working was hilly,  
9 steep and rocky. He testified as to the topography of  
10 the area, and testified he has seen three or four air-  
11 craft fly over the Atigun Pass, during the period he  
12 worked in the area.

13 He testified that he heard the aircraft in  
14 this case just before he saw it. He testified the time  
15 was between 1:00 and 1:30, just after lunch. He testi-  
16 fied he was riding in the truck with Mr. Gleaves, head-  
17 ing south, away from Atigun Pass. He testified that  
18 the sound of the aircraft caught his attention. He  
19 testified it sounded like the engine was revving up.  
20 Mr. Hayden testified that when the aircraft flew over,  
21 he could hear the propeller tips. Mr. Hayden testified  
22 that the previous aircraft he had seen in the area  
23 usually flew over the pass at a higher altitude.

24 He testified that when he looked up at the

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1 aircraft, he saw the dark-colored underside aircraft  
2 and the wing tip tanks. Mr. Hayden testified that when  
3 he saw the aircraft, he believed it was between 500 to  
4 800 feet in altitude above him. He testified that the  
5 aircraft was below the road, which was between 800 to  
6 1,000 feet above where he was located -- where he was  
7 in his truck.

8 Mr. Hayden testified that he was concerned  
9 when he saw the aircraft because it was flying so low.  
10 He testified that he told Mr. Gleaves, "Man, that air-  
11 craft is just right there."

12 He testified that the operation of the air-  
13 craft seemed unusual because the aircraft was lower  
14 than other aircraft he had seen in the area before. He  
15 had seen some aircraft go toward the Atigun Pass and  
16 then turn around. This airplane did not circle back.  
17 Mr. Hayden testified that he heard on the radio that an  
18 aircraft had crashed three to five minutes after he had  
19 seen the aircraft.

20 He did not see any other aircraft in the sky  
21 between the time he saw Respondent flying overhead and  
22 the time of the crash. He testified that he and Mr.  
23 Greeves drove up to the main road to gain access to the  
24 accident scene. When he reviewed Exhibit-A5, he testi-

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1 fied that he could not state that it was a photo of the  
2 crashed aircraft, because he had only seen the wing and  
3 the wing tips as it flew over.

4 On cross-examination he testified that he  
5 had worked at Atigun Pass for the five days prior to  
6 the crash, and he testified that three or four planes  
7 had flown through the Pass during that time. He said  
8 he saw one of the planes flying north and the other  
9 three fly south. He testified the planes he saw in-  
10 cluded a Maule and a Cessna.

11 He again testified that when he saw the air-  
12 craft, it was between 500 to 800 feet above him. He  
13 testified it did not look as though the aircraft was  
14 out of control when he saw it. He also agreed that the  
15 sound of the aircraft revving up might have been the  
16 echo, and not an indication that the aircraft was  
17 starting to climb. Mr. Hayden did not see the aircraft  
18 come toward him, but he heard the high pitch propeller  
19 sound, but he was positive that the plane, as he said,  
20 was "just right there." He provided a handwritten  
21 statement to the state trooper who investigated the  
22 case, and the statement was written a day or two after  
23 the accident.

24 Mr. Hayden testified he was contacted by

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1 Aviation Safety Inspector Sipperley, and was asked to  
2 provide a statement, and he agreed that his report did  
3 not mention that he had told Mr. Gleaves that the  
4 aircraft, as he stated was "right there." Mr. Hayden  
5 testified he was not part of the rescue operation at  
6 the crash scene.

7 On re-direct, he testified that he was con-  
8 cerned that Respondent's aircraft was lower than other  
9 aircraft that he had seen in the area of Atigun Pass.  
10 Mr. Hayden was a credible witness, both on direct and  
11 cross-examination.

12 The next witness presented by the Adminis-  
13 trator was Mr. Vincent Fantazzi. Mr. Fantazzi testi-  
14 fied he currently works for the Catholic Schools of  
15 Fairbanks, where he was working as a laborer on a main-  
16 tenance crew for the Houston contractor on August 24,  
17 2014.

18 He testified he was working with Adrian  
19 Torrez. They had just finished eating lunch and they  
20 had just stepped out of the cab of their truck. Mr.  
21 Fantazzi said that Adrian looked up, and then he looked  
22 up as well, and he saw the plane on the side of the  
23 hill. He could not say what part of the plane hit the  
24 side of the hill first. It came down on its bottom and

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1 then stayed there. He testified it had come to an  
2 abrupt stop. He pointed out the truck where he had  
3 exited, which is noted on Exhibit-A5.

4 Mr. Fantazzi testified he ran up to the  
5 crash site with a Mr. Robert Williams following behind  
6 him. He testified that he was relieved to see movement  
7 in the cockpit. He testified that Mr. Kirst gave him  
8 instructions on how to open the canopy on the aircraft,  
9 and Mr. Williams helped him open the canopy.

10 When asked if Mr. Kirst said anything to Mr.  
11 Fantazzi, Mr. Fantazzi testified Mr. Kirst was provid-  
12 ing most of the instructions to rescuers. He testified  
13 that he heard Mr. Kirst say, "What happened? What hap-  
14 pened? I don't know what happened." He was speaking  
15 to himself, Mr. Fantazzi indicated. He testified that  
16 Mr. Kirst was just talking to himself, and he heard him,  
17 Mr. Kirst, say, "There goes my business. There goes my  
18 insurance. What the hell happened?"

19 Mr. Fantazzi testified that he heard Mr.  
20 Kirst tell someone else to make sure to turn some  
21 switch. He testified he also heard Mr. Kirst say, "I  
22 don't know what happened," and he also heard him say,  
23 "Did I come in too low? I don't know."

24 On cross-examination, Mr. Fantazzi agreed

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1 that the crash was a traumatic event. He testified he  
2 did not hear the plane before the crash, and did not  
3 see what was happening to the plane 20 seconds before  
4 it crashed. He again testified he ran to the wreckage  
5 to offer assistance.

6 He testified he did not get the impression  
7 that Mr. Kirst was not interested in the welfare of the  
8 passengers of his aircraft. He testified he could not  
9 recall if the windshield on the co-pilot side was dam-  
10 aged in the crash. Mr. Fantazzi testified that he saw  
11 Mr. Spencer slumped in the co-pilot seat with his head  
12 leaning out of the side of the plane, and there was a  
13 large pooling of blood on the wing.

14 He testified that he believed Mr. Kirst was  
15 in shock, but Mr. Kirst was able to tell the rescuers  
16 what to do. Mr. Fantazzi testified that Mr. Kirst, as  
17 he recalled, did not have a head injury.

18 On re-direct, he testified he did not recall  
19 a hole or damage on the co-pilot's side of the aircraft  
20 windshield. But he again testified that he heard Mr.  
21 Kirst say, "Maybe I was too low. I don't know." Mr.  
22 Fantazzi was also a credible witness, both on direct  
23 and cross-examination.

24 Scott Lanier is an Alaska state trooper who was

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1 called to the scene of the crash. He has been a state  
2 trooper for six years. He conducts investigations as  
3 part of his job duties.

4 He testified that on August 24th, he was on  
5 duty on wildlife patrol, flying his Piper Super Cub.  
6 He received a satellite text message about the acci-  
7 dent. He flew to Fairbanks, to try to get a flight to  
8 Atigun Pass, but that was not possible, so he flew back  
9 to Cold Foot Camp, landed, and drove to Atigun Pass in  
10 his State truck.

11 When he arrived, he said that all of the  
12 occupants were being cared for medically. He went down  
13 to the crashed aircraft to make sure no one else was in  
14 the aircraft. He looked around the general area and  
15 looked for valuable items to secure them. He located a  
16 high value camera, a 22 Marlin rifle, backpacks, a  
17 cache of survival gear, and a GPS device.

18 He took the GPS device for evidentiary  
19 value. He identified the GPS as a Garmin 196. He took  
20 the device to the evidence locker at Cold Foot Post.  
21 He testified that two days later, on August 27th, he  
22 drove to the Fairbanks Post, and took the GPS to the  
23 evidence locker at that point. He testified that the  
24 GPS was subsequently turned over to the NTSB on Sep-

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1        tember 9, 2014. Officer Lanier testified he put the  
2        GPS device in evidence and noted its Serial No. 6521386  
3        on his report. His report was admitted into evidence  
4        as A57.

5                    On cross-examination, Officer Lanier testi-  
6        fied that at the time he was flying, before reporting  
7        to the accident, the winds at Atigun Pass were light  
8        and variable. He agreed that the winds at Atigun Pass  
9        can average between 20 to 25 miles an hour, and the air  
10       currents can be bumpy.

11                   He testified that it was not uncommon for  
12       propellers to break off when an aircraft strikes the  
13       ground. He testified that there was no one else at the  
14       scene when he was there.

15                   Officer Lanier testified that his supervisor  
16       was contacted by a representative from Hartzell Propel-  
17       lers, and he was asked to go with the representative to  
18       look for the propeller at the crash site. They subse-  
19       quently searched over a 200 square foot area, but did  
20       not find the propeller. He did find the tip of a pro-  
21       peller at the crash site, but he did not find the rest  
22       of the missing prop blade.

23                   When asked if the Hartzell representative  
24       was surprised they did not find the missing propeller

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1 blade, Officer Lanier testified that they discussed the  
2 fact that they thought that the prop blade was probably  
3 sitting on someone's mantel. Officer Lanier testified  
4 that when he searched the aircraft, he did not see  
5 spiderweb damage to the left side of the windshield of  
6 the aircraft.

7 Office Lanier was shown the GPS device and  
8 reviewed his report to refresh his recollection as to  
9 the serial number of the GPS, and verified that the  
10 serial number was the serial number he had placed on  
11 his report. He testified that when he found the device  
12 in the aircraft, it did have black marks on the screen,  
13 but he did not put that in his report because he  
14 believed that may have occurred during the crash. On  
15 re-direct, he testified that he has no doubt that the  
16 GPS unit he saw and handled at the hearing was the GPS  
17 he took from the crashed aircraft on August 24, 2014.

18 Adrian Torrez was the next witness for the  
19 Administrator. He testified by telephone from Bill-  
20 ings, Montana. He testified he was employed by Houston  
21 Contractor as a welder on August 24, 2014. He was  
22 working with Vince Fantazzi at the bottom of Atigun  
23 Pass, and he testified that he saw an aircraft flying  
24 very low, lower than any other aircraft he had seen in

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1 the area.

2 He testified he kept watching the aircraft  
3 until it crashed into the side of the mountain. Mr.  
4 Torrez testified that it appeared as though the air-  
5 craft was coming in for a landing on the side of the  
6 mountain. He testified it was not like a crash you see  
7 in movies. He testified it was more like an awkward  
8 landing on the side of the mountain.

9 Mr. Torrez testified that he first heard the  
10 plane and then he watched it fly for about 10 seconds  
11 before it crashed. He testified the engine sounded  
12 like it was really revving up.

13 Mr. Torrez testified that he saw the air-  
14 craft slide after it impacted, and he testified that it  
15 did not appear as though the aircraft was out of con-  
16 trol, as he stated -- the awkward landing into the side  
17 of the mountain. Mr. Torrez testified he could not  
18 judge the altitude of the plane.

19 On cross-examination, Mr. Torrez testified  
20 that he had seen a couple of other planes fly into the  
21 area during the couple of days he was there. However,  
22 he testified that he had never seen any aircraft fly  
23 that low. The other planes he saw were flying at a  
24 higher altitude.

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1           He testified it was a rather sunny day on  
2 August 24, 2014. His window of the truck was rolled  
3 down. He testified the high revving engine sounded as  
4 though it was at a full throttle type of deal, he  
5 testified. Mr. Torrez testified that the aircraft did  
6 not nose-dive into the mountain, but seemed to more or  
7 less slide to a stop on the side of the mountain.

8           He testified he ran up to the crash to as-  
9 sist in helping the passengers. He did not recall see-  
10 ing the right side of the aircraft windshield damaged,  
11 and he did recall that the passenger on the right side  
12 of the aircraft had on a shoulder harness. When asked  
13 about the propeller, Mr. Torrez testified he did not  
14 pay attention to the propeller at all.

15           Mr. Timothy R. Fickus testified that he was  
16 working for Chandalar maintenance station, for the  
17 State of Alaska. He is an equipment operator. He tes-  
18 tified he is familiar with the Dalton Highway. Mr.  
19 Fickus is a private pilot. He flies several hours a  
20 week, but in the winter, flies about 10 hours. He  
21 testified he had about -- a total of 1,500 hours of  
22 flying time, and has flown a number of different air-  
23 craft. He has flown through Atigun Pass, he testified,  
24 at least a half dozen times.

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1                   On August 24th, he saw an aircraft fly over  
2 him at a low altitude. He testified it concerned him.  
3 At the time that the aircraft flew over him, he was  
4 driving a semi-truck. He testified that Chandalar  
5 Shelf is at the end of the timber line with a grade  
6 that rapidly rises. He testified that you have to  
7 increase altitude by about 1,500 feet to get over Ati-  
8 gun Pass. When he looked out of his truck, he saw the  
9 underbelly of the aircraft and a wing with a wingtip  
10 tanks and a North American tail, as he described on the  
11 aircraft.

12                   He testified that the aircraft flew over  
13 Chandalar Shelf at an altitude he estimated to be about  
14 100 feet. He testified that the altitude of the air-  
15 craft alarmed him because it was so low. He testified  
16 that the sectional chart for the area indicates that  
17 there is rapidly raising terrain, and he testified that  
18 the Summit of Atigun Pass is about 4,800 feet, which  
19 requires a significant climb in altitude in a very  
20 short distance. He testified that once the plane flew  
21 over, he saw the aircraft continue up the pass. Mr.  
22 Fickus testified that he was driving north on the  
23 shelf, as the plane was heading north. He watched the  
24 aircraft until it disappeared from his sight.

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1           He again testified that he was concerned for  
2 the aircraft, because the point where he lost sight of  
3 the aircraft is the area where there is an extreme  
4 climb to Atigun Pass. He testified that he watched,  
5 but he did not see the aircraft circle back.

6           Mr. Fickus testified that during the time he  
7 had the aircraft in sight, he did not see anything  
8 unusual in the way that it was flying. It was in a  
9 stable flight with no apparent control issues that he  
10 could observe.

11           He later learned that there was an airplane  
12 crash at the Atigun Pass. He asked his supervisor if  
13 he should respond, and he did so. When he got to the  
14 crash site, he recognized the aircraft as the same  
15 aircraft that had flown overhead as he was driving.

16           When he arrived at the crash site, the pilot  
17 and one passenger had been extracted. He testified  
18 that he heard Mr. Kirst say that he hit a large down-  
19 draft that pushed him into the rocks. Mr. Fickus tes-  
20 tified that he did not think that statement was cred-  
21 ible because there was very little wind that day. He  
22 also testified that the cloud formation did not  
23 indicate unstable air. He testified unstable air may  
24 be indicated by the formation of lenticular clouds.

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1 Mr. Fickus testified that the photo in Exhibit-A8 was  
2 representative of the weather that day.

3 On cross-examination, Mr. Fickus testified  
4 again that the aircraft flew 100 feet over the top of  
5 the Chandalar Shelf. It was 300 feet over his head and  
6 directly in front of him when it flew over the shelf.  
7 He testified that he saw the plane for about five or  
8 six seconds, but he was able to gauge the altitude of  
9 the aircraft in that period of time.

10 He testified he does not use glasses for  
11 distance, but he does have to use reading glasses. He  
12 testified he was comfortable in gauging the aircraft  
13 altitude when it passed over him. He testified when he  
14 re-established sight of the aircraft, he believed the  
15 aircraft was at 500 feet, or maybe higher at that time.

16 He testified he took no notes after the  
17 event, but prepared a report on October 29th, 2014,  
18 based on his memory. He testified he spoke to the  
19 investigator before writing the report. Mr. Fickus  
20 testified his boss was driving the truck ahead of him,  
21 and when they stopped, he asked his boss if he had seen  
22 the aircraft.

23 It was pointed out that in the October 29th,  
24 2014 report he prepared, he estimated the altitude of

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1 the aircraft to be at 1,000 feet above ground level.  
2 Again, testified that he did not see anything that  
3 appeared to be wrong with the way the aircraft was  
4 flying.

5 Mr. Fickus testified that when he got to the  
6 crash site, he looked at the control panel and noted  
7 the throttle was pushed in and bent. He testified that  
8 the flaps on the airplane were one half of the way  
9 down, or extended. He testified that he was asked by  
10 Mr. Kirst to turn off the master switch on the air-  
11 craft, and he indicated that he had been asked to do  
12 that. When asked about a missing propeller, Mr. Fickus  
13 testified he thought it was odd, but he spent no time  
14 looking for it.

15 He testified that Mr. Kirst appeared to be  
16 in pain, but was not in shock. One of the women that  
17 was involved in the crash did go into shock, and was  
18 the second person to be evacuated from the site. He  
19 testified that when he asked Mr. Kirst what happened,  
20 Mr. Kirst told him that he was at 6,000 feet and then  
21 he was hit by a down-draft and tried to turn out of it.  
22 I found Mr. Fickus to be very credible. He is a pilot  
23 with experience, as far as alti-tudes, as far as down-  
24 drafts, as far as other matters related to aviation.

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1           The next witness that testified for the  
2 Administrator was Inspector Sipperley. He testified  
3 twice in this case. He first testified about the chain  
4 of custody of the GPS unit. Inspector Sipperley testi-  
5 fied that during his investigation, he learned that  
6 the NTSB had custody of the GPS unit that had been  
7 taken from Mr. Kirst's aircraft. He testified that he  
8 coordinated with the NTSB office in Anchorage and in  
9 Washington D.C., to arrange to have the GPS released to  
10 the FAA. He testified he was informed that the GPS  
11 would be returned to Mr. Destadd. Mr. Destadd, at that  
12 time, was Mr. Kirst's representative. He testified  
13 that he was subsequently called by Mr. Destadd, who in-  
14 formed him that he had received the GPS from the NTSB.

15           Inspector Sipperley and Inspector Major went  
16 to Mr. Destadd's place of business to pick up the GPS.  
17 When they arrived, the GPS was still in the shipping  
18 box. He testified that Mr. Destadd signed the chain of  
19 custody sheet and turned the GPS over to Inspector  
20 Sipperley and Inspector Major. That document is at  
21 Exhibit-A14. Inspector Sipperley testified he opened  
22 the box, matched the serial number on the GPS with the  
23 paperwork he had been provided. He put the GPS back in  
24 the box and took it to his office. When he got to his

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1 office, he transferred the GPS unit to his supervisor  
2 Rick Ebert, who in turn put the box, with the device in  
3 it, in a locked drawer in his desk.

4 Before transferring, he prepared a memo of  
5 record, and Mr. Ebert signed for the GPS unit -- and  
6 I'm referring to Mr. Sipperley -- prepared a memo of  
7 record, and Mr. Ebert signed it, saying he had received  
8 the GPS unit. Inspector Sipperley was asked to look at  
9 Exhibit-A8. He identified the tracking sheet for the  
10 GPS, which included the Serial No. 65421386.

11 He testified that in April of 2015, he was  
12 contacted by Mr. Black, the attorney for the FAA at  
13 that time, who provided him with the GPS, to return to  
14 Mr. Destadd. He testified that he returned the GPS to  
15 Mr. Destadd because he had received the GPS from Mr.  
16 Destadd and Mr. Destadd was Mr. Kirst's representative.

17 On cross-examination, he testified he had  
18 worked for the FFA for eight months prior to working on  
19 the Kirst crash. Before working for the FAA, he worked  
20 for the National Weather Service. Inspector Sipperley  
21 testified he was trained and certified by the FAA to  
22 conduct investigations. He testified he had conducted  
23 three or four major accidents before becoming involved  
24 in the Kirst case.

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1           He testified he could not recall how he  
2 learned that the trooper had the GPS. He testified he  
3 did see a photo that showed a GPS 430 in the instrument  
4 panel of the aircraft. He testified he did not try to  
5 obtain the Garmin 430. He testified that he later  
6 learned that trooper turned over the GPS device to  
7 Brice Banning of the NTSB.

8           He testified that during his investigation,  
9 he was only trying to find the cause of the accident.  
10 He was not attempting to find fault. When asked if he  
11 exchanged notes about the GPS data with the NTSB,  
12 Inspector Sipperley testified he could not recall, but  
13 he may have received some information from the NTSB.

14           He testified that he did not know how long  
15 Mr. Destadd had his GPS device in his possession before  
16 he called the FAA. He testified it could have been 30  
17 minutes or 10 minutes, he was not sure. When he  
18 arrived at Mr. Destadd's place of business, Inspector  
19 Sipperley took a photo of the box and then opened the  
20 box to make sure the serial number on the unit matched  
21 the paperwork he had. He testified he could not recall  
22 if he tried to power up the unit, but he did not be-  
23 lieve he did so. He testified when he opened the box,  
24 he saw that there was some damage to the screen of the

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1 unit. He testified he did not prepare any other notes,  
2 other than was made and included in his enforcement  
3 investigative report.

4 On re-direct, Inspector Sipperley testified  
5 that the GPS 430 was not the target of interest in the  
6 crashed airplane. The 196 was easier to access and he  
7 made no effort to obtain the Garmin 430. He testified  
8 he did not believe that anyone else analyzed the data  
9 from the Garmin 430.

10 Mr. Fred Destadd then testified. He testi-  
11 fied that he knew Mr. Kirst because Mr. Kirst operated  
12 his businesses out of Mr. Destadd's business, which is  
13 called Arctic Aviation. He testified that Mr. Kirst  
14 did perform flight instruction and had aircraft on the  
15 ramp at Arctic Aviation. Mr. Destadd testified that  
16 Mr. Kirst also had a 135 operation, and Mr. Destadd  
17 himself was director of maintenance for Mr. Kirst's  
18 Part 135 operation.

19 He testified that he received a call from  
20 the NTSB and was told that the GPS unit was going to be  
21 sent to him. He testified that the NTSB told him that  
22 once he received the GPS unit, he was to inform the  
23 FAA, as they wanted to analyze the data. He testified  
24 that he received the GPS unit on November 14, 2014.

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1           The next person to testify was Mr. Richard  
2 R. Ebert. Mr. Ebert is a front line manager with the  
3 Boise Flight Standards District Office. He has been  
4 employed by the FAA for seven years. He testified he  
5 was previously a maintenance inspector in the Anchorage  
6 and Fairbanks Flight Standards District Office, before  
7 he was promoted to a front line manager and then moved  
8 to Boise, Idaho.

9           When he was in Fairbanks, he became aware of  
10 the KIRST accident, when he received a call directing  
11 him to send inspectors to investigate. He assigned  
12 Jason Major and Chris Farnell to the investigation. He  
13 testified that Inspector Sipperley was involved in the  
14 investigation of the enforcement aspects of the case.

15           Mr. Ebert testified that he was aware that a  
16 GPS unit was on board the accident aircraft. A GPS is  
17 usually a great help in determining what occurred  
18 relative to the crash, he testified. He testified that  
19 the FAA takes great care in securing GPS to ensure  
20 chain of custody. He testified that he believed the  
21 GPS unit had been with the NTSB. Mr. Ebert identified  
22 a box, as indicated in Exhibit-A15. He testified that  
23 Brad Sipperley brought the box to his office, and they  
24 created and signed a document which reflected that the

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1 box had been handled and had been made secure. That is  
2 Exhibit A15.

3 He testified that after he received the box,  
4 he put it in his desk drawer and locked it. Mr. Ebert  
5 testified he took the box out of his locked drawer when  
6 it was going to go to Anchorage, in order to download  
7 information off of the GPS unit. He signed the custody  
8 document at A15, indicating that it was turned over to  
9 Mr. Chris Farnell to take the GPS to Anchorage. The  
10 GPS unit was subsequently returned to him when Chris  
11 Farnell brought it back to him about two days later.  
12 He signed the chain of custody document and put the GPS  
13 unit back in his locked drawer. Mr. Ebert testified  
14 that it remained there for several months, until he  
15 transferred it to Brad Sipperley, then signed the chain  
16 of custody document, and Mr. Sipperley returned it to  
17 Mr. Destadd.

18 On cross-examination he testified that prior  
19 to working for the FAA, he worked for 30 years as an  
20 A&P mechanic, first in Louisiana, and then went to work  
21 for Northwest Airlines. He testified that Jason Major  
22 and Chris Farnell were first assigned to the accident  
23 investigation. Brad Sipperley then became involved in  
24 the enforcement investigation for the pilot action, and

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1 Jason Major was assigned to a different case. He also  
2 testified that there was interaction between the NTSB  
3 and FAA -- relative to accident investigations -- with  
4 the NTSB taking the lead.

5 Mr. Ebert testified he was aware that there  
6 was a Garmin 430 on board the aircraft, but he under-  
7 stood that it had been damaged and was unusable. He  
8 believed he learned this from the NTSB. He testified  
9 he was not sure if the NTSB had the Garmin 430.

10 Mr. Ebert testified he opened the box when  
11 he received it to make sure that it contained the GPS  
12 unit. He agreed that there was no documentation which  
13 indicated that the box had been opened.

14 On re-direct he testified he only opened the  
15 box for the purpose of the chain of custody. He wanted  
16 to make sure the GPS unit was in the box.

17 On re-cross, he agreed that Exhibit-R18  
18 indicated that the screen was damaged on the GPS. He  
19 testified that whether the unit was damaged was not his  
20 concern. The chain of custody was his only concern.  
21 He indicated that he did not indicate that the screen  
22 was damaged on the chain of custody form. Again, he  
23 testified he did not turn the GPS unit on when he took  
24 it out of the box.

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1           On re-direct, he was shown Exhibit-A13, and  
2 he testified that it was a document that accompanied  
3 the GPS unit when it came from the NTSB. He agreed  
4 that the document included a notation that the screen  
5 was damaged, but he testified he did not focus on that  
6 statement when he filled out the chain of custody form.

7           Mr. Chris Farnell was the next witness to  
8 testify. He is currently employed by the Helena,  
9 Montana FSDO -- Flight Standards District Office. He  
10 is an Operations Inspector and has been employed in  
11 that capacity since 2015. He testified that he has  
12 been employed by the FAA for 19 years. He previously  
13 worked in the Fairbanks FSDO. Inspector Farnell testi-  
14 fied that he previously conducted a check-ride with Mr.  
15 Kirst about two or three months before the accident.  
16 He said that during that check-ride, Mr. Kirst utilized  
17 his Navion aircraft, which is the subject of the crash  
18 in this case.

19           Inspector Farnell testified that he assisted  
20 Inspector Major at the crash site, which included look-  
21 ing for a propeller blade. Inspector Farnell testified  
22 he arrived at the scene and completed a site inspection  
23 of the area. He found no parts on the side of the  
24 canyon, only paint on the rocks where the aircraft

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1 impacted. He testified that the aircraft appeared to  
2 have slid for 50 to 60 yards after impact.

3 Mr. Farnell testified that on September 9th,  
4 2014, he participated in a telephone interview with Mr.  
5 Kirst. Mr. Kirst was in the hospital at the time.  
6 Inspector Farnell testified that he did not remember  
7 much about the interview, as it was a year and a half  
8 ago.

9 He remembered that Mr. Kirst had said that  
10 passengers had taken some motion sickness pills, which  
11 made them drowsy. Mr. Kirst said something about the  
12 passenger in the cockpit seat going over the controls.  
13 He testified that Mr. Kirst had also said there was a  
14 down-draft that had forced his plane downward.

15 Inspector Farnell testified regarding the  
16 GPS that he picked up. He testified he picked up the  
17 unit from Mr. Ebert's office. The GPS was locked in  
18 Mr. Ebert's desk. He confirmed the serial number on  
19 the GPS, took it to Anchorage and delivered to Mr.  
20 Motzko. He remained at Mr. Motzko's office for two  
21 hours. Inspector Farnell testified that after the end  
22 of the two hours, Mr. Motzko put the GPS unit back in  
23 the box and gave it to him, and he then took it back to  
24 Mr. Ebert's office where it was again locked in a

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1 drawer. He identified A13 as a photo of the box that  
2 was used to transport the unit.

3 On cross-examination Mr. Farnell testified  
4 he worked for the Fairbanks FSDO for 18 years. His  
5 primary responsibilities were oversight and risk analy-  
6 sis of air carriers and operators, and regulatory com-  
7 pliance.

8 He found out about the accident the day it  
9 happened. He testified he prepared a report of the  
10 accident which was more than two pages in length. It  
11 took over a six-month period to complete. He did not  
12 make notes that he can recall.

13 Inspector Farnell testified that he was not  
14 aware of the cause of the crash. He went to the acci-  
15 dent site with Inspector Major, for the purpose of  
16 investigating the cause of the crash. They arrived at  
17 the crash scene the actual day of the crash. He testi-  
18 fied that he stayed at the crash scene for four or five  
19 hours. He did not recall what the weather was reported  
20 to be on the day of the crash. He testified that he  
21 realized a prop blade was missing when they were look-  
22 ing at the engine components.

23 Inspector Farnell testified that it took  
24 five minutes to walk to the crash site, which was below

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1 the road on the side of the canyon. He testified that  
2 he and Inspector Major searched for the prop blade for  
3 about an hour and a half. When asked if he ever con-  
4 sidered that the plane might have lost a prop in flight  
5 he responded, "Sure, that was a possibility." He tes-  
6 tified that the engine mount was intact, so it was  
7 probably not a real good possibility that the prop  
8 blade came off in flight, but it was a possibility.

9 He testified the motor mount on Mr. Kirst's  
10 aircraft was broken, but he testified it was from the  
11 impact of the accident. Inspector Farnell testified  
12 that the crack in the engine mount was vertical, and  
13 would not be the type of broken engine mount seen if a  
14 propeller came had come off in flight.

15 He pointed to A5 as an example of a vertical  
16 crack. When asked what he based his opinion upon, he  
17 testified 19 years of experience and several hundred  
18 hours of training on accident investigation. He agreed  
19 that he believed that if the engine prop had been  
20 thrown in flight, that it would make the aircraft  
21 uncontrollable, and it would basically have ripped the  
22 engine right off the plane. He agreed that that would  
23 occur within a few seconds and the event, if that  
24 occurred, would be unsurvivable.

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1           Inspector Farnell testified that he and  
2           Inspector Major searched for the missing prop blade for  
3           a long time. They searched the area 50 yards back from  
4           where the aircraft first hit the hillside. They  
5           searched the entire hillside, all the way down to the  
6           road at the bottom of the canyon. He testified he had  
7           heard that someone else had recovered the airplane and  
8           that a Hartzell propeller representative subsequently  
9           searched for the missing prop blade, as well.

10           Inspector Farnell testified that the flaps  
11           on the aircraft were down, but he did know how far down  
12           they were extended. He did not remember the position  
13           of the throttle, but he testified that he agreed that  
14           was important. He testified it could be indicative of  
15           a potential engine shutdown, if the throttle was out or  
16           if the throttle was in, and flaps down, it would indi-  
17           cate low air speed. He testified that it could mean  
18           that there was a controlled landing in the situation.

19           Inspector Farnell testified he saw damage to  
20           the windshield of the aircraft. He testified that he  
21           coordinated the findings of the investigation with  
22           Inspector Major, and they included an entry that the  
23           prop could not be found.

24           He testified that they then conducted inter-

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1 views with Mr. Kirst and all of the passengers. He  
2 testified he determined that Mr. Kirst was available to  
3 testify by phone. He was informed by the nurse, when  
4 he called, that Mr. Kirst had improved, so they gave  
5 Mr. Kirst the call. He testified that he did not re-  
6 cord the conversation because it is illegal to do so,  
7 and they are not trained to do that. Inspector Farnell  
8 testified that he wrote a report of the conversation  
9 and signed it. He testified it was 25 to 30 minutes in  
10 length, and that Inspector Major asked the questions.  
11 He testified they asked Mr. Kirst first if he was on  
12 medications in the hospital, to make sure he had a  
13 clear mind before he answered any of their questions.  
14 Inspector Farnell testified that Mr. Kirst was asked  
15 if he was in pain, and he indicated that he was taking  
16 medication for the pain. He was not asked what kind of  
17 pain medication he was taking. Inspector Farnell  
18 testified that Mr. Kirst was asked if it was okay to  
19 answer questions, and Mr. Kirst indicated, "Yes, no  
20 problem." Inspector Farnell agreed that it was  
21 possible that the information provided by Mr. Kirst was  
22 not accurate. He testified he did not inform Mr. Kirst  
23 that they were unable to find the propeller blade,  
24 because the investigation was still ongoing.

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1           Inspector Farnell testified that he had  
2 flown with Mr. Kirst on a check-ride a couple of months  
3 before the accident. There had been a problem during  
4 the check-ride when the windshield suddenly became  
5 obscured with oil. He testified it was not an emer-  
6 gency, but they flew back to the airport. He testified  
7 that Mr. Kirst was slow to respond to the situation at  
8 first, and that he had to remind Mr. Kirst to hold his  
9 altitude before he got within gliding range of the run-  
10 way. After an uneventful landing, Mr. Kirst checked  
11 the aircraft and stated the oil cap had come loose.  
12 Inspector Farnell testified he gave Mr. Kirst the  
13 benefit of the doubt, and allowed him to clean up the  
14 plane, and Kirst successfully completed the check ride  
15 the same day.

16           Inspector Farnell was then asked questions  
17 relative to the chain of custody for the GPS. He  
18 testified he first saw the GPS when the front line  
19 super-visor handed it to him in the box to take it to  
20 Anchorage. The box was closed, but they opened it to  
21 make sure it was the same box with the GPS. It was, so  
22 they re-taped the box and took the box to Anchorage and  
23 handed it to Mr. Motzko. He testified he watched Mr.  
24 Motzko download the information on the GPS. Mr. Motzko

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1 then handed the GPS back to him, he took it back to  
2 Fairbanks, locked it in one of his drawers, and the  
3 next day he took it to Mr. Ebert.

4 On re-direct, Inspector Farnell testified  
5 that during the interview with Mr. Kirst, there was no  
6 indication that Mr. Kirst was not understanding the  
7 questions he was being asked. He testified that he did  
8 not hear anything that sounded like Mr. Kirst was  
9 unable to think about his answers to questions.

10 In response to counsel's questions, he  
11 testified that lowering of the flaps on the crashed  
12 airplane could indicate an attempt to shorten the turn  
13 radius or to turn out of the canyon. He testified if  
14 he could not have landed on the road, he would have  
15 tried to land at the bottom of the canyon, on the dirt  
16 road below the bottom of the canyon. He testified that  
17 Atigun Pass, was famous for a lot of accidents.

18 On re-cross, Inspector Farnell testified  
19 that he had spoken to the witnesses in the plane, but  
20 none of them reported that Mr. Spencer slumped over the  
21 controls of the aircraft. Inspector Farnell testified  
22 that the two passengers in the back did not remember  
23 Mr. Spencer slumping over the controls. He agreed that  
24 Mr. Spencer did not confirm that he did or did not

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1 slump over the controls and testified that Mr. Spencer  
2 could not remember anything about the accident.

3 Inspector Farnell testified he was confident the other  
4 witnesses in the plane remembered that they did not see  
5 Mr. Spencer slump over the controls.

6 Inspector Farnell testified that he did not  
7 have special training as to the effect of medication,  
8 and since the interview was over the phone he did not  
9 see Mr. Kirst during the interview.

10 In response to my questions, Inspector  
11 Farnell stated that he interviewed Mr. Spencer first,  
12 then Mr. Kirst, and then the other two passengers.

13 He testified that during the interview, Mr.  
14 Kirst stated that Mr. Spencer leaned forward and then  
15 onto Mr. Kirst. He testified that Mr. Kirst initially  
16 stated that Mr. Spencer was the cause of the crash.  
17 Inspector Farnell testified that once Mr. Kirst found  
18 out the propeller blade was missing, Mr. Kirst either  
19 combined the two causes or switched to the lost propel-  
20 ler as causing the crash.

21 Inspector Farnell testified that Mr. Kirst  
22 had also mentioned gusting winds during the interview,  
23 and Mr. Kirst had stated that there were down drafts in  
24 the area, and it aggravated the situation. Inspector

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1 Farnell testified that Mr. Kirst first blamed the down-  
2 draft for the cause of the accident, then the crash was  
3 caused by Mr. Spencer when he slumped over the con-  
4 trols. Then when Mr. Kirst found out about the missing  
5 propeller, that was the cause of the accident; the  
6 missing propeller caused the accident.

7 Inspector Farnell testified that during his  
8 interview in the hospital, Mr. Kirst did not talk about  
9 losing a propeller. He testified that Mr. Spencer  
10 could not remember anything that occurred about three  
11 minutes before the crash. He testified that the two  
12 women passengers also could not remember what occurred  
13 three to five minutes before the crash.

14 On re-direct, after my questions, Inspector  
15 Farnell's recollection was refreshed by a document and  
16 he testified that Mr. Kirst did not mention a down-  
17 draft during the hospital interview. Inspector Farnell  
18 testified that he did not review the video depositions  
19 of the two witnesses that were passengers in the back  
20 seat, which were obtained subsequent to his interviews.

21 On re-cross, Mr. Farnell agreed that it  
22 would have been better to record the conversation, but,  
23 again, he is not authorized to do that.

24 The deposition of Mr. Kirst was then read

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1 into the record for the Administrator. The deposition  
2 documents A1 is simply the complaint in the case. A2  
3 is a set of photographs that have been identified for  
4 the hearing as Exhibit-A23, 24, 25, 26, 27, 28, 29, 30,  
5 and A31.

6 Deposition Exhibit-3 is Hearing Exhibit-A16.  
7 Exhibit-4 is Hearing Exhibit-18 and Deposition Exhibit-  
8 5 is Trial Exhibit-A2.

9 Exhibit-A39 is the original of the deposi-  
10 tion of Mr. Kirst, which is in the record. The deposi-  
11 tion took place on March 2nd, 2016.

12 Mr. Kirst testified that the flight was not  
13 a Part 135 flight. That was because Mr. Spencer con-  
14 tacted him to do aerial photography of polar bears. He  
15 testified the aerial photography was a Part 91 flight.  
16 He testified that getting to Barrow for the flight to  
17 perform aerial photography was also Part 91. He testi-  
18 fied he informed Mr. Spencer that he was welcome to fly  
19 along with him up to Barrow, instead of Mr. Spencer  
20 flying by commercial jet.

21 He testified Darrel Spencer was sitting on  
22 the right side, right seat, and the two women seated in  
23 the rear seats were his sisters-in-law. Mr. Spencer  
24 paid him \$3,500 for the flight, and there was no change

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1 in cost if he brought along two other two people, his  
2 sisters-in-law. Mr. Kirst testified that Spencer paid  
3 \$3,500 for flying from Dead Horse, down the coast to  
4 look for polar bears, and taking pictures. He testi-  
5 fied that Mr. Spencer chose to fly with him, Mr. Kirst,  
6 up to Dead Horse, rather than take Alaska Airlines to  
7 Dead Horse and pay for that trip.

8 He testified that Mr. Spencer did not pay  
9 anything extra for the ride from Fairbanks to Dead  
10 Horse, which made the flight a Part 91 flight, accord-  
11 ing to Mr. Kirst. He testified that he, Mr. Spencer,  
12 did not pay anything extra for two additional passen-  
13 gers. He testified the trip up to Dead Horse was, in  
14 his words, a freebie. He testified that Mr. Spencer  
15 and his party would fly back with him to Fairbanks, or  
16 jump on Alaska Airlines for the flight back. He testi-  
17 fied he is advertised as doing aerial photography and  
18 on-demand charters. Mr. Kirst testified that he denied  
19 Paragraph 4 of the complaint, because the passengers in  
20 his aircraft were not passengers, but they were all  
21 photographers.

22 He testified that the first leg of the  
23 flight was from Fairbanks to Bettles, and the flight  
24 was a little bumpy. Mr. Spencer offered the two

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1 ladies, his sisters-in-law, some pills to get rid of  
2 their motion sickness, but he testified they turned  
3 them down.

4 Mr. Kirst testified his altitude on the  
5 first leg of the trip was 3,500 to 4,500 feet. After a  
6 short stop in Bettles, of about 20 minutes, they con-  
7 tinued on their flight. When asked if he provided any  
8 commentary during the flight, as some tour guides do,  
9 Mr. Kirst testified he could not remember what they  
10 talked about or what he said to them. He testified  
11 that they circled some things during the flight that  
12 they wanted to see. One was a moose. They circled the  
13 moose by completing standard rate turns for the air-  
14 craft.

15 When asked about the last few minutes of the  
16 flight, he testified that he passed through 5,500 feet  
17 of altitude, through 5,600 feet of altitude and was  
18 headed to 6,000 feet of altitude. He testified that at  
19 5,600 feet, he was still climbing and could look  
20 through the Pass. He saw no clouds on the other side.  
21 He saw trucks on the road and then the airplane sud-  
22 denly pitched over really badly. He testified it was  
23 going down, air speed, going from 130 to 160 miles per  
24 hour. He performed a U-turn, he said, and at that

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1 time, Mr. Spencer flopped forward. He testified that  
2 he pulled him off the yoke and he tried to use back  
3 pressure to stabilize the aircraft, but doing that did  
4 not change the attitude of the plane.

5 He testified he pulled the power to idle,  
6 which he said helped. He turned 180 degrees, put out  
7 partial flaps, he testified, which brought the nose up.  
8 He testified back pressure did not help, and engine  
9 power made it worse. He testified that Mr. Spencer had  
10 bumped the throttle and had momentarily made things  
11 worse, and he was yelling to Mr. Spencer's sisters-in-  
12 law in the back, to hold onto him. He realized the  
13 plane was going to crash. He came around and picked the  
14 best place that he could land. He went to full flaps  
15 and made the best landing he could. He testified that  
16 pointing the plane pitch down had pointed him straight  
17 into the ground at a rate of descent of over 1,000 feet  
18 per minute. He testified that back pressure on the  
19 yoke did not help because Darrel Spencer was lying on  
20 it or slumped against it. However, Mr. Kirst testified  
21 that he did not think Mr. Spencer slumping over the  
22 yoke was the cause of the aircraft pitching over.

23 As Mr. Kirst testified about his flight on  
24 December 21, 2015, he testified he flew an aircraft on

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1 that day and believed he had a valid pilot's license.  
2 When asked to explain why, he testified that on Friday,  
3 he got an email on his phone from his attorney, indi-  
4 cating that the Administrator had filed an emergency  
5 revocation. He testified he could not get a hold of  
6 his attorney, so he cancelled his students for Satur-  
7 day, Sunday, Monday and Wednesday.

8 He testified he read the first parts of the  
9 revocation. He testified he phoned his attorney, Mr.  
10 Cole. He stated that, "Through miscommunication or  
11 whatever, I thought I was still allowed to fly. So, I  
12 booked the flight and I flew the plane, thinking I had  
13 a license." He testified, "It was a miscommunication  
14 between Brent and I," Brent Cole being his attorney.  
15 Mr. Kirst testified that he simply thought that the  
16 license he had in his possession was a valid license.  
17 He responded by saying that he did think so, because of  
18 the miscommunication. He agreed he received the emer-  
19 gency notice of revocation on December 16th.

20 The deposition of Daphne McCann was then  
21 played into record. It was presented via video-tape  
22 deposition, and the transcript was admitted into  
23 evidence as Exhibit-A36. Ms. McCann testified she was  
24 in Alaska for a vacation with her two sisters and their

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1 husbands. She testified that Mr. Kirst came to their  
2 resort to pick them up for the flight. She said that  
3 Mr. Spencer had made the plans for the flight, and she  
4 believed the purpose of the flight was to see polar  
5 bears, and they were hoping to film or get pictures of  
6 polar bears. The intended trip was to Dead Horse with  
7 a stop in Bettles, to use the bathroom facilities. She  
8 testified that they had headphones and had conversed  
9 during the trip.

10 The trip to Bettles was uneventful, she tes-  
11 tified. After they left Bettles, she remembered seeing  
12 a moose in a little pond, which they tried to photo-  
13 graph. Ms. McCann testified they circled the moose  
14 twice to try to get a better picture of the moose. She  
15 identified the photos at Deposition Exhibit-A6, which  
16 depicted the moose, as well as sections of the Alaska  
17 pipeline.

18 She testified she had a movie camera on and  
19 could not testify as to whether the pictures at Deposi-  
20 tion Exhibit-A5 were made with zoom lenses or if the  
21 pictures represented the distance the moose appeared  
22 was the actual distance from the aircraft. Ms. McCann  
23 testified that after they circled the moose, they  
24 straightened up and regained a little more altitude.

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1 She began to feel a little nauseous, so Mr. Spencer  
2 offered her a Gravol, which she declined. She testi-  
3 fied that Gravol was a motion sickness medication; it's  
4 a Canadian version of Dramamine. She testified she did  
5 take a Gravol about 10 minutes before the crash.

6 Ms. McCann testified that they entered the  
7 mountainous area and that Mr. Spencer had mentioned  
8 whether there would be wildlife on the mountains, but  
9 she did not hear Mr. Kirst's response. She testified  
10 that she felt the plane bank to the right and she  
11 remembered thinking they hit an air pocket. When she  
12 opened her eyes, and saw the mountain in her face, she  
13 realized they had crashed. She testified she did not  
14 remember a blade of the propeller flying off. Ms.  
15 McCann testified that she remembered a downward thrust  
16 like an air pocket.

17 When asked if she remembered if Mr. Spencer  
18 was flopped forward against controls before the crash,  
19 she answered no. She testified that both she and  
20 Marcene, her sister, were looking out the window to the  
21 right with their cameras.

22 She testified that after the crash, she saw  
23 both Darrel Spencer and Mr. Kirst slumped forward with  
24 their heads down. She testified she did not remember

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1 any loud noises preceding the crash, or before the  
2 crash, and she testified she did not remember any  
3 vibrations before the crash. She did not remember any  
4 shaking of the aircraft before the crash either.

5 On cross, she testified she had never been  
6 deposed. She testified she had not spoken to the  
7 attorney for the FAA, who had just asked her questions  
8 in the deposition, before the deposition.

9 Ms. McCann testified that she had only been  
10 in a small plane twice before and agreed that she had  
11 limited experiences with small light planes. She tes-  
12 tified again that Mr. Spencer made the arrangements.  
13 She had offered to pay her share, but Mr. Spencer died  
14 as a result of the crash, and she now doubted her  
15 sister would take any money for that airplane trip.  
16 Ms. McCann agreed that she believed the purpose of the  
17 plane ride was to fly to Dead Horse to see polar bears  
18 on the North Slope. She testified that she and Marcene  
19 Nason only had lap belts in the back seat. The seat  
20 belts in the front were over the shoulder type of  
21 harnesses or belts. She testified Mr. Spencer wore his  
22 shoulder belt during the trip.

23 She testified she had a movie camera and Mr.  
24 Spencer and Ms. Nason had the bigger cameras with big-

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1 ger lenses. She had a movie camera, which had not been  
2 returned to her after the crash.

3 Ms. McCann testified she did not know their  
4 altitude and did not know whether the plane was flying  
5 too low. She again testified she was offered Gravol  
6 after they had circled the moose in the pond. She was  
7 asked if she was sure that Mr. Spencer had given her  
8 Gravol and not given her some other type of drug. She  
9 testified that Mr. Spencer was a man of God and he did  
10 not lie. Ms. McCann testified she has never experi-  
11 enced hallucination when she has taken Gravol, and she  
12 has never suffered any bad side effects or problems  
13 with it, the times she had taken it previously. She  
14 testified it does not make her sleepy.

15 She testified that when they were in the  
16 mountains, the area was rocky, with fewer trees. She  
17 testified as soon as she saw the mountains, Mr. Spencer  
18 asked Mr. Kirst if there would be any wildlife in the  
19 mountains.

20 Ms. McCann testified they were not flying  
21 over the top of the mountains. She testified when she  
22 looked out the window, she could look up and see the  
23 top of the mountains. She testified they were flying  
24 about three-quarters of the way up to the top of the

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1 mountains. She testified the next thing she remembers  
2 was that Mr. Kirst banked the airplane and flew it to  
3 the right and downward. When she opened her eyes they  
4 had crashed.

5 She testified she did not remember flying  
6 over trucks on the road. She testified that when they  
7 entered the mountains, the mountains were on her left  
8 side. She testified she recalled being asked questions  
9 in her hospital room, but could not remember saying  
10 that she saw anything unusual about the flight.

11 She testified she had never been told by her  
12 healthcare providers that she had a concussion. Ms.  
13 McCann testified she recalled being interviewed by  
14 Jason Kobi, while she was in the hospital. She testi-  
15 fied she could not estimate the altitude of the air-  
16 craft during the flight. She also testified she could  
17 not say that any of the photographs she was shown  
18 actually showed the correct altitude because Mr.  
19 Spencer and Ms. Nason had cameras with zoom lenses.

20 The deposition of Ms. Marcene Mason was then  
21 played into the record. Ms. Nason's deposition has  
22 been introduced into evidence as Exhibit-A34. She tes-  
23 tified that she was a bookkeeper prior to the accident,  
24 but can no longer work as a result of the accident.

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1 She testified she was in Alaska on a family trip with  
2 her husband, her two sisters, and their husbands. Ms.  
3 Nason testified that Mr. Spencer made the arrangements  
4 for the plane ride. He paid for the plane, and she was  
5 told that there were three seats available.

6 She testified that she had just bought a  
7 camera for photography, and Darrell was going to help  
8 her with her photography. Her younger sister, Daphne  
9 McCann, went along with them. She testified that Mr.  
10 Kirst picked them up from their motel and took them to  
11 the airport. She took pictures of him at the hotel,  
12 and she took pictures at the airport.

13 She testified they took off from Fairbanks.  
14 She testified they stopped at an airport to use the  
15 facilities, as it was going to be two more hours to  
16 Dead Horse. She testified that she took some pictures  
17 during the trip. She testified that Mr. Spencer and  
18 Ms. McCann had cameras as well.

19 Ms. Nason testified that Mr. Kirst flew over  
20 the Alaska pipeline. He flew over a bridge, over a  
21 stream. She testified they took pictures of a moose,  
22 and she testified Mr. Kirst circled around the moose to  
23 give them a chance to photograph the animal. She  
24 testified that she tried to get a shot of the moose,

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1 but she was just an amateur photographer. Photography  
2 was going to be her hobby, but she stated that because  
3 of the crash, she was now unable to hold the camera  
4 because of her injuries.

5 After taking pictures of the moose, they  
6 flew into a mountain area. She testified she heard Mr.  
7 Spencer ask Mr. Kirst if there would be anything on the  
8 side of the mountains that he could photograph. She  
9 testified Mr. Kirst said normally that he flew over the  
10 mountains, but he said that he would go through the  
11 mountains for them. She testified that she remembered  
12 that there were rocks on both sides of the airplane and  
13 some mountains with trees on them. She testified the  
14 ride was bumpy.

15 When asked if she remembered seeing Mr.  
16 Spencer hunched over the controls before the crash, she  
17 answered no. She remembered him looking out the win-  
18 dow, taking pictures. She did not remember any loud  
19 noises preceding the crash nor did she remember any  
20 unusual vibrations. She remembers the plane hitting  
21 little air pockets. She did not remember anything  
22 about any portion of the propeller coming off.

23 On cross, she testified that she had given  
24 an interview after the crash. She testified she did

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1 not pay for the trip, but Mr. Spencer indicated that  
2 they could chip in for a tip for the pilot. She testi-  
3 fied that her brother-in-law, Mr. Spencer, was not, as  
4 she said, titled a professional photographer, however,  
5 he had albums and books out that he had published with  
6 photography in Africa. Ms. Nason testified that she  
7 was a novice at photography. Her sister Daphne, she  
8 testified, had a small movie camera.

9 She remembered the airport they landed at  
10 after Fairbanks was in Bettles. She testified she was  
11 seated behind Darryl Spencer on the plane. She did not  
12 see the altimeter, to see what their altitude was. Ms.  
13 Nason testified that Mr. Spencer had offered her and  
14 her sister Gravol, a motion sickness pill. She took a  
15 pill, but did not know if Mr. Spencer had taken a pill.  
16 She testified that her sister had taken a pill, as  
17 well. Ms. Nason testified that the Gravol does not  
18 cause any drowsiness in her, nor did it have any other  
19 type of bad side effects.

20 She testified she was just nervous about the  
21 flight because they were flying through the mountains;  
22 she remembered Mr. Kirst had said he usually flies over  
23 the mountains, and she remembered thinking, "Please,  
24 let's just go over the mountains and get there."

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1                   She again testified she remembered Darrel,  
2 Mr. Spencer, asking about whether there would be any  
3 wildlife on the side of the mountain, and Mr. Kirst  
4 said there could be. He normally flies over the  
5 mountains, but he would go through the mountains and  
6 they would have a look.

7                   She remembered flying over a truck on the  
8 highway or on the road during the flight. She testi-  
9 fied she had no memory of the plane crashing and she  
10 has very little memory about what happened after the  
11 crash. She testified she does have a memory of Mr.  
12 Spencer asking if there would be wildlife on the side  
13 of the mountain, and that Mr. Kirst had said that they  
14 would have a look.

15                   She testified she remembered flying through  
16 the mountains and she was quite nervous about it. She  
17 testified, "We seemed to be flying between them, and I  
18 just, you know, it was like from Star Wars, something  
19 out of the movies. I just felt like we were going into  
20 some kind of a thing and I was quite nervous. It  
21 seemed too close." She remembered flying over a high-  
22 way again, and seeing vehicles on the highway. Ms.  
23 Nason testified she was nervous about flying through  
24 the mountains because it was just a narrow opening.

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1 She agreed that she could see the terrain on each of  
2 the airplane, over the wings as they flew through the  
3 mountain. Her testimony was credible, both on direct  
4 and cross-examination, as the testimony of Ms. McCann  
5 was also credible, both on direct and cross-examina-  
6 tion.

7 The next witness to testify for the Adminis-  
8 trator was Inspector Jason Major. He testified that he  
9 is an Aviation Safety Inspector, and has been one since  
10 2011. He spent 22 years in the Air Force and retired  
11 in January of 2011. He testified he worked on various  
12 aircraft in the Air Force. He has a degree in aviation  
13 safety technology. He has a private pilot certificate,  
14 as well. He talked about his background and the type  
15 of aircraft he worked on.

16 Inspector Major testified that his duties  
17 with the FAA involve working with multiple operators to  
18 make sure that their operations are within the regula-  
19 tions, that all of their aircraft are airworthy and he  
20 also performs accident investigations. He testified he  
21 has taken numerous training classes with the FAA rela-  
22 tive to investigations.

23 Inspector Major testified he knows Mr.  
24 Kirst. He was his PIA, as he put it, for a couple of

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1 years, and he investigated the accident in this case.  
2 Inspector Major testified that he was the investigator  
3 in charge of the investigation of the accident.

4 He testified he went to the accident site on  
5 August 24, 2014. He took photographs, and he and  
6 Inspector Farnell worked their way toward the crash, as  
7 they did a 360 degree examination of the area. He tes-  
8 tified that a herd of sheep was at the accident scene,  
9 which was important because you really don't know if  
10 people are around the area, as well. He said he dis-  
11 connected the battery, found Mr. Kirst's checkbook and  
12 a planner, and removed them. He saw a Garmin 430, but  
13 he did not remove it from the instrument panel because  
14 he did not have the tools to do so. He testified the  
15 430 GPS would not contain useful information because it  
16 does not hold any memory, other than memory of the  
17 communication and navigational frequencies.

18 Inspector Major testified that after the  
19 crash scene investigation, he and Inspector Farnell  
20 returned to Fairbanks to interview witnesses. He and  
21 Inspector Farnell interviewed Mr. Kirst on September 9,  
22 2014. He testified Mr. Kirst stated that his passen-  
23 gers had taken some air sickness pills after leaving  
24 Bettles, and Mr. Spencer became listless and fell

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1 against the controls, putting the aircraft into a dive.

2 Mr. Kirst told them that he was fighting to  
3 keep Mr. Spencer off of the controls and was asking for  
4 help from the passengers in the back of the airplane,  
5 but he was not getting any response. He testified that  
6 he made a U-turn in the canyon.

7 Inspector Major testified that he followed  
8 up on Mr. Kirst's statement regarding a U-turn in the  
9 canyon. He spoke to Mr. Gleaves, and he asked if he  
10 would speak to the people who were working with him, to  
11 find out if any of them had seen the U-turn before the  
12 crash. He testified that he received an answer from  
13 Mr. Gleaves, which indicated that none of Mr. Gleaves'  
14 crew testified that they had seen any type of U-turn  
15 before the crash of Mr. Kirst's plane.

16 Inspector Major testified that he spoke to  
17 Ms. McCann about her air sickness pills and she indi-  
18 cated that they were Gravol. He testified he spoke to  
19 Mr. Spencer, who denied taking any of the pills, and he  
20 had never had a reaction to it when he had taken it in  
21 the past. He testified that Ms. McCann did not see  
22 anything remarkable during the flight. She remembered  
23 mountains being close, they were below the tops.

24 Inspector Major testified that he and

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1 Inspector Farnell then started looking for the missing  
2 propeller. He testified that they did this because  
3 there was a prop blade missing. He did not find it in  
4 his search and to his knowledge, he did not believe the  
5 FAA has ever found the prop blade. He testified there  
6 had been some tourists at the scene of the crash. When  
7 they showed up the day after the crash, those individu-  
8 als, the tourists, were making their way down to the  
9 crash site with their children. He stopped them from  
10 coming close to the crashed aircraft.

11 In this case, he testified that the remain-  
12 ing blades were sheared off in the same manner, three  
13 inches in, and in the same place, just like the missing  
14 prop blade. He testified there was no grease on the  
15 side of the fuselage or the engine or on the tail of  
16 the aircraft. He testified that the rotation of the  
17 prop would have slung grease everywhere if there had  
18 been a loss of a propeller blade in flight.

19 Inspector Major testified that Hartzell  
20 Propeller, who manufactured the propeller, sent the  
21 propeller to the lab for testing. An NTSB representa-  
22 tive was there, as was an engineer for the FAA, and a  
23 representative for Mr. Kirst. That was Mr. Destadd.  
24 He testified that the scientific report indicated that

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1 the fractures in the propeller were caused by ductile  
2 overload. Inspector Major testified that the findings  
3 were consistent with the propeller coming off on  
4 impact. He testified that they believed the missing  
5 propeller was the first one that hit and broke free,  
6 and the other blades folded under the aircraft. He  
7 testified there was nothing that indicated the propeller  
8 blade came off the aircraft before the crash.

9 He identified the photograph in A9. He  
10 testified that the photo depicts what he had seen in  
11 his investigation at the accident site. He testified  
12 that the photo indicated there was a lot of grease  
13 inside the hub of the propeller. If the propeller  
14 blade had come off during flight, the grease would have  
15 spun out all over the aircraft, he testified. He identified  
16 a photo where there was a dollop of grease on  
17 the wing which was inconsistent with the prop blade  
18 coming off during flight. There was another dollop of  
19 grease between the impact point and where the aircraft  
20 came to a rest. He also identified a photo of a dollop  
21 of grease on the tail of the aircraft. Inspector Major  
22 testified he looked at the crash damage to the aircraft  
23 and came to the conclusion that the damage was inconsistent  
24 with a propeller blade coming off.

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1           The motor mounts, according to Inspector  
2 Major, did not have any screws missing and were in  
3 place. He testified the front motor mount was damaged,  
4 but that was consistent with impact damage. This was  
5 also inconsistent with the propeller blade coming off  
6 in flight. He testified that the investigation  
7 disclosed no other mechanical cause for the crash.

8           On cross-examination, Inspector Major agreed  
9 that the prop blade was never found, despite numerous  
10 people searching for it. He testified if the propeller  
11 had come off in flight, the engine would have basically  
12 detached itself from the aircraft in flight.

13           He testified he has worked on dozens of air-  
14 craft crash investigations, including his time in the  
15 Air Force, but he agreed that the Air Force investiga-  
16 tions involved jet planes. He testified he conducted  
17 five accident investigations since he has been with the  
18 FAA. None involved a thrown prop blade. Inspector  
19 Major testified he attended courses regarding accident  
20 investigation and there were case studies regarding the  
21 loss of propeller blades or propeller malfunctions. He  
22 has never flown a plane in which a propeller come off.  
23 He testified he does not own a plane and he has never  
24 declared an emergency when he was flying a plane.

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1           Inspector Major testified he did not record  
2 any of the conversation of the interview he had with  
3 individuals in this case. He testified he cannot  
4 record without permission of the person he is inter-  
5 viewing, and he understood it was the policy of the FAA  
6 not to record the conversations.

7           He testified that he did not record the  
8 conversation with Mr. Kirst, but he understood that Mr.  
9 Cole, Mr. Kirst's attorney, was with Mr. Kirst in the  
10 hospital room at the time of the interview. When asked  
11 how he knew that, Inspector Major testified that Mr.  
12 Kirst said that his attorney, Mr. Cole, was with him.

13           He testified that he asked questions of Mr.  
14 Kirst, and Mr. Farnell asked questions of Mr. Kirst, as  
15 well. Inspector Major testified that no one asked Mr.  
16 Kirst if he was under medication at the time of the  
17 interview. He testified that he was sure Mr. Kirst was  
18 under medication because it had been only four days  
19 after the accident.

20           He testified he did not know the cause of  
21 the accident when he and Inspector Farnell interviewed  
22 Mr. Kirst, and he did not tell him a prop blade was  
23 missing because the investigation was ongoing and  
24 because, as he testified, it puts ideas in people's

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1 heads. He testified he had been Mr. Kirst's Principle  
2 Avionics Inspector, and he testified he had a good  
3 relationship with Mr. Kirst in the past, before the  
4 accident. He testified he does not keep a notebook  
5 during his investigation, and his notes are in emails  
6 and typewritten reports.

7 Inspector Major testified that he did not  
8 have a conversation with Mr. Fickus before the hearing,  
9 and Mr. Fickus did not drive him to the accident site  
10 the day he started his investigation. He noted the  
11 missing propeller blade when they first arrived on the  
12 scene. He testified A9 was a photo which indicated  
13 that the flaps were down on the aircraft, but he could  
14 not state how many degrees of flaps were engaged. He  
15 testified he took pictures of the interior of the air-  
16 craft and determined it was at full flaps. He testi-  
17 fied full flaps are useful in landing. The throttled  
18 was pulled back to the off position and bent. The  
19 windshield was damaged, he testified.

20 Inspector Major testified that they searched  
21 for the prop blade starting from the bottom of the  
22 canyon up to the top of the canyon. He testified that  
23 in September, he coordinated with the Hartzell repre-  
24 sentative to conduct a search for the propeller. He

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1 testified that the Hartzell representative also wanted  
2 to look for the propeller, but when asked, Inspector  
3 Major testified that he could not speculate as to why  
4 the Hartzell representative wanted to search for the  
5 prop blade. He testified that photo A9 indicated that  
6 once they removed the Vaseline-type grease from the  
7 aircraft, they found some old grease, mostly in the  
8 other propeller blades that had been bent.

9 Inspector Major identified photos at R84,  
10 R85 and R86, and responded to questions about the  
11 position of the throttle and propeller knob positions.  
12 However, he testified he did not know what the landing  
13 configuration was for this type of aircraft.

14 He testified that it was a clear, sunny day  
15 the day of the accident. He testified that he investi-  
16 gated whether there was cloud obscuration or down-  
17 drafts on the day, and determined that none in the area  
18 had been reported.

19 Inspector Major testified he was present  
20 during the propeller tear down, as was a representative  
21 from the NTSB, Hartzell and Mr. Destadd, representing  
22 Mr. Kirst. Inspector Major was asked if the report  
23 indicated the nuts on the propeller were not put on  
24 correctly at R78. He testified he did not see it in

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1 the report. Either Hartzell or Ottosen, a prop re-  
2 building business, installed the bolts. He testified  
3 that R88 is an email he sent to Mr. Gunther, who is  
4 with the NTSB. He testified that at first, he believed  
5 there was a possibility that the prop blade was thrown  
6 during flight, and the email indicates that he thought  
7 it was odd that the hub was not broken. The internal  
8 seal was still intact, as were the motor mounts, and he  
9 did not find grease spread around.

10 He again testified what he did during his  
11 investigation. He testified that Mr. Gleaves told  
12 either he or Inspector Farnell there was no evidence of  
13 a U-turn by Mr. Kirst before the crash.

14 Inspector Major testified that he researched  
15 Gravol, and it's like Dramamine, and can cause drowsi-  
16 ness. Again, he testified Mr. Spencer told him he had  
17 not taken it.

18 On re-direct, he testified that the aircraft  
19 was not guarded after the crash, and that there had  
20 been individuals with their children, making their way  
21 to the aircraft when he was there.

22 He testified that bolts not being installed  
23 in accordance with the service bulletin did not have  
24 anything to do with the propeller blade. He testified

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1 it was not a mandatory service bulletin. After his e-  
2 mail at R88, he testified he obtained additional infor-  
3 mation and the scientific report indicated a broken  
4 clamp, but he testified that that report did not indi-  
5 cate that the broken clamp was the cause of the crash.  
6 He testified that when a company such as Hartzell does  
7 a testing, a representative from the NTSB, the FAA,  
8 Hartzell and a representative for Mr. Kirst, are all  
9 involved in the inspection. The purpose of all of them  
10 being involved is to keep the company, here Hartzell  
11 Propellers, honest.

12 The next witness to testify for the Adminis-  
13 trator is Mr. Roger Motzko. It is somewhat lengthy, so  
14 at this point, I'll take a 10-minute break and we'll  
15 come back at three o'clock, and we'll continue at that  
16 time. So, we'll go off the record for a moment.

17 (Whereupon, the above-entitled matter went  
18 off the record at 2:43 p.m. and resumed at 2:54 p.m.)

19 JUDGE MONTAÑO: The next witness for the  
20 Administrator was Roger Motzko. Mr. Motzko testified  
21 he is employed by the FAA, Air Traffic Organization.  
22 His job title is Forensic Safety Technical Analyst, in  
23 charge of the technical analyst group for safety foren-  
24 sics for the air traffic organization. His office is

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1 in Washington, D.C., but he works out of the office in  
2 Anchorage, Alaska. He testified he does event foren-  
3 sics. The agency uses his office to reconstruct air  
4 traffic events that may occur. For example, if an  
5 aircraft loses separation with another aircraft in an  
6 accident, his office is asked to reconstruct the event  
7 from data available to them. That information includes  
8 GPS data. He also testified they use aircraft guidance  
9 systems, data tracking systems, whether on board,  
10 embedded in the aircraft or whether they're portable.  
11 He said he also uses radar delivery systems. He is a  
12 mechanical engineer. He has worked with the University  
13 of Minnesota as an engineer, collecting data, and was  
14 in the event forensic business relative to vehicles in  
15 the early 1980s, when he looked at vehicle accidents  
16 and how they occurred. He also uses computational  
17 forensics in order to prevent design flaws.

18 He testified he was in the Navy for 32  
19 years. He was involved in a variety of aircraft track-  
20 ing systems to keep track of personnel in the field and  
21 to conduct search and recovery operations. He has  
22 taken GPS classes beginning in 1990 in conjunction with  
23 the Air Force. He testified that in computational  
24 forensics, they try to put together an event. They

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1 will cross-check other things. In the aviation busi-  
2 ness, he is always interested in two things, airborne  
3 things and terrestrial things. So, they often use  
4 large database systems in order to put these two things  
5 together in tracks. So, he produces tracks and trials  
6 of flights and their distance from terrain.

7 He testified in forensics, he is looking at  
8 data that has been collected, so he is looking back at  
9 the quality of the data and establishing whether or not  
10 that data meets the standard of reasonableness. He  
11 testified that most systems are collecting data over  
12 long periods of time and that they average the data.  
13 If one tracking point is different from another or out  
14 of the norm, he would question the reasonableness in  
15 that track.

16 He testified that in this case, he received  
17 a call from flight standards that indicated they had a  
18 GPS from an accident and wanted to know if his office  
19 could extract data from it. He indicated he informed  
20 the Flight Standards District Office that he was able  
21 to do that. He testified the GPS was delivered to him  
22 in person. He extracted the data, and also wanted to  
23 teach the person who delivered the GPS as to how to  
24 download the data themselves. He downloaded the data

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1 with Expert GPS Professional. The data was downloaded  
2 and put into a GPX file. He testified other programs  
3 that can be used are Garmin Base Camp, which he testi-  
4 fied he has used. He also downloaded it to Google  
5 Earth, which he does not rely on, but it gives him a  
6 basis to determine if there is any validity to the  
7 data. Mr. Motzko testified that he could use another  
8 program, but he has the greatest faith in Expert GPS  
9 Professional.

10 He extracted a number of active tracks that  
11 were saved in the data log on the Garmin 196, and he  
12 put those into a GPX file. He extracted the informa-  
13 tion using all three programs, Google Earth Pro, Expert  
14 GPS and, I believe, Base Camp. After he downloaded the  
15 data from the GPS, all three programs agreed or indi-  
16 cated the same tracks, and therefore he concluded that  
17 the data was not corrupt. He identified the Garmin GPS  
18 196 in evidence in this case as the GPS from which he  
19 downloaded the data. He testified that he was familiar  
20 with the unit because the model was purchased by the  
21 FAA, and he has used it in the past. He testified that  
22 he identified Exhibit-A41, which are the data logs that  
23 he extracted from the GPS in this case. The data is  
24 displayed on Exhibit-A43 as it appeared on the computer

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1 screen, once the information is downloaded.

2 The downloaded material shows each active  
3 log and saved track logs from May to June of 2014. He  
4 also showed the route that he analyzed, from Fairbanks  
5 to Bettles, and from Bettles toward Atigun Pass, for  
6 August 24, 2014. Mr. Motzko testified that he set up  
7 the tracks over topographical maps in order to show him  
8 where the log data is located graphically. He identi-  
9 fied Exhibit-A44, A45 and A46, which are the data logs  
10 that are associated with the flight on August 24, 2014,  
11 for the flight from Fairbanks towards Atigun Pass.  
12 Exhibit-44, he testified, is a single isolated single  
13 log and the track associated with that leg of the trip,  
14 the flight from Fairbanks to Atigun Pass. Exhibit-45  
15 is the same track, zooming into the orientation map,  
16 showing Fairbanks to Atigun Pass. He testified A46  
17 shows the track from the Bettles airport to Atigun  
18 Pass. He testified that he then used geographical  
19 coordinates from Exhibit-41 -- submitted those coordi-  
20 nates to the US Geographical Survey. He testified he  
21 received from USGS a list of ground elevations which  
22 were obtained using the National Elevation Database 2  
23 standards, that corresponded to each one of the loca-  
24 tions. He testified that he then subtracted the

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1 altitude elevation from the GPS, the unit in this case,  
2 from the elevation received from the US Geographical  
3 Survey, for each of the points. He did this in order  
4 to obtain an altitude. He testified that he subtracted  
5 the altitude elevation from the GPS, from the elevation  
6 received from the US Geographical Survey. In order to  
7 ensure that those calculations were accurate or, as he  
8 put it, obtained reasonableness, he testified that he  
9 obtained index points where the GPS unit meets the  
10 ground.

11 The Garmin unit has a tolerance of approxi-  
12 mately 15 meters or about 49 feet. He testified that's  
13 what the manufacturer builds into it. He testified  
14 that he takes into consideration the 15 meters and he  
15 also took into consideration the height of the GPS unit  
16 above the ground, where it was situated in the air-  
17 craft, which is approximately five to six feet above  
18 ground level. He called these the 15 meters and the  
19 height of the GPS above the ground as offsets. He  
20 testified he subtracted these offsets from the altitude  
21 number and he then compared them to known geographical  
22 locations, such as Fairbanks Airport and the Bettles  
23 Airport. The National Geodetic Agency has established  
24 two thresholds of Bettles Airport monuments, which

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1 provide the gold standard for elevation in the United  
2 States.

3 He testified that he used the terrain model  
4 from the National Elevation Database, which assumes  
5 bare earth without trees and buildings. He used this  
6 figure because it is absolute and he does not have to  
7 guess the height of the vegetation at the time of year  
8 that the flight was made.

9 He testified he only used Google Earth for  
10 orientation, not for any other reason. Google Earth  
11 does not use the most accurate public data that is  
12 available, and Google Earth essentially does not tell  
13 anyone what data that its actually uses. He testified  
14 that he used 3DEPS, which gave him an accuracy of an  
15 elevation of three meters and five meters in a horizon-  
16 tal plane. He said he was only looking for accuracy up  
17 to 50 feet. Mr. Motzko testified he normalized the  
18 data by looking at the aircraft trajectory normal  
19 flight based on the GPS data. So he looks at the take-  
20 off from Fairbanks, normal climb altitudes, and landing  
21 in Bettles. He reviews the orientation to the runway  
22 and matched the altitudes as it touches the ground.

23 He testified that the data on A41 indicates  
24 the GPS unit was operating well, and he did not find

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1 any anomalies in the data from the GPS that he down-  
2 loaded. He testified there was nothing in the informa-  
3 tion he downloaded from the GPS 196 in this case that  
4 indicated to him that the GPS data had been corrupted.  
5 He testified that based on his analysis, he has a 95  
6 percent confidence that the above ground elevations he  
7 has calculated using this method are correct.

8 He testified that Exhibit-A48 is a closer  
9 version of a portion of the track points, which shows  
10 maneuvering south of Dietrich Camp. The road and pipe-  
11 line are visible on that map, and the track points in  
12 this exhibit are from the data point in A41.

13 Mr. Motzko testified about the data for the  
14 last pages of Exhibit-A16, from data point 779 to about  
15 786. The information indicates the crossing of the  
16 Chandalar Shelf and flight towards Atigun Pass. He  
17 testified that the elevation when crossing Chandalar  
18 Shelf, the above-ground elevation goes from 638 to 639,  
19 then to 172 feet at data point 781. He testified that  
20 the GPS unit shows the terrain is changing beneath the  
21 aircraft and a climb at approximately 300 to 500 feet  
22 per minute was shown until the final data point, the  
23 final data point, of course, being the place where the  
24 aircraft crashed. Mr. Motzko testified that data point

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1 781, Mr. Kirst's altitude, is 3,346 feet, and he needs  
2 to get to 4,800 to get over Atigun Pass in approxi-  
3 mately four minutes at a climb rate of 300 to 500 feet  
4 per minute. He testified Exhibit-51 shows the flight  
5 to be on a normal path, no circles or maneuvering until  
6 the data stops at the point of the crash.

7 Mr. Motzko testified that Exhibit-A52 is an  
8 elevation profile based on the information from the  
9 Garmin 196. It is strictly GPS data, not mapping data.  
10 He testified that the exhibit is a graphical depiction  
11 of essentially the numbers that are shown in Exhibit-  
12 A16 and A41. He testified that A52 is based on mean  
13 sea level data and is a cross-sectional elevation of  
14 the data on A16, drawn only from the Gamin 196, again  
15 in mean sea level.

16 Mr. Motzko testified that Exhibit-18 is his  
17 basic report that he prepares when receiving something  
18 for examination. It includes Figures 1 through 7. He  
19 testified that the boxes on the photographs in Figures  
20 1 through 6 include boxes with information entitled  
21 'order' that reference back to the track log at A16.  
22 For example, Figure 5 at the left is order 666. In  
23 order to determine the height above the ground, you  
24 would go to track point 666 in A16. The track log

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1 records the mean sea level recorded by the Garmin 196  
2 is 1,718 feet. You then refer to the geographic refer-  
3 ence on Column 5, which is the USGS national elevation,  
4 bare earth, no vegetation, which is 1,453.7 feet. The  
5 difference between the two is points is 264 feet.

6 He further testified that you would add 50  
7 feet to the 264 feet for the outside limit of the GPS  
8 device. He testified he had a 95 percent confidence  
9 level in the elevation that he has indicated in those  
10 exhibits. Mr. Motzko testified Exhibit-A18, Figure 7,  
11 plots the altitude of the aircraft from the arrival at  
12 Bettles Airport to the final data point. He testified  
13 that the Garmin 430 that was in the aircraft as well,  
14 is not useful in computing forensics because it does  
15 not save past data points from which you cannot produce  
16 track logs.

17 On cross-examination, Mr. Motzko testified  
18 that he has testified on one other occasion as an  
19 expert. He testified that case did involve GPS data,  
20 but it did involve altitudes. He testified he has been  
21 on notice as an expert in GPS for tracking for the FAA  
22 regularly because that is a part of his job. He testi-  
23 fied he takes and analyzes tracks every single morning.  
24 This is the first time he was noticed as an expert on

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1 behalf of the FAA. Mr. Motzko testified that a private  
2 airman could not hire him as an expert. However, as a  
3 government employee, a private airman could come to him  
4 and the agency, and ask for assistance as part of his  
5 regular duties. He has provided that type of informa-  
6 tion for airlines.

7 He testified that he has lived in Alaska,  
8 but left for a period of two years in 1991 to 1992 to  
9 work for President Clinton in Bosnia, reconstructing  
10 the air space in that country. He was also the FAA  
11 Administrator in that country. He is familiar with  
12 Garmin GPS products. Mr. Motzko agreed the Garmin 196  
13 is not an instrument-rated GPS because the tolerance on  
14 the equipment is not within those specifications. It  
15 is not a certified GPS. Certified means the FAA recog-  
16 nizes the inherent accuracy error to be within accept-  
17 able policy limits for particular types of approaches  
18 or departures for instrument flight rules.

19 He testified the 196 will tell the operator  
20 how many satellites it is receiving. It does not have  
21 a function that could be used for precision approaches  
22 or non-precision approaches under instrument flight  
23 rules. He agreed that most pilots use the 196 for  
24 directional or orientational use.

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1           He reviewed R89, which is the specifications  
2 page of the GPS map 196 guide. He testified it was one  
3 of the documents he reviewed in preparing his report,  
4 and he may have looked at the Garmin Technical Specifi-  
5 cations online.

6           Mr. Motzko testified the manual did not say  
7 if the 15 meter tolerance was horizontal or vertical.  
8 He testified that the Garmin web page indicates an  
9 elevation accuracy of 400 feet. Mr. Motzko testified  
10 that it was relative to their outdoor products and not  
11 to their aviation products.

12           He testified that the Garmin 196 requires  
13 four satellite reception to create a point in space.  
14 Altitude can be determined from three satellites with a  
15 timing signal from a land based clock. The GPS identi-  
16 fies a point in space horizontally and vertically,  
17 which is then averaged over the time and a recoding is  
18 made. He testified if the GPS did not receive satel-  
19 lite reception, it would not create a point during that  
20 time. It would create a point when it received satel-  
21 lite information later and would average the informa-  
22 tion to create a point. This is an algorithm within  
23 the machine that collects enough information to deter-  
24 mine that it can establish a point with the tolerance

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1 of what they have designed. Once it accumulates that  
2 data, it sets a point and displays it to you.

3 Mr. Motzko testified that the faster the  
4 airplane is traveling, the greater the space between  
5 points. In Exhibit-A51 the points appear to be closer.  
6 He also testified that the points may be closer if the  
7 aircraft is in a steep climb or descent.

8 Mr. Motzko was asked if he prepared two  
9 reports, and he responded he did, but the two reports  
10 were roughly the same report. He was asked if Inspec-  
11 tor Farnell helped him extract the data. He replied  
12 that Inspector Farnell did not help him; he observed,  
13 and Mr. Motzko showed him how to download the informa-  
14 tion. He testified that Inspector Farnell was in the  
15 room, but he did not help or have anything else to do  
16 with the information. He was asked why the report at  
17 A18 did not indicate he used the United States geo-  
18 graphical survey national elevation data. He testified  
19 that the report reflects the use of world geodetic  
20 system 1984, which is the US Geological Survey standard  
21 for surveying and mapping. He testified it is the same  
22 standard. It's not changed. He testified datum lasts  
23 a long time because the earth does not change that  
24 quickly. Prior to the WGS-84 surveying standard, the

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1 standard was from 1927 and had been used since that  
2 time.

3 He agreed that there was a statewide digital  
4 mapping initiative going on, which had not yet been  
5 passed. He testified that was not to correct inaccura-  
6 cies in the previous data, but it was to increase the  
7 level of confidence in the data. He again testified no  
8 one knows what data Google maps uses in preparing its  
9 information.

10 When asked to review Exhibit R-25, the dec-  
11 laration he prepared for the FAA Counsel, Respondent's  
12 attorney pointed out errors or inconsistencies in the  
13 declaration. He said he purchased a Garmin 196 for  
14 aviation. In fact, he directed the purchase of the  
15 Garmin 196, and did not use his government credit card  
16 to purchase it. The declaration indicates Mr. Farnell  
17 brought the unit to his office and, with assistance, we  
18 extracted the data. Mr. Motzko stated Mr. Farnell  
19 unpacked the unit and stayed with him, while he down-  
20 loaded the data. Paragraph three indicates track  
21 points, includeed time, location and absolute altitude.  
22 He agreed he did not indicate mean sea level. Para-  
23 graph four indicates he used Garmin Base Camp to down-  
24 load the data. He indicated he did not use Base Camp

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1 to download at trial. In his declaration, he stated  
2 that the data was viewed on both Expert GPS and Garmin  
3 Base Camp, but Garmin Base Camp was not mentioned in  
4 his report. He said that the report is based on his  
5 view and analysis of the data that came out of Expert  
6 GPS Professional. Mr. Motzko was asked if the tracking  
7 function of the 196 could be used to follow data tracks  
8 to make U-turns. He testified it could. When asked  
9 his opinion, he testified it should not be used to turn  
10 back on the same track because there are many unknowns,  
11 like the wind. He testified that staring at the small  
12 screen for data tracks when you are trying to fly in an  
13 emergency situation or fly at all is ill-advised. Try-  
14 ing to navigate by the previous log would be poorly  
15 advised.

16 On re-direct, he testified the mapping  
17 function does not have anything to do with the track  
18 log data he extracted in this case. He was asked to  
19 explain why he previously testified that he expressed a  
20 high degree of confidence in the tracking record with  
21 50 feet, but today, he heard him talk about a 400-foot  
22 error.

23 Mr. Motzko testified that Garmin makes a  
24 general disclaimer that their navigation units should

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1 not be used in vertical guidance. The 196 is not cer-  
2 tified for terrain avoidance, but it's very good at  
3 tracking. The track log is very good, he testified.

4 He testified that the WAAS, wide area aug-  
5 mentation system, signal is based on ground stations  
6 that are continuously receiving GPS information and  
7 sending a corrected timing signal to receivers in order  
8 to improve the precision of the data. The WAAS signal  
9 improves the precision of the data and the precision of  
10 the altitude reading by less than 50 feet. Without the  
11 WAAS signal, it will be at least 50 feet relative to  
12 accuracy.

13 He testified he would not use the 196 for  
14 navigation, but could use it for orientation, as to  
15 where he is in flight. He reiterated that his confi-  
16 dence level evaluation is 95 percent. If he looked at  
17 the altitude in MSL or absolute altitude in relation to  
18 the GPS constellation, which comprised the record  
19 within the GPS Map 196, he testified he would have a 90  
20 percent level of confidence.

21 Mr. Motzko testified he went back and  
22 checked his final altitudes by checking the monuments  
23 for the Bettles Airport, several locations in between  
24 Fairbanks and Bettles, and then beyond Bettles, until

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1 the data ran out. Mr. Motzko testified he evaluated  
2 the end of the data and the point appeared to correlate  
3 with what he had heard. He believed that he calculated  
4 that the GPS 196 was 19 feet below the road surface at  
5 the point of the crash. The road has a surveyed loca-  
6 tion along that point.

7 On re-cross, he agreed there was no evidence  
8 that his Garmin GPS was receiving WAAS enhanced signals  
9 during this trip, the trip in issue. He agreed there  
10 was nothing in the data package for the 196 to indicate  
11 the satellite fix was based upon six or eight satel-  
12 lites. He testified it could be as low as four satel-  
13 lites and as many as twelve. However, if the device  
14 records an altitude, it receives enough information to  
15 display an altitude in the field -- or the field would  
16 be blank. So if the device displays a data point, that  
17 means it was receiving enough information from the  
18 satellite. He testified the 196 would not miscode the  
19 altitude and it would skip a reading until it received  
20 enough information to report an accurate altitude. He  
21 testified that updates to the Garmin 196 would not make  
22 a difference in his analysis, but he agreed he did not  
23 determine what upgrades were available. Mr. Motzko  
24 testified that the 196 has an internal antenna, but

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1 could be connected to an external antenna.

2 He was asked about Exhibit R18. He testi-  
3 fied that some of the points on the chart he did not  
4 prepare appear to be circles, but not complete circles.  
5 He could not state that what occurred at Point 13 in  
6 that document, whether it was a circle, because he did  
7 not prepare it. He testified that the previous circles  
8 correlated with his data on his charts, but it did not  
9 include a circle at the point cited by Respondent,  
10 which is just at the point of the crash.

11 He was asked to review A16 and A41, and he  
12 testified he noted some bearing changes at the  
13 location, which the Respondent identified in R18, but  
14 there was not enough data on his documentation to make  
15 a statement that that change in directional bearing  
16 was, in fact, a circle.

17 On re-direct, Mr. Motzko reiterated there  
18 was not enough information to state that a circle was  
19 made from 1:00 in the afternoon to the last data point.

20 In response to my questions, he agreed the  
21 196 is not certified for instrument landing. It's a  
22 good track log. He testified it is a very good device  
23 for data acquisition. It's good for orientation and  
24 planning. He testified the tolerance of the 196 is

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1 within 50 feet. However, as to altitude, there is  
2 information on the Garmin website and in the 196 manual  
3 which indicates that there may be an error of up to 400  
4 feet, plus or minus, as the altitude. He responded  
5 that the Garmin website suggests that with all of its  
6 non-certified instruments, a plus or minus 400-foot  
7 caution is indicated, and caution is also indicated not  
8 to use the device for altitude. In the specifications  
9 for their aviation products, however, which is for the  
10 Garmin 196 portable, it lists in its operator manual,  
11 the tolerance in its reporting, at a tolerance of 15  
12 meters.

13 He testified that none of this matters,  
14 because he uses other information to determine the  
15 elevation of the ground, so he is 95 percent confident  
16 in the calculation he comes up with using USGS data.  
17 So the 15 meters or the 1,400 meter -- 400 feet  
18 warnings mean nothing to him because he does not use  
19 them in his calculations. He comes out with his own  
20 calculations to make a determination.

21 I found Mr. Motzko to be very credible, both  
22 on direct and cross-examination, in his testimony.

23 The next witness for the Administrator was  
24 Inspector Bradford Sipperley. Inspector Sipperley

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1 testified for the second time during the hearing. He  
2 has a BA in Aeronautics. He has an Associate's degree  
3 in weather meteorology. He worked for NOAA before  
4 going to work for the FAA. He is an aviation inspector  
5 for operations and he volunteered to help out in this  
6 case. He is familiar with Atigun Pass, and he  
7 described the terrain by stating that to get to the  
8 Pass, you need to make a right turn into the canyon,  
9 which is like a V-shaped notch. He testified that the  
10 terrain raises very quickly.

11 He reviewed Exhibit-A10, which is the  
12 Fairbanks sectional chart which was in effect at the  
13 time of the accident. He testified that the chart  
14 provides a caution, which warns of rapidly rising  
15 terrain and warns of using caution during periods of  
16 low ceiling and poor visibility. He testified if a  
17 pilot flies into the can-yon when there is a low  
18 ceiling, the pilot will not be able to gain enough  
19 altitude to turn around. He testified that in order to  
20 fly through the Pass, you have to fly 2,000 feet above  
21 the surface. The apex of the Pass is 4,800 feet, so a  
22 pilot would have to have an altitude of 6,000 feet.

23 He testified that he is familiar with Dalton  
24 Highway. He testified the traffic through Atigun Pass

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1 is a bottleneck and sometimes you have to use a CB  
2 radio call to announce you're going over the Pass. He  
3 testified if someone was flying over the lowest terrain  
4 towards Dead Horse through the Pass, the highway would  
5 be above you on the right side.

6 In response to questions as to what he  
7 understood Mr. Kirst stated as the cause of the acci-  
8 dent, he testified Mr. Fantazzi told him that after the  
9 accident Mr. Kirst said that he didn't know what  
10 happened. Mr. Kirst was speaking to himself, and he  
11 said maybe he could have been too low. The second  
12 thing Mr. Kirst stated was that the crash was caused by  
13 a downdraft, and finally Mr. Kirst stated that Mr.  
14 Spencer had slumped over the controls.

15 He testified that the downdraft Mr. Kirst  
16 described forced the aircraft nose down and caused  
17 1,000 to 2,000 feet per minute drop. He reviewed  
18 Exhibit-A8, which is the weather cam photography for  
19 Chandalar Shelf. He testified that the weather condi-  
20 tions at Atigun Pass on the day of the crash -- the  
21 meteorological conditions did not show any significant  
22 winds aloft or any conditions that would create such a  
23 sever downdraft. He testified that his confidence  
24 level is extremely high that Mr. Kirst was not caught

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1 in a downdraft.

2           When asked if he had ever lost a propeller  
3 while flying an aircraft, he responded he lost seven  
4 inches of a prop when he was flying single engine  
5 aircraft. He described the event as beginning with a  
6 loud bang as the prop broke off, followed by violent  
7 shaking of the aircraft. The shaking was so violent he  
8 could not read his instruments on his control panel.  
9 He said the yoke was violently shaking in his hand.  
10 The violent shaking occurs because of the imbalance  
11 caused by losing part of the propeller.

12           Inspector Sipperley testified that a loss of  
13 an entire propeller would cause very violent shaking,  
14 but would not cause a violent nose-down attitude. The  
15 shaking would tear the engine right off of its motor  
16 mounts. If a prop is lost, the aircraft would slow  
17 down, but the lift would not be affected to where the  
18 violent nose-dive is a result. He testified if you  
19 lost a propeller blade, the appropriate thing to do is  
20 shut off the engine so the propeller vibration will not  
21 tear the engine from its motor mounts. You should pull  
22 the mixture control. You would turn down the canyon  
23 towards the lower terrain, not towards rising terrain  
24 as Mr. Kirst did in this case.

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1           Mr. Sipperley was asked to review A9, a  
2 photo of the propeller hub. He testified the hub was  
3 full of grease, and that if the hub prop blade had come  
4 off in flight, there would be a cylindrical pattern of  
5 grease spread all along the entire airplane. He testi-  
6 fied he believed the propeller blade came off on  
7 impact. There is only a dollop of grease on the aile-  
8 ron, another spot on the tail, and the first dollop of  
9 grease is at the point of impact. He testified he  
10 later learned that the Metallurgy report on the propel-  
11 ler had supported his conclusion.

12           He testified that he also looked into the  
13 altitude of the aircraft. He testified he reviewed the  
14 data points and whether you use MSL or AGL, ALG being  
15 above-ground level, and MSL being mean sea level, in  
16 either of those, Mr. Kirst's aircraft was flying very  
17 low. He testified he looked at the tabular data and he  
18 stated that, based on his analysis, about 65 percent of  
19 the flight was conducted below 500 feet AGL, and 100  
20 percent of the flight was conducted below 1,000 feet.  
21 Inspector Sipperley testified that he used the data  
22 points on A16. He reviewed data point 781 and deter-  
23 mined that was closest to where Mr. Fickus reported he  
24 was in his testimony. Mr. Fickus stated in his testi-

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1 mony and in his written statement that the aircraft  
2 passed over Chandalar Shelf at an altitude of 100 feet  
3 AGL. Data point 781, Inspector Sipperley testified, is  
4 close to where Mr. Fickus was located, and that indi-  
5 cated that the aircraft was 172 above ground level when  
6 it crossed over Chandalar Pass. He felt the data vali-  
7 dated what Mr. Fickus testified he saw. Mr. Fickus'  
8 estimate was off only by 75 feet. He testified that  
9 data point 781 shows that Mr. Kirst passed that point  
10 at 1:00 p.m., and the last data point is 1:04, four  
11 minutes later.

12 Inspector Sipperley testified data point 800  
13 is where the aircraft was near Mr. Hayden. Mr. Hayden  
14 testified that when the aircraft went over his head, it  
15 was 500 to 800 feet above him. The data point showed  
16 the aircraft was 400 feet above him, actually 450 feet  
17 above him. This was at the bottom of the access road,  
18 three quarters of a mile before the point of impact.

19 He was asked to review data point 713, and  
20 he testified data point 713 is the location where the  
21 witnesses indicate the aircraft circled to photograph  
22 the moose. He testified the data point indicates that  
23 Mr. Kirst flew as low as 122 feet above the ground,  
24 give or take 50 feet.

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1           Inspector Sipperley testified that he heard  
2 testimony from Daphne McCann that estimated they were  
3 halfway to three-quarters of the way from the bottom to  
4 the top of the mountains as they were heading towards  
5 Atigun Pass. He testified that, based on her testi-  
6 mony, he made a calculation which indicated that the  
7 aircraft was about 500 to 600 feet above ground level.  
8 He testified that it was 14 minutes from the point Ms.  
9 McCann testified she took the Grivol, after seeing the  
10 moose, to the point of the crash site.

11           Inspector Sipperley testified that during  
12 his investigation, he looked at the flight controls.  
13 He testified the prop controls were set for climb  
14 position. The mixture was full in, so the engine could  
15 obtain maximum fuel. That is also the position for  
16 take-off and for climbs. The flaps were in a full down  
17 position to create more lift. He testified in those  
18 situations you engaged full flaps for landing to create  
19 lift and reduce speed.

20           He testified the throttle in the aircraft  
21 was in an idle position. He testified he believed Mr.  
22 Kirst may have attempted a controlled landing because  
23 he did not have the altitude to get out of the box  
24 canyon. Mr. Kirst's final altitude reading from the

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1 data point is 4,500 feet. His opinion was that Mr.  
2 KIRST entered the canyon at an extremely low altitude,  
3 as shown by all of the data, as expressed by the  
4 passengers, and expressed by all of the eyewitnesses.  
5 He testified he could not fly over the Pass, so he made  
6 a controlled flight into terrain.

7 Mr. Sipperley testified that it was careless  
8 for Mr. KIRST to operate at such a low altitude. To  
9 enter an area that is a highly known area for accidents  
10 and one that is clearly marked on the aviation charts  
11 as a dangerous area, is reckless.

12 On cross, he testified that he'd been with  
13 the FAA for eight months before becoming involved in  
14 this investigation. He investigated three or four  
15 accidents before the investigation in this case. A  
16 couple of them were minor. This is the first time he  
17 testified in a hearing. He did not go to the scene of  
18 the accident, but he saw the aircraft in the hangar  
19 after it had been retrieved. He said he went to the  
20 hangar three or four times to look at the aircraft.

21 He was asked if he recalled the two passen-  
22 gers talking about dropping significantly while flying  
23 right before the crash, and Inspector Sipperley testi-  
24 fied that he did not believe the witnesses described

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1 anything approaching dropping significantly. Marcene  
2 Nason testified the flight was bumpy. He believed Ms.  
3 McCann's testimony described an aerodynamic stall. He  
4 testified the two data points just prior to the crash  
5 show that the speed of the aircraft fell just below 50  
6 miles per hour. The published stall speed in the  
7 Navion with flaps down is 50 miles an hour. He testi-  
8 fied he believes Ms. McCann's testimony regarding the  
9 falling sensation to be attributable to a stall.  
10 Inspector Sipperley testified that neither Ms. Nason or  
11 Ms. McCann described a severe pitch over or extreme  
12 downward type of thing, as described by Mr. Kirst. He  
13 testified that Mr. Fantazzi indicated that Mr. Kirst  
14 had stated after the crash that maybe he had flown in  
15 too low. Inspector Sipperley testified that is why he  
16 looked into the altitude issue.

17 Inspector Sipperley agreed that a downdraft  
18 could force an aircraft down at 1,000 feet per minute.  
19 He reiterated that he looked into the winds aloft, and  
20 he looked at the weather reporting situation at the  
21 time, and he looked at the cloud formations on the  
22 weather cams, and he talked to the people on the ground  
23 who described light winds. There were no gusty winds  
24 that would be associated with a downdraft in this case.

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1 Inspector Sipperley agreed that in a downdraft, the  
2 aircraft does not pitch forward. He testified he did  
3 not give much credence to Mr. Kirst's testimony that  
4 Mr. Spencer fell over the flight controls.

5 Inspector Sipperley agreed that losing a  
6 prop blade could be a catastrophic. He agreed that a  
7 proper action would be to reduce power if there is  
8 vibration from a prop loss. However, he testified that  
9 vibration discussed in this case was only brought up  
10 during the course of the trial that week. When asked  
11 if the grease patterns would be more consistent with  
12 the prop coming off at 15 to 20 seconds before the  
13 crash, Inspector Sipperley testified that the scenario  
14 could assume 500 feet in altitude and an air speed of  
15 50 miles per hour. He testified that, yes, but you  
16 would still expect to see grease in a cylindrical  
17 pattern. An electric toothbrush, he testified, flings  
18 water everywhere within 15 seconds, and an airplane  
19 propeller is spinning at 2,500 revolutions per minute.  
20 He testified that he believed the sliding of the  
21 aircraft would not have rubbed off the cylindrical  
22 grease pattern that he would expect to see if, indeed,  
23 a prop had been lost in flight.

24 Inspector Sipperley testified he followed up

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1 on an email from Ms. Nolan, that she had heard that  
2 someone said that she saw Mr. Kirst circle to try to  
3 gain altitude. He testified Ms. Nolan stated she did  
4 not recall any specific name or specific someone saying  
5 that. She told him that it could have been someone  
6 that said that a plane the day before circled. She had  
7 no clear recollection, and that may have been described  
8 in emails from workers at the site. However, he testi-  
9 fied he interviewed the workers on the site, and none  
10 of them testified they saw that type of maneuvering.

11 Inspector Sipperley testified relative to  
12 his calculations, that the aircraft was 500 feet AGL  
13 while going through the Pass. He testified that Ms.  
14 McCann, in a written statement, said that she described  
15 the flight going into Atigun Pass. He used the lowest  
16 point in the valley and picked the highest peak in the  
17 valley, and basically did some subtraction. Mr.  
18 Sipperley was consistent in his testimony throughout  
19 the cross-examination on this issue.

20 He was asked about the throttle, for which  
21 he described a number of possibilities why the throttle  
22 was bent upward. Perhaps Mr. Kirst's hand was on it  
23 and bent it up on impact. Maybe someone stepped on it  
24 and bent it during the extraction of the injuries. He

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1 could really not say why it was that way. Inspector  
2 Sipperley testified he did not see any evidence of  
3 careless or reckless flying between Fairbanks and  
4 Bettles.

5 He was asked to review Exhibit-A47, 48, 49,  
6 50 and 51 on cross-examination. He testified that A48  
7 indicated that turns were made above the pipeline,  
8 close to the highway, just south of Dietrich Airport.  
9 He testified that the altitudes leading up to the turns  
10 were all under 500 feet and became lower once the turns  
11 started. He said one of the turns was all the way down  
12 to 122 feet above ground.

13 He agreed that there were no persons on the  
14 ground, but he testified the flight was over infra-  
15 structure. They were flying over the Alaska pipeline.  
16 He was flying over the highway, and the Respondent, Mr.  
17 Kirst, could not know if anyone was coming down the  
18 highway when he was flying over the highway. He testi-  
19 fied that Mr. Kirst should not have been flying that  
20 low over infrastructure, the Alaska pipeline, or the  
21 highway. He testified the highway was crossed by Mr.  
22 Kirst two times. Inspector Sipperley testified he has  
23 never flown through Antigon Pass and has never operated  
24 a Garmin 196.

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1           While I found Mr. Sipperley's testimony to  
2 be credible, unfortunately, his courtroom demeanor  
3 required some adjustment. I believe this is the first  
4 time he's testified in a hearing. But certainly,  
5 despite that fact, I found his testimony to be  
6 credible, both on direct and cross-examination.

7           That ended the Administrator's case. For  
8 the Respondent's case, the Respondent first called Dr.  
9 David Sperpeck, who is a clinical psychologist and  
10 neuro-psychologist, and was qualified as an expert in  
11 head trauma and drug treatment, and on cognitive abili-  
12 ties, without objection from the Administrator. On  
13 voir dire, he testified he did not examine Mr. Kirst,  
14 but he rendered his opinion based on a review of medi-  
15 cal records.

16           He testified that, in general, mild, moder-  
17 ate and severe head, traumatic brain injuries, almost  
18 always result in additional information process, which  
19 leads to inaccurate encoding of information that is  
20 perceived. Ultimately, the information is not avail-  
21 able as the result for later retrieval. This is  
22 essentially a memory problem.

23           He testified that the record indicates that  
24 Mr. Kirst had a Glasgow coma scale of 11. He testified

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1 that immediately after the time of a head injury, there  
2 may or may not be a loss of consciousness. There is a  
3 brief period of dazed consciousness and clouding of  
4 events, especially where an individual ends up on a  
5 Glasgow coma scale rating between 11 and 13. Dr.  
6 Sperpeck testified the clouding of memory for events  
7 that occurred just prior to the crash and associated  
8 post-traumatic amnesia is less than 24 hours in  
9 duration; it is worse in a deceleration injury.

10 Dr. Sperpeck testified that in trauma cases,  
11 the inability to recall events immediately preceding  
12 the injury is affected. He calls this retrograde amne-  
13 sia. After an injury there is period of an inability  
14 to encode and later recall new memories, which is  
15 called arterial grade amnesia. The two together are  
16 called post-traumatic amnesia. The impact is great on  
17 what he calls explicit memory or episodic memory for  
18 things that happened. Procedural memory is from auto-  
19 mated procedures that you engage in all the time --  
20 buckling a seatbelt -- you do not recall specifically  
21 doing it, but a seatbelt is buckled. In this case, Dr.  
22 Sperpeck testified that Mr. Kirst relied on his  
23 procedural memory to recognize automated recall, that  
24 he filled in the gaps in his memory and his confusion.

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1 In an accident, your brain is overwhelmed with informa-  
2 tion and adrenaline. Everything is speeded up. It is  
3 not ideal for encoding memory, so we try to fill in the  
4 gaps. He used the example where a soldier was involved  
5 in an explosion and prepares a four-page report. Half  
6 of it was incorrect because he filled things in that he  
7 does every day, the same routine he follows every day.  
8 The soldier's accounts were inaccurate. He filled in  
9 the gap with procedural memory, which is called confab-  
10 ulation. This is not lying because there is no intent  
11 to deceive.

12 He testified that he reviewed the 1,200  
13 pages of Mr. Kirst's medical records. He agreed it  
14 would be hard to identify confabulation if you were not  
15 trained to do so, especially over the phone. He said  
16 drugs could also affect the response.

17 On cross-examination, Dr. Sperpeck testified  
18 he did not have the records in front of him regarding  
19 what drugs Mr. Kirst was taking and the dosage he was  
20 taking on September 9, 2014, did not know what drugs  
21 Mr. Kirst was taking on that day. He agrees that a  
22 person trying to remember things might sometimes try to  
23 remember things with the motivation to defend himself.  
24 He testified he has not actually seen that. However,

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1 he said that occurs.

2           When I asked him what drugs Mr. Kirst was  
3 taking on the 9th, he answered differently, listing a  
4 number of drugs. When I posed a hypothetical that an  
5 injured person indicated after an accident that the  
6 person sitting next to him fell over, he tried to push  
7 him off, and he asked for help from the other passen-  
8 gers, Dr. Sperpeck testified that it could demonstrate  
9 that the person remembered it, was filling in the gaps  
10 with what he thinks happened.

11           I asked him if there was any way to deter-  
12 mine the difference between confabulation and inten-  
13 tionally being deceptive or fraudulent. The doctor  
14 testified that the accurate information is really  
15 procedural information. He testified that the accurate  
16 information is likely procedural information, that is  
17 the result of automated routines that the reporter is  
18 recalling and remembering. However, episodic memory is  
19 when new things or episodes occur, which is vulnerable  
20 to deterioration after a head injury. He testified Mr.  
21 Kirst had a serious head injury. He described it as  
22 moderately severe.

23           He concluded that any episodic memory that  
24 Mr. Kirst recalls, whether it be the result of confabu-

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1 lation or logical deduction or putting things together  
2 -- he testified that if he did that, he did not think  
3 that --

4 JUDGE MONTAÑO: I'm sorry? Are you still  
5 there? All right, Mr. Bergt, can you still hear me?

6 MR. BERGT: Yes, sir.

7 JUDGE MONTAÑO: Mr. Kirst?

8 MR. KIRST: Yes.

9 JUDGE MONTAÑO: Okay, good. Ms. Hoyson?

10 MS. HOYSON: Yes, I can.

11 JUDGE MONTAÑO: Okay, good. I'm not sure  
12 what that is. Dr. Sperpeck testified that in determin-  
13 ing what information is reliable, he finds the ones  
14 most reliable is information that is routine informa-  
15 tion. If someone tries to fill in the blanks with  
16 routine information that they usually follow every day,  
17 like the soldier example in this case, he finds that to  
18 be more reliable. The least reliable information, he  
19 testified, are things that happen for the first time,  
20 such as an accident, and he testified in the moments  
21 and hours preceding the injury, if the person does not  
22 fulfill those blanks with routine information, that  
23 information that's out of the ordinary, he would find  
24 that information to be less reliable.

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1           The next witness for the Respondent was Mr.  
2 Robert Gridiagin. He was the first fact witness to  
3 testify for the Respondent. His last name is spelled  
4 G-R-I-D-I-A-G-I-N. He testified about his background.  
5 He testified that he was born and raised in Alaska,  
6 graduated from high school, completed a two-year course  
7 of study and obtained an Associate's degree. He did  
8 not finish his BA in electronic engineering, but he  
9 only lacks two credits to obtain his degree. He did  
10 not say when he terminated his studies or if he ever  
11 intended to finish the two credits. He testified he  
12 worked as a plumber and has worked maintenance and is  
13 currently building a home in Anchorage.

14           He testified he took flight lessons from Mr.  
15 Kirst. He saw him every two years for his biannual  
16 flight review. He testified that there was a profes-  
17 sional relationship between he and Mr. Kirst, that  
18 evolved into more of a personal relationship, but he  
19 really didn't testify how that changed. He testified  
20 he visited Mr. Kirst in the hospital. He testified he  
21 heard about the accident in the Fairbanks newspaper,  
22 and he participated in removing the wreckage of the  
23 aircraft from the crash site at Atigun Pass. The  
24 recovery effort was led by Fred Destadd, and there were

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1 five other individuals involved in removing the air-  
2 craft, but he could not remember their names.

3 He identified Exhibit-R43 and R61. He tes-  
4 tified, essentially, that he could see a propeller  
5 blade was missing when he arrived at the scene of the  
6 accident. He said he and the five other members of the  
7 group that was removing the wreckage searched for the  
8 propeller for about 25 to 45 minutes, but they could  
9 not find it.

10 He testified he stepped into some grease at  
11 a location when the Administrator's witness testified  
12 it was found at the point of impact. He also said he  
13 got some grease on his hand at the approximate location  
14 where the Administrator's witnesses identified grease  
15 on the right wing. On cross, he testified he believed  
16 the recovery effort took place in September of 2014. I  
17 found his testimony to be credible. Essentially, he  
18 testified about the recovery of the aircraft, that he  
19 visited Mr. Kirst at the hospital, but he did not,  
20 essentially, testify about Mr. Kirst's condition.

21 The next witness for the Respondent was his  
22 wife, Tracey Kirst. Ms. Kirst testified that she and  
23 Mr. Kirst have been married since 1988. She testified  
24 when she heard of the crash on August 24, 2014, she was

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1 Titusville, Florida. She testified she closed down the  
2 house in Florida and flew to Alaska. She arrived  
3 August 30, 2014. She testified about Mr. Kirst's  
4 condition. She testified he was in and out of pain  
5 when she arrived. He talked to everyone and recognized  
6 and knew who they were. She testified he knew who he  
7 was talking to and he knew who she was when he was  
8 talking to her. She then testified that one day when  
9 she was not there, Mr. Kirst apparently told someone  
10 else, "Mrs. Kirst is here and someone needs to get a  
11 car for her." She testified that she had been in  
12 Alaska for a month at that time and it appeared to her  
13 that Mr. Kirst did not know she had been there. Mrs.  
14 Kirst did not testify who the individual was with whom  
15 Mr. Kirst had this conversation about obtaining an  
16 automobile for Mrs. Kirst. There is no way to verify  
17 that Mr. Kirst actually made that statement, and so, it  
18 is essentially hearsay.

19 Mrs. Kirst also said that he had a conversa-  
20 tion with her on the phone, in which he requested cer-  
21 tain items for breakfast. She testified she believed  
22 that Mr. Kirst thought he was talking to the cafeteria,  
23 when he was talking to her. She thought that conversa-  
24 tion took place prior to September 19th.

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1           Mrs. Kirst testified that Mr. Kirst became  
2 his old self on September 19th, and he was recovering.  
3 When asked what she believed caused the improvement,  
4 she testified she thought it was the drugs that he was  
5 given to decrease the pain. On cross-examination, she  
6 was simply asked if Mr. Kirst's condition improved  
7 after September 19th, and she answered that it had.

8           Mr. Kirst then testified. He testified he  
9 grew up in Calgary, Alberta, Canada. He came to the US  
10 in 1984. He became interested in flying in the early  
11 70s. His father had a large number of airplanes, and  
12 he started taking flying lessons. Because he was mech-  
13 anically inclined, his father thought he should become  
14 an airplane mechanic. He had a falling out with his  
15 father, and he stopped flying for a long time. He then  
16 became a single parent, went to school and then changed  
17 careers. He became an auto mechanic. He obtained a  
18 four-year degree in motor mechanics. He worked for a  
19 dealership and a number of small shops, and then he  
20 changed his career to teaching. He started taking  
21 flying lessons again in the early 2000s. He obtained  
22 his private pilot's license, his instrument rating, his  
23 commercial certificate. He is also a certified flight  
24 instructor. He testified he has done aerial surveying,

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1 aerial mapping. He testified he was the chief pilot  
2 for Lidarus Digital World and the primary pilot in  
3 Alaska for John Deere Agra-Systems. He testified he  
4 has done mapping all over the lower 48 states. He  
5 testified that when mapping, he has flown LIDAR instru-  
6 ments, which can remove vegetation from the mapping.  
7 He testified he used Picarro instruments when he flew  
8 for NASA.

9 He testified he has about 5,000 hours of  
10 flying. He has flown a wide variety of aircraft. He  
11 has flown between 3,000 to 4,000 hours in Alaska. He  
12 testified he has flown pretty much the whole state. He  
13 does a lot of mountain flying and he teaches mountain  
14 flying. He keeps current through the Medallion Founda-  
15 tion, the Wings Program.

16 He testified that he has spent four or five  
17 hours with the Medallion Foundation, practicing flying  
18 in simulators. He testified, and I quote, "I really  
19 think that some of the people who have testified here  
20 really need to go talk to the Medallion Foundation and  
21 get their heads straightened out, because I have heard  
22 some very scary things in here."

23 He testified that Inspector Sipperley  
24 doesn't know how to fly in the mountains. Everything

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1 he testified about flying in the canyon was wrong,  
2 other than trying to stay away from the wind. He  
3 testified that the Medallion Foundation teaches you  
4 stay on the right side of the canyon.

5 In response to the questions about Inspector  
6 Sipperley being critical of Kirst flying up the center  
7 of the valley, he testified that you try to stay on  
8 your side, but sometimes you swing out to the center,  
9 so you can see what is coming. Inspector Sipperley  
10 being critical of that flying is absurd.

11 He testified, in 2014 he owned a flight  
12 school. He also owned an aerial mapping business. He  
13 owned a Part 91 aerial photography business, and a Part  
14 135 aerial taxi business, air taxi business. He  
15 explained his 135 operation as flying into and from  
16 Ambler, taking tourists out to see Mount McKinley, and  
17 dropping them off in different villages. He testified  
18 if they wanted to see the Arctic Circle, he would run  
19 then up there and show them that they had passed the  
20 Arctic Circle on his GPS 196.

21 He said he does very limited 135 work. He  
22 testified that aerial photography includes slow flight,  
23 and you have to practice slow flight. He testified,  
24 and I quote "If you don't practice it, you end up like

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1 the NTSB investigator who is now dead a few days ago."  
2 He described a moose stall and he testified it happens  
3 a lot to hunters and people who don't know or under-  
4 stand how to do aerial photography. He testified how  
5 he takes certain precautions, so that a moose stall  
6 does not occur.

7 He testified that being a flight instructor  
8 has improved his flying capabilities. He testified  
9 most pilots do not practice their emergency procedures,  
10 and that's a mistake. He testified that he read of an  
11 instance where he heard that an instrument student had  
12 flown into icy conditions. When he read about it on a  
13 blog, he contacted that flight instructor for that  
14 student because the flight instructor had not known  
15 about it. He testified that the instructor had missed  
16 the job. He testified he finally did straighten the  
17 instructor out.

18 As to August 23, 2014, Mr. Kirst testified  
19 that he received a number of calls from Mr. Darrell  
20 Spencer because Mr. Spencer wanted to book a flight to  
21 do aerial photography looking for polar bears. He  
22 testified he gave Mr. Spencer a price. Mr. Spencer  
23 thought it was expensive. Mr. Spencer was going to  
24 meet Mr. Kirst in Dead Horse, and he started complain-

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1 ing because Mr. Spencer would have to pay for the  
2 flight to Dead Horse as well as paying Mr. Kirst for  
3 the flight.

4 According to Mr. Kirst, he told him that he  
5 was going to be flying up there, to Dead Horse, anyway,  
6 so Mr. Spencer could fly with him. He testified that  
7 Mr. Spencer called back after making that arrangement,  
8 and asked if he could bring two more photographers, and  
9 Mr. Kirst said that was fine, and he changed the flight  
10 plan from two people to four people. He said changing  
11 a Part 91 flight is not a big deal.

12 Mr. Kirst testified that because of the two  
13 additional passengers, he added a life raft and life  
14 preservers, and supplemented the survival kit and added  
15 a .357 Magnum to the cargo. He had to make sure his  
16 personal locator beacon was on the plane, and he had to  
17 ensure he had current charts. He had to do, "A whole  
18 lot of stuff," he testified and he also had to balance  
19 fuel loads and all that type of thing, he testified,  
20 because of the addition of the two additional passen-  
21 gers.

22 He testified the standard route is direct  
23 Fairbanks to Dead Horse, but when Mr. Spencer brought  
24 two women along, he changed that flight plan and added

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1 Bettles to the route. Mr. Kirst testified he had flown  
2 this route, Fairbanks-Bettles through Atigun Pass, at  
3 least 12 times. He testified he has flown the route in  
4 different types of weather conditions.

5 He testified he has had situations in passes  
6 and experienced serious winds. However, he did not  
7 testify specifically about such winds in the Atigun  
8 Pass.

9 He testified the Navion is a complex high  
10 performance aircraft with retractable landing gear and  
11 with over 200 horsepower. He testified the interior is  
12 plush, the rear seat has three arm rests, and he testi-  
13 fied he put shoulder harnesses on each seat.

14 He testified R56 is the aviation chart that  
15 was admitted into evidence, but no questions were asked  
16 about it. He testified R62 is a photo of one of the  
17 seatbelt systems. He testified that a passenger can  
18 buckle just the lap belt restraint if he or she chooses  
19 but then also use the shoulder harness with the lap  
20 belt.

21 Mr. Kirst testified the morning of the  
22 flight he changed his flight plan from two people to  
23 four people, added extra life preservers, checked his  
24 fuel load and picked them up at their hotel. He took

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1 off and flew to Bettles at an altitude of 3,500 to  
2 4,500 feet. As he put it, he testified it was one of  
3 the two altitudes. He testified that he stayed at one  
4 of those altitudes all the way to Bettles.

5 Mr. Kirst was asked to look at A16 and he  
6 testified that looking at the points on the document,  
7 there was a big dip in his altitude halfway to Bettles.  
8 The altitude drops way down and then goes up. He did  
9 not remember any such thing happening. He testified he  
10 maintained an altitude of either 3,500 feet or 4,500  
11 feet.

12 He testified A16 indicated he was on the  
13 ground at Bettles at 681 feet, and he says he does not  
14 recall that happening. However, he later corrected  
15 himself, stating that the document relates to the  
16 flight from Bettles to Atigun Pass. From Fairbanks to  
17 Bettles, he testified, he turned on his portable GPS,  
18 the 196, so that the passengers can count down the time  
19 until they passed the Arctic Circle.

20 He testified that Mr. Spencer had asked the  
21 two other passengers if they wanted to take some motion  
22 sickness pills. He testified they turned him down, but  
23 he testified that Mr. Spencer took one of the pills and  
24 then put them away.

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1           He testified Mr. Spencer was taking pic-  
2           tures. He had changed lenses on his camera and had  
3           changed the lenses on Daphne's camera, he testified.

4           He testified they stopped in Bettles and  
5           stayed there 10 to 15 minutes. He checked the weather  
6           which was good, no fog, no wind, few clouds. He tes-  
7           tified he recognized A8 as a weather cam picture for  
8           the Atigun Pass. He testified that from the photos  
9           from the weather cam, he calculated that halfway up the  
10          mountain would be an altitude of 1,500. He testified  
11          this was the easiest math in the world to do. However,  
12          he did not explain his calculation. He later calcu-  
13          lated that halfway up the mountain was 4,785 or 4,790  
14          feet, somewhere in there, he stated, pretty high, he  
15          testified. He didn't explain that calculation either.

16          Mr. Kirst testified about the trip from  
17          Bettles to Atigun Pass. He testified they saw a moose  
18          in a pond and they circled it twice. Mr. Kirst testi-  
19          fied there was nothing unsafe about his maneuver around  
20          the moose.

21          Mr. Kirst was asked to look at A48, the  
22          route overlay on the topographical map. He testified  
23          he did not agree with the altitudes that the Adminis-  
24          trator attributed to him, to his flight. He testified

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1 that the GPS altitude was messed up on the way from  
2 Fairbanks to Bettles. He testified he was at least, in  
3 those turns, at least 500 feet AGL.

4 He testified that this was a Part 91 flight,  
5 and he testified that the only flight restriction was  
6 that he had to be 500 feet away from people, and there  
7 were no other restrictions. Mr. Kirst testified that  
8 when he makes flights like these, he is complying with  
9 Part 135 requirements, in any event.

10 He testified that he understood A27, 28, 29,  
11 30 and 31 were in evidence, and was asked if they  
12 accurately represented how high he was in those photos.  
13 He testified A28 was the only photo that depicted  
14 accurately his altitude. He said it was high, but he  
15 could not testify what his altitude was when that photo  
16 was taken.

17 He testified, after taking photos of the  
18 moose, they headed up the river, turned up the valley  
19 and kept climbing. Mr. Kirst testified he pointed out  
20 the road, the trucks and the pipeline to his passen-  
21 gers. He testified he thought that his passengers had  
22 taken the air sickness pills because they were quiet  
23 after they left Bettles. However, he had previously  
24 testified he only saw Mr. Spencer take his air sickness

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1 pill. Mr. Kirst testified he remembered Mr. Spencer  
2 asking him if he could see sheep during the flight.  
3 Mr. Kirst testified he told Mr. Spencer he had never  
4 seen sheep on the side of the mountain. He testified  
5 he told Mr. Spencer that the sheep were usually on top  
6 of the hills.

7 Mr. Kirst testified that he had heard testi-  
8 mony about his altitude on Chandalar Shelf as between  
9 100 to 300 feet. He testified he believed his altitude  
10 was between 400 and 500 feet. He testified that the  
11 altitude on Chandalar Shelf was 2,300 feet, but then  
12 corrected himself after he looked at Exhibit-8, and  
13 testified it was actually 3,285 feet. He testified he  
14 felt comfortable flying over the Pass at 6,000 feet.  
15 Mr. Kirst then testified that he guessed his altitude  
16 to be 4,000 to 4,500 feet when he flew over Chandalar  
17 Shelf Airport.

18 He testified the road was on his right as he  
19 climbed through the Pass. He testified that the pipe-  
20 line was right next to the road. He testified he kept  
21 on the right side of the valley. He testified he would  
22 swing out to the center to see what was coming toward  
23 him, and he continued his climb. He passed 5,500 feet,  
24 aiming for 6,000 feet. He testified he could see the

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1 traffic coming up the other side of the pass. He then  
2 testified the plane pitched over horribly. He reduced  
3 power, turned down the valley, trying to figure out  
4 what to do.

5 Mr. Kirst testified Mr. Spencer had gone  
6 forward on the controls. He testified he was yelling  
7 for someone to get Mr. Spencer off of the controls, but  
8 the other passengers did not respond. He testified he  
9 pulled Mr. Spencer over to his side, but he said that  
10 did not make a difference in trying to control the  
11 plane or trying to make a difference as far as the  
12 pitch was concerned. He put the flaps out to half, he  
13 testified, and that brought the nose up. He tried to  
14 advance the throttle, but that just made things worse.  
15 The plane was initially at 130 miles per hour, and then  
16 the speed increased to 160. He testified they were  
17 going down at over 1,000 feet per minute. Mr. Kirst  
18 testified he tried to find the best place to park it.  
19 He put in the rest of his flaps and set up the aircraft  
20 to land. He testified he did not remember the landing.  
21 He testified he thought the whole thing occurred from  
22 pitch over to the landing to be about 40 seconds.

23 He testified changing the elevator position  
24 made no difference. Adding flaps and power off made

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1 things a little better. He testified he could not have  
2 landed on the road, and he did not crash into the side  
3 of the mountain because of a power on stall. Mr. Kirst  
4 testified that while there had been testimony he could  
5 not have made a U-turn, he testified he could make a U-  
6 turn and he did make a U-turn. He testified he was not  
7 looking at the pipeline or wildlife when this happened.  
8 He did not agree with Inspector Sipperley's suggestion  
9 of pulling the mixture and cutting the engine. He  
10 testified he left the propeller at full climb pitch.

11 Mr. Kirst testified he remembered no state-  
12 ments he made that day. He remembered being in the  
13 gurney as he -- to smoke a cigarette -- and then being  
14 in the hospital. His next recollection was that three  
15 or four weeks later -- he remembered very little about  
16 meeting with the NTSB. He remembered a phone call in  
17 the hospital he thought lasted 40 seconds, with someone  
18 asking why he did not land on the road.

19 Mr. Kirst testified he was on morphine and  
20 had been in an induced coma with tubes down his throat  
21 and coming out of his side. He testified he actually  
22 did die in the operating room, and had to be resuscita-  
23 ted. He testified the medication he had taken had kept  
24 his memory screwed up, as he put it.

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1           He testified that it was January or February  
2 when he started to feel normal. He went to the Medal-  
3 lion Foundation to try to get into the simulators and  
4 try flying airplanes again. He could not drive a car,  
5 but that's when he started to feel better.

6           He testified he knew that he was in a plane  
7 crash, but he did not know what happened for a long  
8 time. He testified the recovery photos of his airplane  
9 clued him in as to what actually happened and what  
10 caused the crash.

11           Mr. Kirst testified, as far as the GPS data,  
12 that he heard from Mr. Motzko, he testified he had done  
13 his own research on the Garmin 196 tracking data. He  
14 testified he had a background in surveying, and he  
15 helped mapping companies set up bay stations, flight  
16 lines and post-processing. He had sat in and watched  
17 how post-processing information was discussed. He was  
18 shown R81, which is the Garmin 196 GPS. He testified  
19 that the instrument was not a precision instrument. He  
20 testified it was not technical service order (TSO) for  
21 IFR (instrument flight rules) and navigational pur-  
22 poses. Mr. Kirst testified he never used the 196 for  
23 navigation. He used it as a last stage emergency  
24 backup with his charts in the event he lost all other

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1 navigation. He testified he had 4 or 5-hour battery  
2 backups, so he would be able to use it to find an  
3 airport. He testified he purchased it in 2002 or 2003,  
4 but then said maybe it was 2001, 2002 or 2003. He  
5 testified the manual stated one should not rely on the  
6 vertical elevation of the unit. The manual indicates  
7 that it's not trustworthy. He testified this unit, the  
8 196, relies on the government GPS system to get its  
9 data, and the government GPS data is not accurate. He  
10 testified that the unit does not tell you when it goes  
11 from 3-dimensional to 2-dimensional navigation. He  
12 said there is a software update, which corrects this,  
13 but he has never obtained the software for it.

14           Mr. Kirst testified he had a remote antenna  
15 mounted on the windshield. Most satellites are not by  
16 the North Pole. They are more in an orbit towards the  
17 equator. He testified if you're flying in a northerly  
18 direction, your airplane could block out satellites  
19 that are at the equator. The panel mounted TSO GPS  
20 units have an antenna outside on the top of the air-  
21 craft, so it has a 360 degree view of the sky.

22           He testified the Garmin website states the  
23 altitudes on this portable handheld unit can vary by  
24 400 feet, and they should not be relied on for vertical

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1 accuracy. Mr. Kirst testified there are issues of GPS  
2 satellite coverage that are associated with Northern  
3 Alaska. He knows this because he is a commercial pilot  
4 and a flight instructor. As an instructor, he teaches  
5 his students what to rely on and what not to rely on.  
6 He testified that the government website has GPS infor-  
7 mation. Mr. Kirst testified that R1 was information he  
8 received from the government GPS website, which showed  
9 what the GPS coverage was like on August 24, 2014. He  
10 testified he looked at the website and he determined  
11 the coverage on that day was not good. If the signal  
12 that goes into the GPS device is not good, then the  
13 information that comes out of the GPS unit is not any  
14 good either. Mr. Kirst testified he went to the FAA  
15 website relative to WAAS coverage. He testified that  
16 the information he obtained showed that the coverage  
17 was poor on the day of the crash in Alaska, Canada, and  
18 most of the world. So, in essence, the federal govern-  
19 ment was saying that they could not position you within  
20 100 meters with their correction at the place that they  
21 were correcting for.

22 On voir dire, he testified this information  
23 indicated that an accurate fix from the GPS for at  
24 least a minimum of 70 minutes -- that in most of the

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1 world -- GPS could not be accurate to 100 meters. He  
2 basically contends the data the Administrator has used  
3 for altitude on his flight is pretty much screwed up.  
4 He testified that his graph shows that the GPS system  
5 was not working properly that day, which explains why  
6 he can say that the GPS data that the Administrator is  
7 using is screwed up and that the altitudes are all  
8 wrong.

9 In response to my questions, in attempting  
10 to understand his testimony, I asked if his exhibits  
11 tell him that the information that the GPS cannot  
12 guarantee your position or where you are on the planet  
13 to 100 meters, and he indicated that was correct. He  
14 also indicated if it was correct, then that information  
15 from the Administrator is not entirely corrupt, it just  
16 can't be guaranteed to 100 meters relative to where you  
17 are. Again he testified there were other problems with  
18 the GPS in the north, because most of the satellites  
19 are in orbit near the equator.

20 He identified Exhibit-R19 as the GPS wide  
21 augmentation performance standards. Exhibit-R20 was  
22 identified as the Department of Transportation FAA  
23 performance standards for the WAAS system, which is  
24 part of the GPS that sends signals to a Garmin 196 or

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1 140. It gives the permanent standards that the satel-  
2 lite system has to meet. He said this covered the  
3 third quarter of 2014. Exhibits R19 and R20 were  
4 admitted into evidence, but the Administrator objected,  
5 stating that those exhibits dealt with navigation and  
6 not tracking, which is what the FAA is using the GPS  
7 information for. Mr. Kirst testified that Mr. Motzko  
8 testified the WAAS makes the GPS data more accurate if  
9 it's available, but it would still not give data unless  
10 it had four satellites and its confidence level was  
11 very high.

12 The Respondent, in his arguments as to the  
13 admissibility, argued it is an argument by analogy. If  
14 the WAAS system has problems, then the same, if not  
15 more, problems exist with the GPS signals that a non-  
16 WAAS GPS is receiving. The Administrator maintains  
17 that Mr. Motzko's testimony has a tolerance of 50 feet.  
18 The WAAS corrected GPS for navigation, if the unit was  
19 receiving it, would have made it better than 50 feet.  
20 The information provided by the Respondent about the  
21 WAAS signal correction, which is intended for naviga-  
22 tion, does not show corruption of the data.

23 Mr. Kirst then testified that he had heard  
24 testimony about the use of USGS information that he

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1 received about topography, in particular points based  
2 on the latitude and longitudinal points. He testified  
3 he obtained possession of his GPS and contacted Garmin  
4 and they told him to use Garmin Base Camp to download  
5 the information onto a computer. He said he could not  
6 do so. So he used another computer program and down-  
7 loaded the information from the GPS.

8 He testified that R4 is the active log from  
9 Fairbanks to Bettles and R5 is the log from Bettles to  
10 Atigun Pass that he had prepared. He compared the data  
11 on R4 to A16, which is the Administrator's exhibit, and  
12 it identified that the longitude and latitudes were off  
13 in Exhibit-A16. Mr. Kirst testified it was an example  
14 of somebody using sloppy work, using the wrong program  
15 to download material, and corrupting the data.

16 He also testified Mr. Motzko's report at A18  
17 is incorrect because it indicates the GPS turned off  
18 because it dropped below 40 knots at Bettles airport.  
19 He testified R4, his data, indicates the machine does  
20 not turn off at 40 knots. He testified A18 indicates  
21 the extracted data log was examined in tabular form,  
22 and pan and profile plotting programs through Expert  
23 GPS, Google Earth Professional hand map to digital  
24 terrain models based on the world geodetic systems of

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1 1984 datum. He testified he does not consider this  
2 information correct because you do not know whose  
3 information Google Earth is using to create the surface  
4 terrain. He testified that in Alaska, Google earth is  
5 really crappy.

6 Mr. Kirst then testified that he researched  
7 USGC and found the most accurate map is the 300 meter  
8 map and database digital elevation model. He testified  
9 that for Exhibit-A2, Mr. Motzko testified that there  
10 was an Alaska 30 meter and Alaska 60 meter digital  
11 elevation models. He testified he was not familiar  
12 with the 30 meter elevation model or the 300 meter map.  
13 He testified the data used above 60 degrees in this 300  
14 meter digital elevation model -- he testified that R2  
15 is the download of the USGS website for the 300 meter  
16 digital elevation model for Alaska.

17 Mr. Kirst was then asked to view Exhibit-  
18 A18. He testified there was nothing in the report that  
19 evidenced USGS-1, ARC-1 or 2, ARC-3 or anything else  
20 that he had heard during the testimony of Mr. Motzko.  
21 Mr. Kirst then testified there was one exhibit that  
22 indicated he tried to make a U-turn at the conclusion  
23 of his flight, just before the crash, and that was his  
24 Exhibit-R18 that he compiled.

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1           He testified that GPS coverage in Alaska is  
2 not always accurate, and he gave an example of when he  
3 flew for a customer in November or early December of  
4 2015, and he provided photographs of the readings on  
5 the instrument panel, which indicated, in his opinion,  
6 the GPS altitude readings were off. He testified he  
7 took pictures of the instrument panel to indicate that  
8 the GPS data regarding altitude was different from the  
9 altitude from the altimeter and also different from the  
10 altitude indicated on the transponder. He testified he  
11 could not remember what date those photographs were  
12 taken, but he thinks it was between July and December  
13 of 2015. He then testified it was in November. He  
14 represented that the photos show the inaccuracy of the  
15 GPS. He said the flights were in another aircraft  
16 using a different GPS, a GPS 140. Mr. Kirst testified  
17 the only way to affect the altitude was by adjusting  
18 the altimeter and, thus, the barometric pressure. He  
19 has no documentation as to when the test was done or  
20 that establishes he did not adjust the altimeter in  
21 this photo. He was alone on the flight. He had no one  
22 assisting him in taking these photographs or performing  
23 these flights that could corroborate his testimony. He  
24 identified those exhibits as R9, R10, R11 and R13; they

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1 were admitted into evidence, but I will discuss what  
2 weight I give them later on.

3 Mr. Kirst testified he also looked into the  
4 cause of the accident after he saw recovery photos of  
5 the aircraft. He testified there was a picture of the  
6 propeller hub, where a bolt had come out and it showed  
7 corrosion. That indicated to him that it must have  
8 been loose and, therefore, corrosion had built up. He  
9 testified he was not truly aware that the propeller had  
10 never been recovered until December or January of 2015.  
11 He testified that he did not really function well until  
12 December. Mr. Kirst testified that the fact the prop  
13 blade was never found explained everything, more or  
14 less. He testified if the prop blade came off, that  
15 would explain why the airplane pitched over and why  
16 adding power just made things worse. He testified the  
17 prop blade did not have to completely come off for all  
18 of what he just described to happen. He testified once  
19 the prop blade became loose, it came out of balance and  
20 it will cause vibration. It can be a small vibration  
21 or a larger vibration that you can feel. He testified  
22 then the prop blade may twist right and then to what he  
23 called beta pitch, which is a flat pitch that does  
24 nothing. It simply will not pull the aircraft forward.

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1           He testified if the prop came off during the  
2 crash, it would be somewhere on the rocks where he  
3 crashed. It should have been within 100, 200, or 300  
4 feet of the crash. He testified he saw an email from  
5 an FAA inspector which indicated that if the prop came  
6 off at the time of the crash, the prop would be near  
7 the impact site.

8           He identified R44, which shows corrosion in  
9 the pilot tube, and R45, which he testified showed the  
10 condition of the clamp. Mr. Kirst testified the right-  
11 handed side of the propeller clamp was smooth and  
12 polished, and the grease looks like it's supposed to  
13 be. The other side, where the missing blade was  
14 attached, has two bands that show corrosion, and the  
15 grease is really old.

16           He testified the propeller came from Ottoson  
17 Propeller. It was sold to him as a new propeller in  
18 2011. It is a Hartzell Propeller HCD2MV 20-17. He  
19 identified Exhibit-53 as the revision page to the Hart-  
20 zell manual which is supposed to be followed. He iden-  
21 tified Exhibit-R54, which is a Hartzell service letter,  
22 explaining that they're supposed to reverse the prop  
23 bolts on that model of propeller. Mr. Kirst testified  
24 that the reversing of the prop bolts was supposed to

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1 take place before selling the propeller, as required by  
2 the revision page. On voir dire, the FAA pointed out  
3 that Exhibit-R54, the revision page, has nothing to do  
4 with the service letter at R53. FAA also pointed out  
5 that compliance with the service bulletin is voluntary.  
6 Mr. Kirst testified if it is a used propeller, it is  
7 not mandatory, but on a new propeller it has to be  
8 done, and a return to service tag has to show that it  
9 was, indeed, done.

10 He testified that Exhibit-R-55 is a standard  
11 practice Manual 202A Volume 11. It is part of it, not  
12 the entire manual. He testified that part of the  
13 manual shows how a propeller is supposed to be returned  
14 to service after a long-term storage. Mr. Kirst testi-  
15 fied he learned, through his research, his propeller  
16 had not been properly overhauled before he purchased  
17 it.

18 He testified that the evidence from the FAA  
19 showed that an email with Inspector Major regarding the  
20 propeller not being returned to service properly. He  
21 then testified it had old grease in the propeller and  
22 the bolts were bad bolts or used bolts and were loose  
23 and could be removed by hand, and because of this, Mr.  
24 Kirst believed that the overhaul of the propeller had

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1 not been done, and the bolts on the propeller were used  
2 bolts and the could be taken off by fingers and not by  
3 the use of wrenches. Mr. Kirst testified that the  
4 grease in the propeller was at least 10 to 12 years  
5 old, and the FAA was aware of this in its investiga-  
6 tion. He testified that the emails from Inspector  
7 Majors and the Hartzell rep discussed the bolts. The  
8 nuts were used and they could take them off with their  
9 fingers and the bolts had not been reversed per the  
10 service manual. He testified none of this information  
11 was included in the Hartzell propeller report.

12 Mr. Kirst testified that he concluded, after  
13 reading the Hartzell propeller report, that the propel-  
14 ler on his aircraft had not been overhauled properly.  
15 The clamps were cracked. The blade came loose. It  
16 cracked the motor mounts on his aircraft and his air-  
17 plane crashed.

18 Mr. Kirst testified that he had the Hartzell  
19 report to support his assertion. He believed that it  
20 was in the American Standards testing that had done the  
21 metallurgical test that had come with the Hartzell  
22 report. He testified the report says that the fracture  
23 in the clamp shows considerable rubbing and wear. He  
24 testified that this indicates the clamp cracked long

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1 before the propeller hit the ground. It had to turn  
2 many revolutions to cause that type of wear. The FAA  
3 provided a copy of the report, page seven, which states  
4 that a view near the bolt surface origin shows what  
5 appears to be a collection of fine near surface dimples  
6 and an area of rubbing damage. As a general rule, the  
7 fracture face displayed considerable damage, due to  
8 rubbing of the surface, making interpretation more  
9 difficult. Higher magnification imagery confirmed the  
10 presence of ductile overload. Mr. Kirst testified that  
11 the significance of this was that there is a service  
12 bulletin about the propeller corroding on the inside,  
13 and causing fractures to the hub.

14 He testified that Exhibit-79 applies to his  
15 propeller, and it is a service bulletin, which mentions  
16 the overloading clamps cracking, due to corrosion. He  
17 testified there were a number of pages to Exhibit-79  
18 that he was referring to. He testified page four warns  
19 a serious propeller defect may show indications before  
20 failure, such as abnormal grease leakage, vibrations  
21 during operation, in-flight blade separation, which can  
22 have a catastrophic result. He testified the bulletin  
23 was issued 12/20/2001, and was in place at the time he  
24 purchased the propeller.

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1           Mr. Kirst identified R38 as the return to  
2 service tag that came with his propeller from Ottoson  
3 Propeller. He testified that the paperwork indicated  
4 that Ottoson was selling the propeller as new and lists  
5 the manuals they followed, which include the service  
6 bulletins.

7           He testified that the prop was in storage  
8 for two years and had to be overhauled. Mr. Kirst  
9 testified that this did apply to new props. He testi-  
10 fied that the overhaul was not done in his propeller  
11 because it had sat on the shelf for ten years. So  
12 basically, he testified they sold him a ten year old  
13 non-serviceable product as new.

14           Exhibit-44, he testified, shows corrosion  
15 evident in the propeller clamp and evidence of grease  
16 that has hardened. He testified that this is something  
17 that only happens with extreme age.

18           Mr. Kirst provided an actual part, which was  
19 photographed and made a part of the record in this  
20 case. The point of bringing the actual part, Mr. Kirst  
21 testified, was so that I could see how hard the actual  
22 grease in the propeller hub looked like.

23           He identified photos of the propeller  
24 assembly, which were admitted as Exhibit-93 and 94. He

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1 testified the propeller, which is Part No. HCD2MV20-7  
2 Hartzell, is the same make and model that was on the  
3 aircraft that was in the accident. He testified it was  
4 on a Navion, the same make and the same models and he  
5 believed, but he was not sure. So, essentially the  
6 propeller he showed and took photos of was not the  
7 propeller that was actually on his aircraft. He testi-  
8 fied they showed the propeller as it is supposed to  
9 look. He testified he checked the propeller before he  
10 flew the day of the accident.

11 Mr. Kirst testified the motor mounts on his  
12 aircraft were cracked, not bent, which tells him the  
13 vibration caused the motor mount to crack. He testi-  
14 fied everyone had missed that fact, that the motor  
15 mount was cracked. Hartzell and Continental Motors all  
16 missed it.

17 Mr. Kirst testified the Continental engine  
18 examination report indicates on number five that a  
19 thrust bearing was starting to disintegrate. He testi-  
20 fied that the only thing that puts a load on it is the  
21 propeller, because that is all that went wrong with the  
22 engine, so this supports his theory that it had lost a  
23 propeller blade. He testified he believes this case  
24 was not properly investigated. He testified a proper

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1 investigation would have revealed that the propeller  
2 had failed. Ottoson Propeller had not overhauled, nor  
3 returned the propeller to service properly, as they  
4 said they did, before they sold it to him. This  
5 probably would have resulted in an emergency airworthi-  
6 ness directive against Ottoson Propeller. If the  
7 propeller came apart, which he alleges, the blade just  
8 came loose. He testified that if one of the blades  
9 comes loose, you're going to lose 75 percent of power,  
10 and all of your thrust is gone. He said it causes the  
11 nose of the aircraft to drop, increasing power is going  
12 to cause vibration. So, all you can do is park it  
13 somewhere. The airplane is not flying anywhere.

14 As far as his flying privileges, Mr. Kirst  
15 testified he began exercising his pilot privileges  
16 again somewhere in July/August 2015. He flew between  
17 100 and 150 hours from when he started to fly again to  
18 December. He had flight students during that period.  
19 In December, he got an email from Mr. Cole's office.  
20 He tried to read it on his phone, but had difficulty  
21 reading it because of the small screen. He testified  
22 he called his lawyer, but his lawyer was gone for the  
23 day. He testified he cancelled his flight students for  
24 the following week up until Wednesday. He said he

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1 talked to his lawyer on Monday, and they discussed it,  
2 and Mr. Kirst thought he was legal to fly.

3 He testified he flew some propane for Kobuk  
4 Store because he needed the money, and he thought he  
5 was legal to fly. The FAA did a ramp inspection when  
6 he landed. He asked them to wait until he put the  
7 plane away. They offered to help him do that, but  
8 instead, he said in that process, they pushed the  
9 airplane into a truck and damaged the right elevator  
10 tip. He told them to leave the plane alone. He was  
11 called the next day and was told his license had been  
12 revoked when he flew the day before. He told the FAA  
13 to call his lawyer.

14 Mr. Kirst testified he is a really nice  
15 person when he is in an airplane. His students can't  
16 stop talking about how good he is in an airplane. He  
17 testified that safety is the number one thing in his  
18 life, whether it was teaching, working in the auto-  
19 motive field, or working in aviation. He testified he  
20 really gets upset when he hears things are wrong. He  
21 tries to correct them and he comes across very bad when  
22 he does this at times.

23 On cross-examination, Mr. Kirst testified he  
24 received an email from his attorney, which he testified

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1 he had difficulty reading on his phone, and he erred on  
2 the side of caution and stopped his flight instruction.  
3 He testified he received the email or text message on  
4 December 11th, 2015, which was a Friday. He testified  
5 he called his attorney on Monday, and it was his under-  
6 standing that he could still continue to fly.

7 Mr. Kirst was shown the letter dated Decem-  
8 ber 16, 2015, which is the order of revocation, which  
9 he signed as receiving. He testified it was the same  
10 letter he received in an email from his attorney, or a  
11 text message from his attorney. He testified that he  
12 looked at the email his attorney sent him over the  
13 weekend at his home computer, and he testified he did  
14 not fly from December 15th, until he spoke to his  
15 attorney.

16 Mr. Kirst testified that in his deposition,  
17 he indicated that he had charged a fixed price of  
18 \$3,500 for the flight arranged by Mr. Darrell Spencer.  
19 They were going to fly up to Dead Horse, fly down the  
20 coast, take pictures of polar bears. He agreed that it  
21 was a 10 to 12 hour trip. He agreed the initial quote  
22 was for him to meet up in Dead Horse and then drop them  
23 back off in Dead Horse. He testified he charges \$330  
24 per hour for charter. For air taxi, he charges \$225

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1 per hour, plus baggage. Mr. Kirst was corrected and  
2 admitted he charged \$345 an hour for charter flights,  
3 as is indicated on his web site. He agreed that he had  
4 testified he did not believe the flight to be subject  
5 to Part 135 because they had not paid extra for the  
6 transportation up to Dead Horse. Mr. Kirst testified  
7 that he had no other reasons to fly to Dead Horse,  
8 other than to take Darrell Spencer, Daphne McCann and  
9 Marcene Nason. He agreed he quoted a price of \$3,500.

10 He testified they flew over Finger Rock  
11 between Fairbanks and Bettles, and at that time, his  
12 altitude was either 3000 feet, 3,500 feet, or 4,500  
13 feet. He was shown Exhibit-A48 and he identified two  
14 peaks he had to fly through to go through Atigun Pass.

15 Mr. Kirst agreed he testified that under  
16 Part 91 rules he has to be 500 feet away from persons.  
17 He also agreed he has to, under the rules, fly 500 feet  
18 away from vehicles, structures, and vessels. Mr. Kirst  
19 agreed the Alaska pipeline was a structure. He also  
20 agreed he is supposed to maintain an altitude allowing  
21 if a power unit failed, an emergency landing without  
22 undue hazard to persons or property of the surface.

23 He was asked to review A41 and A16, and he  
24 was asked if he remembered that the latitude and longi-

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1 tudes were simply the difference between A41 and A16.  
2 He agreed. He read from R4, his exhibit, the latitude  
3 and longitudes on the first line, which is 49179 west  
4 1475032, and he was asked to compare A41, Index 1, line  
5 one -- Index Line 1, and it indicated the same latitude  
6 and longitude. He testified he did not know of any  
7 other latitudes and longitudes that were different  
8 from R4 and A41.

9 Mr. Kirst was asked to calculate what alti-  
10 tude he would need to make a 180 degree turn out of  
11 Atigun Pass and he testified that in his opinion, he  
12 would just have to be above ground to make that type of  
13 a turn.

14 He was asked to describe the incident.  
15 Again, he testified about his altitude, being able to  
16 look over the Pass. He testified he remembered testi-  
17 mony about Mr. Spencer asking about animals on the side  
18 of the mountain, but he testified he was not looking  
19 for animals in the Pass.

20 He was asked to describe at what point he  
21 decided the impact was inevitable and he should try to  
22 make it survivable. Mr. Kirst testified he was trying  
23 to recover the airplane and get Mr. Spencer off the  
24 controls. He made a U-turn back to descending terrain.

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1 He spent 30 to 40 seconds setting up for impact. When  
2 asked how much altitude he lost, he responded 5,500 to  
3 5,600 feet down -- to down below the road. He testi-  
4 fied that was approximately a loss of altitude of 1,500  
5 feet. He agreed that by the time he turned into the  
6 rising terrain, he was no longer in a rapid descent,  
7 and he agreed that the wings and the fuselage were  
8 level when he crashed into the side of the mountain.  
9 He testified he did not remember a stall at the end and  
10 that he had just set up the plane for the landing.

11 Mr. Kirst testified he did not remember the  
12 impact. He remembered being five or six feet above the  
13 ground. He testified he did not recall instructing the  
14 first rescuers to arrive how to open the canopy.

15 He was asked if he recalled the testimony of  
16 Trooper Lanier, that the aircraft came to a stop about  
17 a mile from the top of the grade in the Pass. He  
18 replied he did not recall that testimony.

19 He testified he could not land on the road  
20 after he had made his initial U-turn, heading down the  
21 mountain. Mr. Kirst was asked to look at photos at A4,  
22 3 and 4, and the direction that the aircraft was point-  
23 ing towards on the side of the mountain, which did not  
24 appear that he had made a 180 degree U-turn. He testi-

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1 fied he made a U-turn and found the best place he could  
2 find to land. When asked whether his U-turn was to the  
3 left or to the right, he responded, "That's a darn good  
4 question." He testified he guessed he turned to the  
5 left, but he was not positive.

6 Counsel for the Administrator stated that  
7 based on Mr. Kirst's testimony, it looked like he made  
8 a 270 degree turn. He asked Mr. Kirst if he agreed,  
9 and Mr. Kirst said, "Sure."

10 He was asked if during the 30 seconds he was  
11 looking for a place to land, if he knew where he was  
12 located when it started. He replied that it was 200,  
13 300, or 400 feet from where the airplane was finally  
14 parked, but then he testified he really did not know.  
15 He showed some frustration in answering the questions,  
16 saying he had a lot of things to do. He was very busy  
17 when that occurred.

18 Counsel for the Administrator stated that he  
19 did not hear Mr. Kirst describe any sort of violent  
20 shaking, and Mr. Kirst testified that when he added  
21 power, it made things worse, and he attempted to testi-  
22 fy that that was vibration, but he testified that the  
23 Hartzell service bulletin states you can throw a blade  
24 with or without vibration. Mr. Kirst did not really

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1 answer the question, and at that point, his voice was  
2 barely audible.

3 Mr. Kirst was asked to look at R79 and point  
4 to where, in the document, it indicated what he had  
5 just quoted -- a thrown blade could be with or without  
6 vibrations. He quoted a paragraph, but admitted that  
7 the paragraph did not indicate that the propeller blade  
8 had come off.

9 However, he then testified he remembered two  
10 other airplanes that were mentioned in the exhibit:  
11 one, everyone survived; the other aircraft, air traffic  
12 control killed them. However, he did not say how he  
13 knew this information.

14 When counsel pointed out R79 only states  
15 that you may not have vibrations if cracks start to  
16 form -- it says nothing about blade separation -- Mr.  
17 Kirst responded that when cracks start to form, the  
18 blades come loose. Vibrations may not be apparent  
19 until the end. We don't know.

20 When asked when he first recalled finding  
21 out about any memory of the fact that a propeller blade  
22 was not located, Mr. Kirst went into a lengthy response  
23 and finally answered he really did not know when he  
24 first recalled that. Counsel reminded him that his

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1 witness testified that he had brought the recovery  
2 photos to Mr. Kirst at the end of December.

3 Mr. Kirst testified that his witness Mr.  
4 Grediagin was a little bit wrong as to the date of the  
5 recovery, and he testified that he was lucid enough to  
6 remember things at the end of September and the begin-  
7 ning of October, but he would not say if that was when  
8 he believed he first learned about the missing prop  
9 blade.

10 When asked about the phone call from the FAA  
11 inspectors, he again testified that he believed the  
12 phone call lasted 40 seconds, but in looking at his  
13 phone records, he indicated that actually, the phone  
14 call lasted 25 minutes. He said he remembered nothing  
15 of the interview. His lawyer was with him during the  
16 call, and his lawyer was with him when he was inter-  
17 viewed by the NTSB, as well.

18 He was asked if on the day of the accident,  
19 he checked NOTAM for the pre-flight from Bettles to  
20 Dead Horse; he indicated he did. However, he testified  
21 that he did not recall any NOTAM or anything regarding  
22 GPS outages the day of the crash.

23 Counsel for the Administrator then asked Mr.  
24 Kirst about Exhibit-A78, which was moved into evidence

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1 by the Administrator. Mr. Kirst was then asked if that  
2 report indicates that the cause was indicative of a  
3 blade separation. Mr. Kirst testified the report indi-  
4 cates that a propeller blade was missing. It indicates  
5 a broken bolt head was lying on top of the clamp of the  
6 missing blade. He then went into a long explanation  
7 that was not responsive to the question asked. Mr.  
8 Kirst went on to testify that when he reviewed the  
9 report, bits of information led him to believe that the  
10 prop blade could have separated, even though the report  
11 does not actually refer to a condition causing a blade  
12 separation.

13 Mr. Kirst agreed that he performed an annual  
14 inspection on the aircraft in June of 2014, and agreed  
15 it would have been something he would look for. He  
16 would have seen it if he looked for it. He testified  
17 he did not test the tightness of the nuts on the clamp.  
18 He testified he wished he had done so, because that  
19 would have found -- and then he stopped testifying.

20 Mr. Kirst testified that he believed that  
21 the propeller blade came loose and that started the  
22 events and then the blade departed the airplane, but he  
23 did not know when that happened. It could have been 10  
24 feet of the ground. He did not know. Mr. Kirst agreed

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1 that his testimony is that the propeller blade had  
2 simply come loose and then that is what caused the  
3 events, and he does not know when the prop blade came  
4 out.

5 The case was continued to Wednesday, June  
6 15th. At that time, cross-examination was continued.  
7 At this point, since it's about five minutes to five,  
8 Eastern time, I'm going to take a 10-minute break, and  
9 then we'll come back and continue at that time.

10 MR. BERGT: Your Honor?

11 JUDGE MONTAÑO: Yes.

12 MR. BERGT: This is Mr. Bergt. Mr. Cole  
13 will be taking over for me. So he'll be on in approx-  
14 imately 10 minutes.

15 JUDGE MONTAÑO: All right, thank you.

16 MR. BERGT: Thank you.

17 (Whereupon, the above-entitled matter went  
18 off the record at 4:53 p.m. and resumed at 5:05 p.m.)

19 JUDGE MONTAÑO: The case was continued to  
20 Wednesday, June 15, 2016. The Administrator continued  
21 the cross-examination of Mr. Kirst at that time. He  
22 was asked about the gross weight of his aircraft at the  
23 time it took off from Fairbanks. He testified it may  
24 have been within 200 pounds of maximum gross weight.

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1           He was then asked to review R20, Report 50  
2 of the wide area augmentation system performance analy-  
3 sis report and he was asked about writing that he had  
4 done on the report. Mr. Kirst testified they were the  
5 notes he made on the exhibit, and they were not a part  
6 of the original report. He testified also that high-  
7 lighting and arrows on page two of the report are  
8 things he added to the report, and they were not in the  
9 original report, and he also stated that he inserted  
10 "horizontal protection level, vertical protection  
11 level" at the top of that page. He testified that the  
12 document showed that the altitude reading from his  
13 Garmin 196 are highly suspect. He testified he added  
14 additional notes to the next page of his exhibit. He  
15 testified he found this report on the internet, and  
16 agreed he also found the report of global positioning  
17 system standard position service performance analysis  
18 report for the same period of time. However, he does  
19 not remember why he did not offer that report into  
20 evidence. He was asked to circle the areas in the  
21 exhibit where he made notes, so that it can be distin-  
22 guished from the original.

23           The Respondent was then asked to look at R9,  
24 R10, R11 and R13. He testified he took the photos, but

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1 he could not remember if they were all taken on the  
2 same day. He was not sure if R10 and R11 were taken on  
3 the same day. He had testified that these photos  
4 showed the unreliability of the GPS, because the  
5 altitude reading on the GPS was different from the  
6 altimeter and the transponder in the photographs. Mr.  
7 Kirst agreed he could change the settings on the  
8 altimeter; however, he could not change the altitude  
9 reading on the transponder. He agreed that the tran-  
10 sponder was not based on the altimeter setting, but was  
11 based on standard pressure, 29.92 inches of mercury.  
12 Mr. Kirst agreed that if you are flying in a low pres-  
13 sure area or an area colder than standard 29.92, it  
14 could cause the reading on the transponder to differ  
15 from the reading on the GPS.

16 Mr. Kirst was then asked to review Exhibit-  
17 R79 to show that there had been corrosion in the clamps  
18 that had held the missing propeller blade. He testi-  
19 fied that Exhibit-R96 showed corrosion on the right  
20 hand side of the clamp. In response to the Administra-  
21 tor's question, he testified he did not have any of the  
22 material he identified as corrosion tested to establish  
23 that it was in fact corrosion. He testified that he  
24 inspected it himself and he identified it as corrosion.

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1           Mr. Kirst testified that the propeller goes  
2 into the propeller base and the clamp is to hold the  
3 propeller in place. He agreed that some kind of gasket  
4 compound is placed in the base of the propeller hub to  
5 hold the propeller in place.

6           He testified he checked the propeller blades  
7 before he took off on August 24, 2014, and again before  
8 taking off from Bettles, and found no unusual turning  
9 of the blades nor found anything unusual. He testified  
10 he did not see any leaking of grease from the propeller  
11 when he checked it, or from the clamps. He agreed that  
12 he felt no unusual vibrations when he took off, or when  
13 he was flying the aircraft.

14           Mr. Kirst was asked to review the Hartzell  
15 propeller report and the metallurgist report of the  
16 examination of the propeller, and he was asked if there  
17 was any discussion of corrosion as a factor in the  
18 report, and Mr. Kirst answered no.

19           Mr. Kirst agreed the report at R95 indicated  
20 that the crack of the clamp half section resulted from  
21 tensile overload of the ductile material. There is no  
22 evidence of fatigue cracking. He read into the record  
23 and agreed there is no mention of corrosion in that  
24 record.

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1           Mr. Kirst was asked to review R38 relative  
2 to what he previously testified, that Ottoson had not  
3 completed the overhaul on the propeller they sold him.  
4 He read into the record that the exhibit indicated,  
5 "Complied with service letter 61-61Y, Revision 3, in  
6 accordance with Hartzell Manual 100E, Revision 4, 133C,  
7 Revision 26 and 202A, Volume 4, Revision 27." A60 was  
8 admitted into evidence, which is described as Volume 4.  
9 Mr. Kirst testified he could not find Volume 4 on the  
10 internet. When asked what other volumes he researched,  
11 he testified he could not recall and would have to  
12 check his computer to find out what other volumes he  
13 had researched. However, he testified that he did not  
14 know how Hartzell revised its volumes. Mr. Kirst then  
15 was then asked which way the propeller on his aircraft  
16 rotates. He provided a series of answers to this line  
17 of questions that clearly only served to confuse the  
18 matter. I found his answers to these questions posed  
19 by the Administrator to be evasive, contradictory and  
20 nonresponsive. His answers were not responsive to  
21 questions asked, but instead restated his theory that  
22 the propeller came loose and departed the aircraft.

23           On re-direct, Mr. Kirst was asked about R9,  
24 R10, R11 and R13, photos of the control panel of an

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1 aircraft. He basically reiterated that the photographs  
2 indicate that the GPS altitude was off. He testified  
3 the GPS altitudes as indicated on the GPS were  
4 incorrect or off. He testified he could not use his  
5 GPS altitude when given a clearance of 10,000 feet,  
6 rather than his altimeter. If he did so, he would be  
7 dead.

8 Mr. Kirst reviewed R79 and again reiterated  
9 his position that corrosion in the propeller can lead  
10 to a crack that could result in clamp failure. Inspec-  
11 tion of the affected clamp in accordance with this  
12 bulletin will detect a crack before it has an opportu-  
13 nity to fully develop. He was asked if the R8130, the  
14 return to service airworthiness tag for the propeller,  
15 indicated the overhaul was done, and he answered yes.

16 Mr. Kirst was then asked what the signifi-  
17 cance was of not replacing the bolts on the propeller  
18 in this case, and he responded four people landed in  
19 the hospital -- that was the result. He testified he  
20 first became aware of this in 2016, when the FAA  
21 provided their amended discovery response.

22 Mr. Kirst testified that the Hartzell report  
23 at R95 and the metallurgical report at R95 did not  
24 mention broken motor mounts in his aircraft. He testi-

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1 fied that they don't mention the bolts that could be  
2 removed by finger pressure. They do not mention flaws  
3 in the pilot tube where the propeller blade is missing.  
4 They do not mention rub marks indicating that it was  
5 broken -- that it had been broken for some time. They  
6 don't mention old grease inside and they don't mention  
7 corrosion inside.

8           When asked if he could tell how many revolu-  
9 tions the propeller would have to make after striking  
10 the ground, he testified half a revolution, and the  
11 missing blade, he testified, never touched the ground.

12           He testified again that the broken motor  
13 mounts were not mentioned in the Hartzell report. He  
14 maintained that the motor mounts broke, not because of  
15 the crash, but because when a prop blade is thrown, the  
16 engine will tear itself out of the plane. He testified  
17 about the broken motor mounts and indicated that is  
18 shown in Exhibit-R103. The Administrator did not  
19 object to its admission, but argued the exhibit does  
20 not show a broken motor mount. Mr. Kirst testified  
21 that the lower motor mount was depicted at Exhibit-  
22 R104.

23           He testified that Exhibit-105 was a picture  
24 of the propeller hub. He discussed Exhibit-106, which

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1 he indicated showed that the propeller pilot tube had  
2 rub marks on it, which indicated to him that the blade  
3 had come off in flight.

4 Mr. Kirst then testified Mr. Spencer had  
5 slumped over him and he had evidence to prove that. He  
6 produced photos of his pants and shirt that he wore on  
7 the day of the crash, and they were covered in blood.  
8 He testified that none of the witnesses testified in  
9 the hearing that they had seen him bleeding. These  
10 photos were admitted as R66. There was, of course, an  
11 objection as to relevance, and the argument that I  
12 should give them no weight.

13 Mr. Kirst then testified that one of the  
14 witnesses that testified for the Administrator was  
15 coached as to what to testify about the shoulder  
16 harness in Mr. Kirst's airplane. When I asked what  
17 witness he was talking about, he testified he thought  
18 it was Adrian Torrez. There were no questions by his  
19 counsel about witness coaching on cross-examination of  
20 Mr. Torrez or any other Administrator's witnesses.

21 Again he testified he looked for the prop  
22 for two days. Mr. Kirst testified his landing of the  
23 plane was a controlled landing and not a power on or a  
24 power off stall.

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1           On re-cross, he testified there is a differ-  
2           ence between a full stall landing, which is different  
3           from a stall. He testified he did a full stall land-  
4           ing. He guessed from three to six feet off the ground.

5           Mr. Kirst agreed that he made his conclu-  
6           sions regarding the rub marks on the pilot tube based  
7           on photographs he had seen. He did not inspect the  
8           actual hardware. He agreed that the photo at R105 and  
9           R106 indicated that both pilot tubes on the propeller  
10          hub fractured the same way. However, he also testified  
11          that, in a good picture, they did not look the same.  
12          Mr. Kirst then testified that he had a better picture  
13          than R105 or 106 on his computer at home.

14          Mr. Kirst again testified he disagreed with  
15          the Hartzell report and the metallurgical reports,  
16          because they did not return the parts to him. They  
17          ignored the void and the rub marks on the hardware.  
18          The American testing report should theoretically have  
19          three or four more pages than the report in evidence  
20          actually has. He again testified they should have  
21          tested the rub marks and evaluated the pilot tube voids  
22          that he had seen in the photographs. He testified he  
23          can't do anything with the report they provided, the  
24          Hartzell report or the metallurgical report, because

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1 they had not done the whole job. A62, the metallurgi-  
2 cal report, was admitted into evidence by the Adminis-  
3 trator. The Administrator moved for the admission of  
4 A102, which shows the motor mounts discussed during  
5 Respondent's testimony.

6 Mr. Kirst was asked how did he know that the  
7 blood in the photos of the clothing he had produced was  
8 not his, and he testified that each and every witness  
9 presented by the Administrator did not testify that he  
10 was bleeding. He testified his blood does not leak  
11 because he is a two pack a day smoker. In response to  
12 my questions, he testified he had lacerations on his  
13 head and he needed two or three stitches. He had a  
14 laceration on his forehead and on the right side, and  
15 he testified that none of the witnesses testified he  
16 had bled.

17 When asked if the broken motor mounts could  
18 be the result of the crash, he said no. The motor  
19 mounts would be bent and not broken.

20 When asked about Volume 4, relative to his  
21 propeller overhaul, he testified he could not find it  
22 on the internet. He contacted Hartzell, and Hartzell  
23 wanted to sell it to him. He testified that Volume 4  
24 specifically deals with the propeller overhaul.

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1           When asked how he knew the company that sold  
2 him the propeller did not perform the required over-  
3 haul, he testified that according to the FAA, the nuts  
4 and bolts they evaluated in their evaluation of the  
5 propeller were old -- or used bolts, and they could be  
6 removed by hand. He added there was also old grease in  
7 the propeller pilot tube and it had hardened. He  
8 agreed he did not test the parts to establish what he  
9 felt was actually corrosion. He testified he was not  
10 looking for Volume 4 on the internet. He was more  
11 interested in Volume 7 because it was more complete.  
12 When asked how he knew Volume 7 was more complete than  
13 Volume 4, he testified he had not seen Volume 4. He  
14 testified Volume 4 is an overhaul manual, which he  
15 testified is very detailed and complete, as to the  
16 overhaul of the propeller. A60 indicates Volume 4,  
17 again, was complied with.

18           Mr. Kirst testified the propeller had been  
19 on his aircraft for three years before the crash. He  
20 testified that Inspector Jason Major and the Hartzell  
21 representative had described the used bolts in the  
22 propeller assembly -- that they could be removed simply  
23 by using hands, and not wrenches. When I asked him if  
24 Inspector Majors' conclusion that the bolts were used

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1 at the time they were removed from the propeller in the  
2 inspection indicated that when the propeller was sold  
3 to him the bolts were used, he replied yes. He testi-  
4 fied he believed the reports indicate that the nuts and  
5 bolts were loose and they were old. He agreed that his  
6 propeller had been used for three years in his air-  
7 craft, but he testified he never removed them. He had  
8 no reason to remove them. He testified Hartzell did  
9 not return the pilot tubes to him and left things out  
10 of the report because they wanted to avoid liability.  
11 He agreed he had liability as well.

12 He was asked about his memory of the acci-  
13 dent. Mr. Kirst testified he was back to himself in  
14 January or February after the accident, in the year  
15 following the accident. He agreed that being involved  
16 in the aircraft crash is not a usual routine for him,  
17 and he testified he had not had memory problems before  
18 that. He testified he remembered Mr. Spencer leaning  
19 over the controls because that was before the accident.  
20 He testified that Mr. Spencer falling over the controls  
21 was a nuisance, but was not the cause of the crash.

22 He testified he did not remember a downdraft  
23 before the crash, as he was heard saying after the  
24 crash. Mr. Kirst again stated he was at 5,500 or 5,600

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1 feet above the Pass and could see the traffic on the  
2 other side of the Pass. When asked about one of the  
3 passengers stating that they flew through the pass and  
4 she could see the road above her and to the left, he  
5 responded, "I don't remember her looking up at the  
6 road." He was asked, if she testified that she had to  
7 look up at the road, and her recollection was correct,  
8 his altitude could not have been 5,000 feet, correct?  
9 And he responded, "That's correct." He testified that  
10 her testimony did not make sense because you cannot fly  
11 below the road and get through the mountains. Mr.  
12 Kirst did agree that the crash occurred below the road.

13 Mr. Kirst testified that he did not know if  
14 Mr. Spencer was bleeding when the plane pitched over.  
15 He then testified he believed Mr. Spencer could have  
16 been cut by a flying camera or camera lens that cracked  
17 the windshield. However, he also testified he does not  
18 really remember that occurring.

19 When asked about how many turns he had made  
20 after the event began, he testified he made two turns.  
21 Then he testified it ended up looking like one turn,  
22 because they were so close together, and then he testi-  
23 fied he was just guessing. He then testified he had  
24 actually made two turns. He testified he told the NTSB

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1 what he just described to me, when I asked whether or  
2 not he told FAA the same thing. He testified he did  
3 not remember providing that information to the FAA when  
4 they called, because he was on so many drugs, and he  
5 doesn't remember the telephone call. He did testify,  
6 however, that the NTSB interview had taken place before  
7 the FAA call. He testified that if his attorney knew  
8 how many types of drugs he had been taking, he would  
9 not have let Mr. Kirst talk to the NTSB.

10 In response to my questions, Mr. Kirst testified  
11 he conducted research on the GPS issue after he read  
12 Mr. Motzko's report. When asked if he had done that  
13 type of research -- meaning GPS research -- in the  
14 past, he testified yes, he had done it for his flight  
15 students, he had done it for Lidar employers. He  
16 admitted he was not hired by Lidar to do GPS research  
17 for them, he was hired to do aerial photography. He  
18 had to figure out the GPS. When asked again if they  
19 hired him to do GPS research, he testified partially,  
20 but he did not really explain how.

21 I asked him about R9, R10, R11 and R13, and  
22 he testified no one assisted him in taking the photo-  
23 graphs of the aircraft panel, that he was flying. He  
24 took the photographs on his own. He agreed that the

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1 photographs were of a Garmin 430, and not a Garmin 196,  
2 which is the issue in this case.

3 He testified he was an aerial photographer -  
4 he has an aerial photography Part 91 business, a Part  
5 135 air taxi - and a Part 61 flight instruction and a  
6 Part 91 sightseeing tour business, where he can take  
7 tourists up to 25 miles of Fairbanks. He testified the  
8 flight in this case, again, was Part 91 aerial photog-  
9 raphy. He testified under Part 135, he takes passen-  
10 gers on sightseeing tours and transports them from  
11 village to village. Mr. Kirst testified that in Part  
12 91 aerial photography flights, he takes photographers  
13 to take photographs. The photographers have to have  
14 professional quality cameras and their purpose is to  
15 take pictures. If they are carrying Polaroid instamat-  
16 ics, he could not fly them as Part 91 aerial photogra-  
17 phy flights. If they said they wanted to fly around  
18 Alaska and take pictures, that is Part 135, because it  
19 combines taking pictures and sightseeing. It has to be  
20 for the purpose of taking photographs, and they have to  
21 be photographers. They have to have professional  
22 quality cameras. He testified that Mr. Spencer and the  
23 other two passengers in his aircraft had professional  
24 quality cameras, but then testified that the movie

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1 camera that one of the women passengers had was not a  
2 professional movie camera, but he testified it is very  
3 similar to what the scientists use when they make a  
4 video that they use to document how they got their  
5 research done. He did not fully explain what scientists  
6 he was talking about. Mr. Kirst testified that all of  
7 the passengers he took on this trip were professional  
8 photographers.

9 He testified about the arrangement that he  
10 volunteered to take the passengers up to Dead Horse,  
11 where he was going to meet them and he said that flight  
12 was for no extra charge. He testified as long as he is  
13 not charging them anything for the flight, it remains a  
14 Part 91 flight.

15 Mr. Kirst agreed he had to do significantly  
16 more work when Mr. Spencer decided to bring along two  
17 more passengers. He had to re-file the flight plan,  
18 more life vests, refigure the fuel load, take an addi-  
19 tional two hours of flight to get to where he was  
20 going. He had to do an extra hour or two of work  
21 preparing for the flight, plus an extra two hours in  
22 the flight. However, he said that was the joy of being  
23 in business for yourself. You don't have to charge for  
24 all the extra stuff.

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1           Mr. Kirst testified he did not have a  
2 written contract with Mr. Spencer for the flight. He  
3 has no use for silly insurance forms or waiver of  
4 liability forms, he testified. He has no contracts for  
5 his Part 135 flights or written agreements, and he has  
6 no contracts for flight instruction. He testified that  
7 even though it was a Part 91 flight on the day of the  
8 crash, he followed Part 135 rules as to the altitude  
9 above and away from buildings and people.

10           On re-direct, Mr. Kirst testified he did not  
11 talk to Ms. McCann or Ms. Nason about the arrangements.  
12 He was asked to testify as to the difference between a  
13 196 GPS and a 430 GPS. Respondent testified that 196  
14 GPS is a toy compared to a Garmin 430, which is a more  
15 accurate professional instrument.

16           He was asked if, in his recollection, at any  
17 point in the flight, he had put anybody at risk by his  
18 actions, and he testified no.

19           On re-cross, he testified all of his passen-  
20 gers were professional photographers. He testified he  
21 determined this by his discussion with Darrell Spencer,  
22 who is now deceased. Apparently, Mr. Spencer told him  
23 about the movie camera, but he did not know if she was  
24 going to sell her photographs or video footage, or

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1 whether any of his passengers were going to sell their  
2 photographs or video footage.

3 Mr. Kirst testified that Mr. Spencer was  
4 teaching one of them to be a professional photographer,  
5 but when asked if she was going to sell her photo-  
6 graphs, he testified yes, then he testified he was not  
7 sure, because she was being trained to be a profession-  
8 al photographer.

9 When asked if his flight plan was to fly to  
10 Bettles and then to Dead Horse, Mr. Kirst at first said  
11 no. Then he was asked if he was planning to fly to  
12 Dead Horse and then continue down the coast. Mr. Kirst  
13 said "terminology" and then said no. Counsel for the  
14 Administrator then stated he thought Mr. Kirst had  
15 previously testified he was going to fly to Dead Horse  
16 to take on more fuel. At that point, Mr. Kirst said,  
17 "Yes, that is correct." This testimony essentially is  
18 a textbook example of an evasive and non-responsive  
19 witness in responding to matters of limited import.

20 He was asked about the crazy and wild GPS  
21 readings he testified occur in Alaska, but he agreed  
22 there were a fair number of published GPS approaches  
23 for Alaska, including one above the Arctic Circle, such  
24 as Dead Horse and Barrow.

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1           He was asked to look at photos R9, R10, R11,  
2 and R13, and he testified the photos were taken during  
3 straight and level flight. However, he testified R9,  
4 in fact, indicated the vertical speed indicator indi-  
5 cated a climb of 250 foot per minute. He was then  
6 asked if that was straight and level flight. He testi-  
7 fied that the altimeter did not indicate a climb, and  
8 there is a delay in the VSI vertical speed indicator,  
9 so yes, it was straight and level flight. There is no  
10 way the photo is of straight and level flight.

11           He agreed the vertical speed indicator was  
12 based on pressure changes. He agreed that R13 showed a  
13 900 feet per minute climb, and the transponder showed  
14 he was climbing. When asked if he agreed this was not  
15 straight and level flight, he responded that there was  
16 probably some climb going on, but it was the best  
17 vibration free picture he could take.

18           Mr. Kirst was then asked about Exhibit-60  
19 and he was asked why he was looking, again, for Volume  
20 7, and he testified it incorporates all of the manuals,  
21 how to restore propellers and return them to service.  
22 Mr. Kirst agreed that Volume 7 only covered consumable  
23 materials, but agreed only to the extent that that's  
24 what Volume 7 indicates on the page he was shown. He

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1 agreed that Volume 4 dealt with the steel hub overhaul,  
2 but he stated he could not find that complete Version  
3 4, but he was aware of the reference to Volume 4 from  
4 the review of Volume 7.

5 Mr. Kirst was then shown photos of his air-  
6 craft, which indicated the damage to the front of the  
7 aircraft was caused by impact damage, according to the  
8 Administrator, because the front of the aircraft is  
9 pointed downward. He did not disagree with the Admini-  
10 strator's counsel's description of the damage as being  
11 caused by impact. Mr. Kirst was then asked about R9  
12 and the other photos associated with it, relative to  
13 the photos he had taken on another aircraft, which he  
14 indicated showed GPS readings as accurate. He agreed  
15 the transponder is based on 29.92 inches of mercury for  
16 the barometric pressure. He agreed that if the actual  
17 barometric pressure is different from 29.92, the data  
18 on the transponder is going to be different from the  
19 GPS data. Mr. Kirst agreed that temperature also  
20 affects the pressure base altimeter determination. He  
21 again testified that he did not know the precise date  
22 he took the photographs.

23 On re-direct by his counsel, he was asked if  
24 there was some way to fake the numbers on R9, R10, 11

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1 and 13, to which Mr. Kirst answered yes. He explained  
2 how the numbers in the photographs could be faked, but  
3 he said a five year old would know that they had been  
4 faked. He was then asked about the difference in all  
5 of the photographs between the altimeter, the tran-  
6 sponder, and the GPS, at that time, and he responded.  
7 The Respondent rested his case.

8 The Administrator presented the testimony of  
9 Mr. Motzko on rebuttal. Mr. Motzko was asked to review  
10 Exhibit-R1, which he testified is a coverage map for  
11 August 24, 2014. He testified that this map is used to  
12 predict GPS coverage, which would enable him to perform  
13 vertical navigation to the ground in the future. It is  
14 used to predict the availability of coverage when you  
15 get to where he is flying using instrument flight  
16 rules. He was asked if this information in R1 affects  
17 the tracking function of the GPS, and he testified it  
18 would not be a good prediction for tracking function  
19 because it's performing a different function.

20 He testified this information is for plan-  
21 ning purposes and is not based on measurements. It is  
22 based on predictions. So, it is not a measurement for  
23 the system, but a prediction of what the system will be  
24 in the future. Mr. Motzko testified that the informa-

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1 tion in R1 did not change his prior testimony in any  
2 way because it is unrelated to what he's looking for in  
3 his research and his analysis.

4 As to R2, Mr. Motzko testified the exhibit  
5 is the old digital elevation model that was previously  
6 used by the USGS topographic maps, probably up to five  
7 or six years ago. It is not the current accurate  
8 model. He testified the current model for the last  
9 number of years has been a National Elevation Data  
10 Model 2, which he stated is a 2-ARC seconds, which is  
11 60 meters of accuracy. R2, he testified, is the old  
12 300 meter digital elevation model. Mr. Motzko testi-  
13 fied that he did not use the database that was used in  
14 R2, in forming his opinions that he expressed in his  
15 earlier testimony.

16 He was then shown Exhibit-R20, which is the  
17 WAAS system performance analysis report from the FAA;  
18 he testified the report is produced quarterly and is  
19 used to look at past performance of the system, to see  
20 how the system has been performing, and how to modify  
21 it in the future. He testified he used the documents  
22 and looked at the percentage precision mode, which is  
23 the last column of the document, which indicates 100  
24 percent. He testified that that column represents that

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1 100 percent of the time, four satellites were always in  
2 view, which gives a good position data from the device.

3 This report, he testified, indicates a 99  
4 percent horizontal position accuracy, and a 99 percent  
5 vertical position accuracy. He testified he uses this  
6 information to compare it to the error ability of an  
7 instrument. The 196, he testified, which is 15 meters,  
8 and he does an error analysis to determine if it repre-  
9 sents or does not represent an accurate estimate of the  
10 altitude.

11 Mr. Motzko was asked to look at Mr. Kirst's  
12 comments on R20, which he noted shows the altitude of  
13 his 196 is highly suspect. He testified he did not  
14 agree with that statement because the percentage noted  
15 on the WAAS shows 100 percent, which means four  
16 satellites were always available, four satellites are  
17 needed to determine a position both vertically and  
18 horizontally.

19 He was asked to review Mr. Kirst's comment  
20 on page three, which states the North Slope Airport had  
21 significant losses of RNAV approaches due to WAAS in  
22 the third quarter. He testified he did not agree with  
23 that comment. He testified the report covers an entire  
24 quarter, and he did not see the loss of RNAV as signif-

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1       icant, when you look at the number of days it encompassed in the quarter. He clarified that the data track he looked at in this case did not include any RNAV GPS approaches from the Garmin 196. The track he looked at was based strictly on area navigation. He testified that the chart he was looking at, that was provided by the Respondent, was for localized performance with vertical guidance down to a 200 foot minimum. That is not what the Garmin 196 tracks and not what he analyzed and looked at to prepare and to provide the testimony in this case.

2                       Mr. Motzko was asked what a strong WAAS signal would have done for the data that was collected by the 196, and he testified it would not have done anything really. It would have essentially made it more accurate, regarding the altitude by three meters, but the GPS 196 is based upon a standard positioning service, which is 15 meters. So Mr. Motzko testified that it is so far within tolerance of what Garmin indicates the unit should be used for.

3                       On cross-examination, Mr. Motzko was asked about the RNAV outages across the country, including Barrow, which indicated more than 30 outages, and Prudhoe Bay, which had a little less than 30 outages,

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1 but more than 10. Mr. Motzko testified that informa-  
2 tion was correct. However, it relates to the use of  
3 vertical guidance for instrument approaches. This case  
4 does not involve instrument approaches.

5 In response to my questions, he testified  
6 this case does not involve an instrument approach. He  
7 agreed he made statements that the report is relative  
8 to the instrument procedures because it is critical  
9 that pilots have the correct altitude above ground at  
10 the decision point, or it could be catastrophic.

11 Mr. Motzko testified in response to my  
12 question, that when he is analyzing the track, he was  
13 looking at whether he had four satellites for standard  
14 positioning service, which would indicate that the  
15 reading on the GPS, the 196, would be a least 15 meters  
16 within an accurate number. Mr. Motzko testified he was  
17 not sure if the 196 in this case was receiving WAAS  
18 information. He testified that a WAAS signal may make  
19 the 196 accurate up to three to seven meters, but the  
20 Garmin unit is limited to 15 meters of accuracy, and  
21 for his purposes of tracking, that is accurate enough.

22 On cross, he testified that he misstated  
23 that Garmin guarantees 15 meters of accuracy, and  
24 corrected himself. His response regarding a guarantee

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1 was actually an affirmation to my question, in which I  
2 used the term guarantee.

3 On re-direct, Mr. Motzko testified that the  
4 15 meter accuracy statement was based on the tolerances  
5 from the instrument's handbook that says the unit  
6 should not be used for anything more than 15 meters.

7 On re-cross, he testified the 15 meters  
8 statement is in the Garmin operating manual in the  
9 tolerance section. He testified that means you should  
10 not assume that the accuracy is better than 15 meters,  
11 which is 49 feet.

12 Mr. Motzko was shown R89. Mr. Motzko agreed  
13 that there was wording in the document that did not  
14 make any guarantees as to accuracy. He testified the  
15 document only tells us what the performance of the unit  
16 is, what the 196 is. He testified that accuracy within  
17 15 meters is relative to a three-planes position, based  
18 on vertical and horizontal and time.

19 That completes the testimony. I appreciate  
20 your patience. I will now discuss that testimony as it  
21 relates to the decisions I must decide.

22 First, the Administrator has alleged that  
23 the Respondent violated 14 C.F.R 61.12(a)(1), 14 C.F.R.  
24 61(3)(a), 14 C.F.R. 91.13(a), and 14 C.F.R. 135.203(a)

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1 (1). I will first address the allegations of viola-  
2 tions of 14 C.F.R 61.12(a) (1) and 14 C.F.R. 61(3) (a).  
3 All right, 14 C.F.R. 61.2(a) (1) reads that you, Mr.  
4 Kirst, exercised a privilege of a certificate rating  
5 endorsement or authorization under 14 C.F.R. Part 61,  
6 when the certificate rating or authorization was sur-  
7 rendered, suspended, revoked or expired.

8 14 C.F.R. 61.3(a) (1) reads, "In that you  
9 served as a required pilot flight crew member of a  
10 civil aircraft of the United States, without having in  
11 your physical possession or readily accessible in the  
12 aircraft, a valid pilot certificate issued under 14  
13 C.F.R. Part 61, and in accordance with 14 C.F.R. 61.19,  
14 a valid special purpose pilot authorization issued  
15 under 14 C.F.R. 61.77, a valid temporary certificate  
16 issued under 16 C.F.R. 61.17, or a valid document  
17 conveying temporary authority to exercise certificate  
18 privileges used by the Administrator's airmen's certif-  
19 icate branch under 14 C.F.R. 61.29."

20 Mr. Kirst has admitted the allegations in  
21 Paragraph 16. He agrees that on December 11, 2015, the  
22 Administrator served an amended Emergency Order of  
23 Revocation and Declaration of Emergency upon him. He  
24 admits to the allegation in Paragraph 17, that on

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1 December 11, 2015, the Administrator served the amended  
2 Emergency Order on him at his record address, by  
3 express mail overnight delivery, by certified mail, and  
4 by first class mail.

5 Mr. Kirst admits the allegations in Para-  
6 graph 18, that on December 11, 2015, the Administrator  
7 also served the amended emergency order on his attorney  
8 Mr. Brent Cole, by hand delivery. Mr. Kirst agrees  
9 that, on December 16th, 2015, he signed receipts for  
10 copies of the emergency amended order, which were sent  
11 by express mail, overnight delivery and by certified  
12 mail.

13 Mr. Kirst admits the allegation in Paragraph  
14 20, that on December 21, Mr. Kirst served as pilot in  
15 command of civil aircraft N75773, a Cessna T207, an  
16 airplane of United States Registry, as it flew in air  
17 commerce on a flight that concluded at approximately  
18 3:45 p.m. local time at Fairbanks International Airport  
19 in Fairbanks, Alaska.

20 Mr. Kirst denies the allegation in Paragraph  
21 21 of the complaint which states that, at the time of  
22 the December 21, 2015 flight, he did not have a valid  
23 pilot certificate issued under 14 C.F.R. Part 61, and  
24 in accordance with 14 C.F.R. 61.19, a valid special

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1 purpose pilot authorization issued under 14 C.F.R.  
2 61.77(a), or a valid document conveying temporary  
3 authority to exercise certificate privileges issued by  
4 the Administrator Airman Certification Branch under 14  
5 C.F.R. 61.29(e).

6 As previously noted, the allegations that  
7 are admitted in this case are deemed to be established  
8 for the purposes of this decision and this case. As  
9 Mr. Kirst has admitted all of the allegations relative  
10 to this allegation, except for the denial in Paragraph  
11 21, I will focus upon that one allegation; in essence,  
12 the Administrator has proven that they had served the  
13 emergency order on Mr. Kirst.

14 During the hearing, Mr. Kirst testified he  
15 received a text from his attorney regarding the emer-  
16 gency order on Friday, December 11, 2015. He testified  
17 that he tried to read it on his phone, but could not  
18 because of the small screen on his device. He testi-  
19 fied he tried to call his lawyer, but Mr. Cole had left  
20 for the day. Mr. Kirst testified that he did read the  
21 amended emergency order on his home computer during the  
22 weekend.

23 Mr. Kirst testified that he canceled his  
24 flight students through Wednesday of the next week.

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1 Mr. Kirst testified that he spoke to his attorney on  
2 Monday, December 14, 2014, and Mr. Kirst then testified  
3 he thought he was legal to fly, so he made the flight  
4 on December 21st, 2015.

5 In his deposition, Mr. Kirst testified, and  
6 I quote, that "through miscommunication or whatever, I  
7 thought I was still allowed to fly, so I booked the  
8 flight and I flew the plane, thinking I had a license."  
9 He testified it was a miscommunication between him and  
10 Brent Cole, his attorney. He agreed that he simply  
11 thought that the license he had in his possession was a  
12 valid certificate.

13 The FAA did a ramp check inspection with Mr.  
14 Kirst when he landed after his flight on December 21,  
15 2015. He testified that after that ramp check, he was  
16 called the next day by the FAA and was told that his  
17 license had been revoked when he had flown the day  
18 before. He told the FAA to call his lawyer.

19 Mr. Kirst presented no evidence or testimony  
20 to establish that he had a valid pilot certificate, a  
21 special pilot authorization, a valid temporary certifi-  
22 cate, or a valid document conveying temporary authority  
23 for flying privileges. His affirmative defense is  
24 essentially, he thought he was legal to fly.

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1           In a discussion after closing arguments for  
2 clarification, Respondent's attorney noted that Mr.  
3 Kirst received bad advice relative to whether Mr. Kirst  
4 was legal to fly. I have to note that Mr. Kirst did  
5 not testify under oath that he received bad advice as  
6 to his legal authority to keep flying after receiving  
7 and reading the amended emergency order of revocation.  
8 He testified in his deposition that there was some  
9 miscommunication. However, he did not testify at the  
10 hearing, under oath, that he received bad advice from  
11 his lawyer, Mr. Cole, or bad advice from anyone else.  
12 A close reading of the transcript also reveals that  
13 while Mr. Cole states that Mr. Kirst received bad  
14 advice, he did not state that he provided the bad  
15 advice or anyone else in his firm provided the bad  
16 advice. Thus, I cannot find that -- Mr. Kirst has  
17 neither alleged, testified about, nor has established  
18 that he believed he was legal to fly, based on bad  
19 advice from anyone. Mr. Kirst has provided no affirma-  
20 tive defense, essentially, to this allegation. Based  
21 on the evidence before me, I find that the Administra-  
22 tor has established by a preponderance of the evidence,  
23 that Mr. Kirst violated 14 C.F.R. 61.12(a)(1), and 14  
24 C.F.R. 61(3)(a), as alleged by the Administrator.

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1           I will next address the allegations that  
2 Respondent violated 14 C.F.R. 135.203(a)(1), which  
3 reads that, while serving as pilot-in-command of an  
4 aircraft operating in air commerce subject to the  
5 requirements of 14 C.F.R. Part 135, you operated an  
6 aircraft in visual flight rules during the day --  
7 flight during the day -- below 500 feet above the  
8 surface or less than 500 feet horizontally from an  
9 obstacle, when to do so was not necessary for take-off  
10 or landing. I will first address whether the flight in  
11 question was a Part 135 flight.

12           Respondent denies the allegations in Para-  
13 graph three of the amended order of revocation, which  
14 states you operated the first flight, the flight on  
15 August 24, 2014, under 14 C.F.R. Part 135. Respondent  
16 also denies Paragraph four, which alleges that he oper-  
17 ated the first flight with passengers and their belong-  
18 ings on board the aircraft.

19           First, it has been established that on the  
20 flight of August 24, 2014, Mr. Darrell Spencer, Marcene  
21 Nason and Daphne McCann were passengers, and Mr. Kirst  
22 was the pilot in command. During his testimony, Mr.  
23 Kirst testified that he denied this allegation because  
24 the individuals he flew on August 24, 2014 were photog-

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1 raphers. They were not just passengers. Mr. Kirst  
2 testified he negotiated a price with Mr. Spencer to fly  
3 from Dead Horse down the coast in order to photograph  
4 polar bears.

5 According to Mr. Kirst, when Mr. Spencer  
6 balked at the price because he would have to pay for  
7 jet travel to Dead Horse from Fairbanks to meet Mr.  
8 Kirst, Mr. Kirst testified he told Mr. Spencer that he  
9 could fly up to Dead Horse with him at no charge, since  
10 he was going up there anyway to meet Mr. Spencer in  
11 Dead Horse and fly down the coast. Mr. Spencer is  
12 alleged to have agreed to that arrangement. Mr. Kirst  
13 did not explain why the flight from Fairbanks to Dead  
14 Horse was not part of the initial negotiations with Mr.  
15 Spencer.

16 Mr. Kirst testified that Mr. Spencer asked  
17 to bring two other passengers along, and Mr. Kirst  
18 agreed. Mr. Kirst testified that that he explained to  
19 Mr. Spencer that this was a Part 91 aerial photography  
20 flight, and the other two passengers had to be photog-  
21 raphers. Mr. Kirst testified that Mr. Spencer repre-  
22 sented that the other two individuals that were going  
23 on the flight were, indeed, photographers. Mr. Kirst  
24 testified that the addition of the two additional

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1 passengers resulted in two hours of additional ground-  
2 work to prepare for the flight, and two hours of actual  
3 flight time, with an added stop in Bettles for a bath-  
4 room break. Mr. Kirst even took the time and picked up  
5 the passengers at their hotel. This was all done for  
6 no charge, according to Mr. Kirst. He testified it was  
7 one of the joys of being in business for himself. He  
8 did not have to charge for everything.

9 He testified that a Part 91 flight for aeri-  
10 al photography requires that the photographers must be  
11 professional photographers. He testified all three of  
12 the passengers were professional photographers, despite  
13 the fact he never spoke to Ms. Nason or Ms. McCann  
14 before the flight to discuss their individual profes-  
15 sional standing as photographers.

16 Mr. Kirst testified that determining whether  
17 a flight is a Part 91 aerial photography flight is also  
18 dependent upon the type of camera the photographers  
19 possessed. They had to have professional cameras,  
20 according to Mr. Kirst. As he previously testified, if  
21 they had instamatic cameras that was not a professional  
22 camera, and it could not be a Part 91 flight. He  
23 testified Mr. Spencer was a professional photographer  
24 who had published photography books and that he was

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1 teaching Ms. Nason to become a professional photog-  
2 rapher. As to Ms. McCann, Mr. Kirst testified that she  
3 was documenting the flight through a video camera. He  
4 testified it was not a professional video camera, but  
5 was the type of video camera scientists use to document  
6 their research. He did not really explain if possess-  
7 ing this type of video camera rendered Ms. McCann a  
8 scientist or a professional photographer. He could not  
9 say whether his passengers -- any of them -- were going  
10 to sell the photographs they took during the flight.

11 Ms. McCann and Ms. Nason both testified that  
12 Mr. Spencer made the arrangements for the flight. They  
13 offered to pay their share and Mr. Spencer suggested  
14 perhaps they could tip Mr. Kirst after the flight.

15 Ms. Nason testified Darryl Spencer made the  
16 arrangements and she had just bought the camera for  
17 photography, and Mr. Spencer was helping her with the  
18 photography. Her younger sister, Daphne McCann went  
19 along with them and Ms. Nason testified she planned to  
20 take up photography as a hobby, but as the result of  
21 the injuries sustained in the crash, she could not even  
22 hold a camera. She testified that her brother-in-law,  
23 Mr. Spencer, was not, as she said, titled a profession-  
24 al, but he had albums and books that he published with

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1 photography he took in Africa. Ms. Nason testified she  
2 was a novice at photography. She testified her sister  
3 Daphne had a small movie camera. Ms. McCann testified  
4 that she had a movie camera and that Darrel Spencer and  
5 Ms. Nason had the bigger cameras with bigger lenses.  
6 She testified that the movie camera was never returned  
7 after the crash. Neither Ms. McCann nor Ms. Nason  
8 testified they were professional photographers or that  
9 being a professional photographer was a prerequisite to  
10 the flight -- was ever discussed with them. Ms. Nason  
11 testified that Mr. Spencer, again, was not titled as a  
12 professional photographer, and that she had planned to  
13 take up photography as a hobby.

14           The Administrator alleges that the flight  
15 was a Part 135 flight. The Administrator argues that  
16 there was a lack of common purpose for the flight from  
17 Fairbanks to Dead Horse. The Administrator points out  
18 that Mr. Kirst testified that there was no independent  
19 reason for him to fly to Dead Horse, other than to meet  
20 Mr. Spencer and then fly down the coast looking for  
21 polar bears. The flight was arranged because of the  
22 fact that Mr. Kirst held himself out on his website  
23 that he could make such flights. The Administrator  
24 argues that the charge for the flight in this case

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1 roughly works out to the hourly rate that Mr. Kirst  
2 charges for charter flights.

3 The Administrator cites two cases, Adminis-  
4 trator v. Maxon, EA-5183, and Administrator v. Fergus-  
5 on, EA-5590, to support his argument that this was a  
6 Part 135 flight. In the Maxon case, the Respondent  
7 argued that because he did not charge for the flight,  
8 it was not a commercial flight and therefore could not  
9 be a Part 135 violation. The Board found the Respond-  
10 ent in that case received an intangible benefit by  
11 agreeing to the flight at the request of a broker of a  
12 helicopter service and therefore the flight did qualify  
13 as compensation under long-standing NTSB precedent.

14 In Ferguson, the Board stated compensation  
15 for hire need not involve a profit. Expectation of  
16 future business or goodwill is sufficient. The Board  
17 cited Roundtree v. NTSB, 556 F.2d 588, a 9th Circuit  
18 case, which stands for the notion that when no common  
19 purpose exists concerning a flight, where the flight is  
20 for a different purpose of the pilot from that of the  
21 passengers, then the flight is for compensation or  
22 hire.

23 Once the Administrator produces sufficient  
24 evidence to show a flight is conducted under Part 135,

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1 the burden shifts to the Respondent to prove it is a  
2 Part 91 flight. In this case, the Respondent admits  
3 that the only reason he was flying to Dead Horse was to  
4 take the passengers. He did not testify that he had  
5 any other reason for flying to Dead Horse. He was not  
6 flying the passengers there so that he and his passen-  
7 gers could all take photos of the polar bears.

8 Furthermore, the fact that Mr. Kirst claims  
9 he did not charge for the substantial work required to  
10 prepare for two hours of extra flight time, to take the  
11 three passengers to Dead Horse, does not make the  
12 flight a not for compensation or hire flight. In  
13 addition, Ms. Nason and Ms. McCann did not testify that  
14 they were ever informed the flight was a Part 91 aerial  
15 photography flight, or that they had to represent them-  
16 selves as professional photographers. They clearly  
17 testified they were not professional photographers and  
18 Ms. Nason testified that Mr. Spencer himself was not a  
19 professional photographer by title.

20 Mr. Kirst testified he made it clear to Mr.  
21 Spencer the flight was aerial photography under Part  
22 91. Mr. Kirst represented that Mr. Spencer represented  
23 that all passengers were, indeed, professional photog-  
24 raphers. Mr. Kirst does not have any form of contract

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1 or written agreement documenting the agreement between  
2 he and Mr. Spencer that this flight was a Part 91  
3 flight. He does not have contracts for his Part 91,  
4 Part 135, or sightseeing flight tours, nor does he have  
5 any written agreements with his student pilots. He  
6 testified he does not fill out "silly insurance waiver  
7 forms."

8 The only evidence advanced by Mr. Kirst that  
9 the flight was a Part 91 flight is his own uncorrobo-  
10 rated self-serving testimony. His assertions that he  
11 made it clear to Mr. Spencer that passengers had to be  
12 professional photographers cannot be corroborated or  
13 examined because Mr. Spencer is deceased.

14 Mr. Kirst's testimony that Ms. McCann used  
15 the same type of movie camera as scientists used, and  
16 Ms. Nason was training to become a professional photog-  
17 rapher is not credible and contradicted by the testi-  
18 mony of Ms. Nason and Ms. McCann. He never spoke to  
19 them before the flight. I do find credible Ms. Nason's  
20 testimony that her brother-in-law, Mr. Spencer was not  
21 titled a professional photographer.

22 The case law clearly supports the flight  
23 from Fairbanks to Dead Horse was for compensation or  
24 hire. There was no common purpose for Mr. Kirst to fly

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1 to Dead Horse on his own. From the evidence, it  
2 appears Mr. Kirst offered to fly to Dead Horse after  
3 Mr. Spencer balked at the price of flying to Dead Horse  
4 by commercial jet, so Mr. Kirst offered to fly him up  
5 to Dead Horse, which was likely for the purpose of  
6 securing Mr. Spencer's business, which can be  
7 considered good will.

8 Based on the evidence before me, I find the  
9 Administrator has established by a preponderance of the  
10 evidence that the flight on August 24, 2014 was a Part  
11 135 flight, as alleged in Paragraph 3 of the second  
12 amended order of revocation. Having found the flight  
13 on August 24, 2014 was a Part 135 flight, I find that  
14 Mr. Kirst operated the flight with the three passengers  
15 and their belongings on board. I find the Administra-  
16 tor has proven the allegations in Paragraph 4, the  
17 second amended order of revocation, by a preponderance  
18 of the evidence.

19 I will now address the remaining portion of  
20 14 C.F.R 135.203(a)(1), which reads, "You operated an  
21 aircraft in visual flight rules flight, during the day  
22 below 500 feet above the surface or less than 500 feet  
23 horizontally from an obstacle, and when doing so, was  
24 not necessary for takeoff or landing."

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1           Mr. Motzko testified that he extracted the  
2 tracking data from Mr. Kirst's Garmin 196 in this case.  
3 He testified he downloaded it using three different  
4 programs, and all three programs indicated the down-  
5 loaded data was not corrupted. He testified he examin-  
6 ed the track location, and examining the information on  
7 topographical maps, he determined that the information  
8 looked normal. He testified the data that he had down-  
9 loaded was not corrupted. I will note at this point  
10 that the Respondent, in opening and closing arguments,  
11 had appeared to argue that they do not challenge the  
12 validity of the tacking information.

13           Mr. Motzko then testified relative to what  
14 information he utilized to determine the elevation of  
15 the surface over which Respondent's aircraft flew on  
16 August 24, 2014. Mr. Motzko also testified how he  
17 calculated the altitude of the aircraft using the  
18 information he had obtained. Mr. Motzko testified he  
19 took the geographical coordinates, tracking points from  
20 the GPS 196, the table on Exhibit-41, and submitted it  
21 to the US Geographical Survey.

22           He received from US Geographical Survey, a  
23 list of the ground elevations using the National Eleva-  
24 tion Database 2 standards that corresponded to each one

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1 of the locations in Exhibit-41. Ground elevations come  
2 from the USGS National Elevation data base and the  
3 altitude MSL comes from the Garmin 196. He then sub-  
4 tracted the altitude elevation from the GPS unit from  
5 the elevation received from the USGS for each location.  
6 He testified that he used the terrain model of the  
7 National Elevation Database, which assumes bare earth  
8 without trees and buildings. He uses this figure  
9 because it is absolute and he does not have to guess  
10 the height of vegetation. He testified he did this to  
11 calculate a reasonable altitude. To obtain reasonable-  
12 ness, or to ensure accuracy, he obtained index points  
13 where the GPS unit met the ground. He testified that  
14 Garmin unit has a tolerance of approximately 15 meters,  
15 about 49 feet according to the manufacturer. He testi-  
16 fied he also took into consideration the height of the  
17 GPS unit above the ground in its location or position  
18 in the aircraft, which is approximately five to six  
19 feet above ground level. He described these numbers as  
20 offsets. He subtracted these offsets by known geo-  
21 graphical locations, such as the Fairbanks Airport and  
22 the Bettles Airport. He testified the National  
23 Geodetic Agency has established two thresholds of  
24 Bettles Airport monuments, which provide the gold

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1 standard for elevation in the United States. Mr.  
2 Motzko testified that from his calculations, he was  
3 able to obtain the altitude of the aircraft from the  
4 ground for each of the points which are depicted on  
5 Exhibit-A16. He testified that the first two numbers  
6 on the exhibit may be indicative of the GPS unit  
7 warming up. He testified that he had a 95 percent  
8 confidence in the ground elevation that he obtained.

9 He testified that his calculations are not  
10 based on the 15 meter tolerance of the GPS, but are  
11 based on his calculations using the USGS information.  
12 Therefore, he is not using the Garmin 196 data alone to  
13 determine altitude. He is using his own calculations  
14 to do that determination. He testified that those  
15 calculations are depicted in Exhibit-A16.

16 Mr. Motzko testified that Exhibit-48 is a  
17 closer version of a portion of the track points, which  
18 shows maneuvering south over Dietrich Camp. The road  
19 and pipeline are visible on that map, and the track  
20 points in this exhibit are from the data points in A41.

21 Mr. Motzko testified that the elevation --  
22 that data on the last page of Exhibit-A16, at points  
23 779 to about 786, indicate the crossing of the flight  
24 over Chandalar Shelf and flight towards Atigun Pass.

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1 He testified, when crossing Chandalar Shelf, the above  
2 ground elevation goes from 638 to 639 feet and then to  
3 172 feet at data point 781.

4 He testified the GPS unit shows the terrain  
5 is changing beneath the aircraft and a climb at approx-  
6 imately 300 to 500 feet per minute is required or is  
7 shown until the final data point. Mr. Motzko testified  
8 that data point 781, Mr. Kirst's altitude, is 3,346  
9 feet and he needs to get to 4,800 feet to get over  
10 Atigun Pass in approximately four minutes of climb rate  
11 of 300 to 500 feet per minute.

12 Exhibit-51 shows the flight to be on a  
13 normal path, no circling or maneuvering until the data  
14 stops at the point of the crash. Mr. Motzko testified  
15 that Exhibit-52 is an elevation profile based on the  
16 information from the Garmin 196. He testified this is  
17 strictly GPS data, and not mapping data. The exhibit  
18 is a graphical depiction of, essentially, the numbers  
19 that are all shown on Exhibit-A16 and A41.

20 The Administrator presented this testimony  
21 and evidence in support of its allegations in Para-  
22 graphs 9, 10, 11, 12 and 13 of the second amended order  
23 of revocation, to prove that Mr. Kirst violated 14  
24 C.F.R. 135.203(a)(1). Mr. Kirst, on the other hand,

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1 argues the information in the GPS is incorrect -- it is  
2 corrupt. He testified he had done his own research on  
3 the Garmin 196 tracking data. He testified that he has  
4 experience in performing such research, and that  
5 experience is derived from teaching his flight students  
6 about GPS, and working with mapping companies. He did  
7 not describe what research he performed for the mapping  
8 companies he worked for, nor did he describe how that  
9 research experience that he claims he had done for the  
10 mapping companies is relevant to the research he  
11 performed in this case.

12 Mr. Kirst testified that the Garmin 196 is  
13 not a precision instrument. He testified it is not  
14 technical service order TSO for IFR flight and naviga-  
15 tional purposes. He testified he never uses the Garmin  
16 196 for navigational purposes, but only uses it for  
17 tourists to show them when they're passing the Arctic  
18 Circle or some other important point.

19 He testified he bought the unit in 2002 or  
20 2003, but then said maybe 2001, 2002 or 2003. He  
21 testified that the GPS manual warns not to rely on the  
22 vertical elevation on the unit. He testified that the  
23 manual indicates that is not trustworthy. He testified  
24 the Garmin website states that the altitudes on this

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1 portable handheld unit can vary by 400 feet, and should  
2 not be relied upon for vertical accuracy. He testified  
3 that the Garmin 196 relies on the U.S. government GPS  
4 system to get its data, and the U.S. GPS data is not  
5 accurate. He offers no real explanation for this stat-  
6 ement.

7 Mr. Kirst testified he had a remote antenna  
8 mounted on the windshield for the GPS 196 unit, which  
9 he testified is, of course, dependent on satellites.  
10 He testified most satellites are not in orbit at the  
11 North Pole. They are more in orbit around the equator.  
12 He testified if you are heading in a northerly direc-  
13 tion, your airplane could, in fact, block out satellite  
14 signals from the satellites and the equator.

15 Mr. Kirst testified there are issues of GPS  
16 satellite coverage that are associated with Northern  
17 Alaska, and he testified the reception is really  
18 crappy. He testified he knows this because he is a  
19 commercial pilot and a flight instructor.

20 He testified that the government has a web-  
21 site he researched for GPS information. Mr. Kirst  
22 testified that R1 was information he received from the  
23 government GPS website, which showed what the GPS  
24 coverage was like on August 24, 2014. He testified he

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1 looked at the website because if the coverage was not  
2 good, the signal that goes to the GPS device in this  
3 case is not good, then the information that comes out  
4 of the unit, the information Mr. Motzko uses, is not  
5 any good either.

6 Mr. Kirst testified he also went to the FAA  
7 website, which relates WAAS coverage. He testified the  
8 information he obtained showed the satellite coverage  
9 was poor on the day of the crash in Alaska, in Canada,  
10 and most of the world. He argued that this information  
11 demonstrated that the federal government was saying it  
12 could not position you within 100 meters relative to  
13 the place that you were correcting for.

14 He argues that the information indicates  
15 that an accurate fix from the GPS for at least a mini-  
16 mum of 70 minutes on August 24, 2014, could not be  
17 accurate to within 100 meters. He could not state, or  
18 he did not state that the 70 minutes included the time  
19 he flew on August 24, 2016.

20 Mr. Kirst testified the data that the Admin-  
21 istrator has for altitude on his flight is pretty much  
22 screwed up. He testified that the graph he presents  
23 shows the GPS system was not working properly that day,  
24 which explains why he can say the GPS data the Admin-

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1       istrator is using is not correct, and the altitudes are  
2       all wrong.

3               Mr. Kirst testified the FAA tracks problems  
4       with the WAAS signal. He identified Exhibit-R19 as the  
5       GPS wide augmentation performance standards.

6               Exhibit-R20 was identified as the Department  
7       of Transportation FAA performance standards for the  
8       WAAS system, which is part of the GPS that sends  
9       signals to a Garmin 196 or 140. It gives the perform-  
10      ance standards that the satellite system has to meet.  
11      The information, he testified, is for the third quarter  
12      of 2014.

13              The Administrator, as noted, objected to the  
14      documents, arguing that Mr. Motzko testified that if a  
15      WAAS information was available, and the 196 was capable  
16      of receiving WAAS information, the 196 information  
17      would make the 196 more accurate, not less accurate,  
18      and it would not corrupt the data. The Respondent  
19      maintains this is an argument by analogy. He argues if  
20      there are problems with the WAAS system, then there are  
21      the same, if not more, problems with GPS information  
22      and the GPS devices without WAAS capability.

23              The Administrator presented the rebuttal  
24      testimony of Mr. Motzko. He reviewed Exhibit-R1, and

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1 he testified that this map is used for predicting GPS  
2 coverage, which would enable him to perform vertical  
3 navigation to the ground in the future. It is used to  
4 predict the availability of coverage when he gets to  
5 where he is flying using instrument flight rules.

6 He was asked if the information in R1  
7 affects the tracking function of the GPS, and he testi-  
8 fied it would not be a good prediction for tracking  
9 function, because it performs a different function  
10 entirely. He testified this information is for plan-  
11 ning purposes and is not based on measurements. It is  
12 based on prediction. So, it is not a measurement of  
13 the system, but a prediction of how well the system is  
14 going to work. Mr. Motzko testified the information in  
15 R1 did not change his prior testimony in any way  
16 because it is unrelated to his calculations. He used  
17 the Garmin 196 for tracking purposes, not navigation.

18 He was then shown Exhibit-R20, which is the  
19 wide area augmentation system performance analysis  
20 report by the FAA. He testified the report is produced  
21 quarterly and used to look at past performance of the  
22 system, to see how the system has performed and how it  
23 can be modified it in the future. He testified he used  
24 the document and looks at the percentage precision

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1 mode, which is the last column of the document, that  
2 indicates 100 percent. He testified that means 100  
3 percent of the time, four satellites were always in  
4 view, which gives a good position data for the device.

5 This report, he testified, indicates a 99  
6 percent horizontal position accuracy, and a 99 percent  
7 vertical position accuracy. He uses this information  
8 in comparisons to the error capability of the instru-  
9 ment, the 196 in this case, which has an error capa-  
10 bility of 15 meters, and he does an error analysis, to  
11 determine if it represents or does not represent an  
12 accurate estimate of the altitude.

13 Mr. Motzko was asked to look at Mr. Kirst's  
14 comments on R20, which he noted that this should mean  
15 the altitude of the 196 are highly suspect. Again, he  
16 testified he did not agree with the statement because  
17 the percentage noted on the WAAS shows 100 percent,  
18 which means that four satellites were always available  
19 and four satellites are needed to determine a position,  
20 both vertically and horizontally.

21 When he reviewed Mr. Kirst's comment on page  
22 three, which states that North Slope had significant  
23 loss of RNAV approaches due to WAAS in the third  
24 quarter, he testified he did not agree with that

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1 comment either, because it covers the whole quarter and  
2 the loss of RNAV for the period of time they are  
3 discussing here is not significant when compared to the  
4 days that are encompassed in the quarter.

5 He testified his analysis and result related  
6 to tracking, not navigation. Mr. Motzko clarified that  
7 the data track he looked at did not include any RNAV  
8 GPS approaches for the Garmin 196. The tracks he  
9 looked at were based strictly on area tracking.

10 He testified that the chart provided by Mr.  
11 Kirst was describing localizer performance with verti-  
12 cal guidance down to the 2,000 foot minimum. That is  
13 not what the Garmin 196 tracks, and that is not what he  
14 analyzed and that's not what he documented in his  
15 exhibits.

16 I find the Respondent's exhibits and the  
17 testimony he has presented do not in any way diminish  
18 the opinion of Mr. Motzko. His evidence applies to  
19 navigation, not tracking, which is what the Garmin 196  
20 was used for in Mr. Motzko's analysis in this case.

21 Relative to the data download, Mr. Kirst  
22 testified he obtained his GPS 196, contacted Garmin,  
23 and they told him to use the Garmin Base Camp to down-  
24 load the information onto his computer. He could not

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1 download it using that program, so he had to use  
2 another program to downloaded the information from his  
3 GPS.

4 R4 is an active log from Bettles to Atigun  
5 Pass, which was prepared by Mr. Kirst. He compared the  
6 data on R4 to A16 and identified that the longitude and  
7 latitudes on A16 were off. Mr. Kirst testified this  
8 was an example of somebody, referring to Mr. Motzko,  
9 using sloppy work, using the wrong program to download  
10 material and corrupting the data.

11 During cross-examination, he was asked to  
12 review A41 and A16, and was asked if he remembered that  
13 the latitude and longitudes on A41 were simply the  
14 difference between A41 and A16. He testified that he  
15 agreed.

16 He read from R4, the latitude and longitude  
17 on the first line, which is 49179 west 1475032, and  
18 when asked to compare that to A41, the Administrator's  
19 exhibit, index line one, it indicated the same latitude  
20 and longitude. He agreed this information was the  
21 same. He testified he did not know of any other  
22 latitudes and longitudes that were different from R4,  
23 the exhibit he prepared, and A41, the exhibit the  
24 Administrator prepared. Based on Mr. Kirst's own

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1 testimony, I find that Respondent Exhibit-R4 does not  
2 contradict the Administrator's evidence in Exhibit-A41.

3 As to R2, Mr. Motzko testified the exhibit  
4 is the old digital elevation model that was previously  
5 used in USGS topographic maps, probably up to five or  
6 six years ago. It is not a current accurate model. He  
7 testified the current accurate model for the last  
8 number of years has been the National Elevation Data  
9 Model 2, which is a two arc seconds, which is to a 60  
10 meter degree of accuracy. Again, he testified that R2  
11 is the old 300 meter digital elevation model.

12 Mr. Motzko testified he did not use that  
13 database in R2 in forming his opinion he expressed in  
14 his earliest testimony. Therefore, it does not affect  
15 his previous testimony or opinion.

16 When questioned regarding a change in  
17 course, in the final minutes of the flight, which Mr.  
18 Kirst indicates a U-turn in the documents he prepared,  
19 Mr. Motzko testified he did not prepare the data on  
20 that exhibit, nor rely on it. However, he testified  
21 the data appeared to only indicate a change in bearing,  
22 the directional bearing of the aircraft, and not a U-  
23 turn. The information on the exhibit that Mr. Kirst  
24 provides does not indicate a turn or a complete turn.

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1 I find that Mr. Kirst's testimony, relative  
2 to this issue, in no way diminishes the testimony of  
3 the analysis presented by Mr. Motzko. Furthermore,  
4 based on his testimony on cross-examination, I give no  
5 weight to Mr. Kirst's testimony that Mr. Motzko's work  
6 was an example of somebody using sloppy work, using the  
7 wrong program to download material and corrupting data.

8 Mr. Kirst also testified regarding flights  
9 he conducted, which he maintains indicated the inaccuracies  
10 of the GPS systems as to altitude. He represented  
11 that the photos in Exhibit-R9, R10, R11, and  
12 R13, demonstrate the inaccuracy of the GPS. He testified  
13 the photos were taken during flights in another  
14 aircraft using a different GPS than the 196. The GPS  
15 on the aircraft, or aircrafts, were panel mounted  
16 Garmin 140. He testified the altimeter reading and the  
17 transponder reading are different from the GPS in the  
18 photographs he had taken during straight and level  
19 flight. Mr. Kirst testified he could not remember when  
20 he took the photographs or if the photographs were  
21 taken on the same day. There is no corroboration as to  
22 the purported evidence as Mr. Kirst testified he was  
23 alone during the flights and he took the photographs  
24 himself while piloting the aircraft. He agreed on

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1 cross-examination that, in fact, he was not in straight  
2 and level flight, based on evidence in the photographs  
3 he provided.

4 He agreed that the transponder is based on  
5 standard pressure 29.92, which can be affected by  
6 temperature. He agreed that he could manipulate the  
7 altimeter settings during flight. In response to his  
8 own attorney's question as to whether the readings  
9 could be faked or manipulated, he testified that they  
10 could.

11 I give these photographs no weight, as the  
12 photographs are essentially unauthenticated, unreli-  
13 able, uncorroborated and they're contrary to Mr.  
14 Kirst's description that the photos were taken during  
15 straight and level flight. I find absolutely no credi-  
16 bility in Mr. Kirst's testimony, relative to these  
17 photographs.

18 In conclusion, I have considered the evi-  
19 dence relative to this issue, and I find the testimony  
20 of Mr. Motzko to be credible, both on direct and cross-  
21 examination. I find his analysis and the calculations  
22 to be persuasive, compelling, and supported by a pre-  
23 ponderance of the evidence. I do not find that Mr.  
24 Kirst's testimony or the research he prepared for this

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1 case to be credible or persuasive, or supported by the  
2 evidence he presented.

3 The challenges Mr. Kirst has raised do not  
4 diminish or contradict the testimony and analysis  
5 presented by Mr. Motzko. I give Mr. Motzko's testimony  
6 and knowledgeable and sound analysis the greater  
7 weight. Mr. Motzko is vastly qualified to produce this  
8 information and provide testimony on this information.  
9 I do not find that Mr. Kirst's testimony as to his  
10 experience in any way comparable to that experience of  
11 Mr. Motzko. I therefore find that the analysis and  
12 exhibits prepared by Mr. Motzko can and will be used to  
13 address the allegations of the alleged violation of  
14 flying below 500 feet in this case.

15 I turn to the allegation in Paragraph 9 of  
16 the second amended emergency order of revocation, which  
17 states that, during the first flight, you frequently  
18 operated at an altitude of less than 500 feet above  
19 ground level, when doing so was not necessary for take-  
20 off or landing. Mr. Motzko testified that the data on  
21 the last page of Exhibit-A16 at 779 to about 776, indi-  
22 cates the crossing of the Chandalar Shelf and flight  
23 towards Atigun Pass. He testified the elevation, when  
24 crossing Chandalar Shelf, again shows the ground eleva-

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1 tion going from 638 feet to 172 feet at data point 781.  
2 Mr. Motzko testified Exhibit-48 is a closer version of  
3 the portion of the track points, which shows maneuver-  
4 ing at South Dietrich Camp; a highway and the Alaska  
5 pipeline are visible on that map.

6 Aviation Inspector Sipperley testified that  
7 he used data points on A16 in his analysis, as to  
8 whether or not there were any potential violations of  
9 the Federal Aviation Regulations to be referred to  
10 legal. He was asked to review data point 713 on direct  
11 examination. He testified that data point 713 is the  
12 location where the witnesses indicated the aircraft  
13 circled to photograph the moose in a pond.

14 Inspector Sipperley testified that the data  
15 points indicate that Mr. Kirst flew as low as 122 feet  
16 above the ground, give or take 50 feet. He was then  
17 asked to review Exhibit-47, 48, 49, 50 and 51. As to  
18 Exhibit-48, he testified that the turns depicted in  
19 that exhibit were close and over the pipeline, and over  
20 the highway, just south of Dietrich Airport. He testi-  
21 fied that the altitudes leading up to the turns were  
22 all under 500 feet and became lower once the turn  
23 started, and the altitude actually went down to 122  
24 feet. This is based on his evaluation of the data, the

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1 altitude data in this case, as well as the exhibits I  
2 just mentioned.

3 He agreed that there were no persons on the  
4 ground, but he testified the flight was over infra-  
5 structure. They were flying over the Alaska pipeline.  
6 Mr. Kirst was flying over the highway, and the Respond-  
7 ent, Mr. Kirst, could not know if anybody was on or  
8 coming onto the highway.

9 He testified Mr. Kirst should not have been  
10 flying that low over infrastructure, the pipeline and  
11 the highway. He testified the evidence indicated that  
12 Mr. Kirst crossed the highway two times. Inspector  
13 Sipperley reviewed data point 781 and determined and  
14 testified that point was closest to where Mr. Fickus  
15 reported he was located.

16 Mr. Fickus testified he was driving a semi-  
17 truck on Dalton Road at the time the aircraft flew over  
18 him. Inspector Sipperley testified Mr. Fickus stated in  
19 his testimony and written statement that the airplane  
20 passed over Chandalar Shelf at an altitude of 100 feet  
21 AGL. Data point 781, close to where Mr. Fickus was  
22 located on Dalton Road, indicates that the aircraft was  
23 172 feet above ground level. Inspector Sipperley  
24 testified that he felt that the data validated what Mr.

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1 Fickus's testimony was as to what he saw. Mr. Fickus  
2 testified he saw the aircraft fly over Chandalar Shelf  
3 at an altitude he estimated to be 100 feet. Inspector  
4 Sipperley testified Mr. Fickus's estimate was 75 feet  
5 off from his estimate of 100 feet. In any event, the  
6 altitude is still under 500 feet, as the flight was  
7 over the Dalton Highway.

8 Inspector Sipperley testified that data  
9 point 800 is where the aircraft was near Mr. Hayden.  
10 Mr. Hayden testified that when the aircraft went over  
11 his head it was 500 to 800 feet above him. The data  
12 point shows the aircraft was actually 450 feet above  
13 him. Mr. Hayden was at the bottom of the access road,  
14 three-quarters of a mile from the point of impact in  
15 this case. Mr. Kirst, on the other hand, testified the  
16 turns that were made to photograph the moose were at  
17 least at a 500 foot altitude and the flight was not  
18 over or near people. However, on cross-examination, he  
19 did not dispute that the regulations prohibit flights  
20 under 500 feet over infrastructure. He did not dispute  
21 that the Alaska Pipeline is considered infrastructure.  
22 Mr. Kirst does not argue that flying at an altitude  
23 below 500 feet, that has been demonstrated by the  
24 evidence in this case, were for takeoff or landing.

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1           Based on the evidence before me, including  
2 the testimony of Mr. Motzko and Aviation Inspector  
3 Sipperley, I find the Administrator has proven the  
4 allegations in Paragraphs 9, 10, 11, and 12 of the  
5 second amended emergency order of revocation, by a  
6 preponderance of the evidence. I therefore find the  
7 Administrator has proven by a preponderance of the  
8 evidence, that Mr. Kirst, the Respondent, violated 14  
9 C.F.R. 135.203(a)(1), which reads that, "While serving  
10 as the pilot-in-command of an aircraft, operating in  
11 air commerce subject to the requirements of 14 C.F.R.  
12 Part 135, you operated an aircraft in visual flight  
13 rules during the day, below 500 feet above the surface  
14 or less than 500 feet horizontally from an obstacle,  
15 when to do so was not necessary for takeoff or land-  
16 ing."

17           I will now discuss the Administrator's  
18 alleged violation of 14 C.F.R. 91.3(a), which alleges  
19 that he operated an aircraft in a careless or reckless  
20 manner that endanger the life or property of another.  
21 I will first address the testimonial evidence.

22           Mr. Matthew Gleaves testified he was with  
23 Steve Hayden, driving down the right-of-way road at  
24 about 10 miles per hour, when he saw the aircraft

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1 heading north. He testified that aircraft in the area  
2 are common. However, he testified that this aircraft  
3 in this case seemed to be very low. He testified that  
4 Steve Hayden also said the aircraft just seemed to be  
5 very loud.

6 He then received a call on the CB from a  
7 welder, who indicated that the plane had just crashed.  
8 Mr. Gleaves indicated he heard the news of the crash  
9 just moments after he saw and heard the aircraft.

10 Mr. Steve Hayden testified that he heard the  
11 aircraft in this case before he saw it. He testified  
12 the time was between 1:00 and 1:30, just after lunch.  
13 He was riding in the truck with Mr. Gleaves heading  
14 south from the Atigun Pass. He testified that the  
15 sound of the aircraft caught his attention. He testi-  
16 fied it sounded as though it was revving up.

17 Mr. Hayden testified when the aircraft flew  
18 over, he could hear the propeller tips. Mr. Hayden  
19 testified the previous aircraft he had seen in the area  
20 usually flew at a much higher altitude. He testified  
21 that when he looked up at the aircraft he saw the dark  
22 colored bottom of the aircraft and the wingtip tanks.  
23 Mr. Hayden testified that when he saw the aircraft, he  
24 believed it was between 500 to 800 feet in altitude

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1 above him. He testified that the aircraft was below  
2 the road, which was between 800 to 1,000 feet above  
3 where he was located.

4 Mr. Hayden testified he was concerned when  
5 he saw the aircraft because it was flying so low. He  
6 testified he told Mr. Gleaves, "Man, that aircraft is  
7 right there." He testified that the operation seemed  
8 unusual because the aircraft was lower than other  
9 aircraft he had seen in the area before, and he had  
10 seen some aircraft go up and turn around when flying  
11 into the canyon. This airplane did not circle back.

12 Mr. Vincent J. Fantazzi testified he was  
13 working with Adrian Torrez, and they had just finished  
14 eating lunch and had stepped out of the cab of their  
15 truck. Mr. Fantazzi said that Adrian looked up and  
16 then he looked up as well, and he saw the plane on the  
17 side of the hill. He could not say what part of the  
18 plane hit the side of the hill first. It came down on  
19 its bottom and stayed there. He testified it came to  
20 an abrupt stop.

21 Mr. Torrez testified he was working with  
22 Vince Fantazzi at the bottom of Atigun Pass. He testi-  
23 fied that he saw that aircraft flying very low, lower  
24 than other aircraft he had ever seen in the area. He

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1 testified he kept watching the aircraft until it  
2 crashed into the side of the mountain. Mr. Torrez  
3 testified that it appeared as though the aircraft was  
4 coming in for a landing on the side of the mountain.  
5 He testified it was not like the type of crash you see  
6 in movies. He testified it was more like an awkward  
7 landing on the side of the mountain.

8 Mr. Torrez testified that he first heard the  
9 plane, then he watched it fly about ten seconds before  
10 it crashed. He testified that the engine sounded like  
11 it was really revved up.

12 He testified that he saw the aircraft slide  
13 after impact. It did not appear as though the aircraft  
14 was out of control before the crash, he testified.

15 Timothy Russell Fickus has testified he is a  
16 private pilot and has flown through Atigun Pass at  
17 least a half dozen times. He said he saw an aircraft  
18 fly over him at a low altitude, while he was driving a  
19 semi-truck on Dalton Road. He testified the Chandalar  
20 Shelf is at the end of the timberline, with a grade  
21 that rapidly rises. He testified you have to increase  
22 altitude by about 1,500 feet to get over the Pass.

23 He testified that when he looked out of his  
24 truck, he saw the underbelly of the aircraft and the

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1 wingtip tanks and a North American tail. He testified  
2 that the aircraft flew over the Chandalar Shelf at an  
3 altitude of about 100 feet above the shelf. He testi-  
4 fied that the altitude of the aircraft alarmed him  
5 because it was so low.

6 He testified the aviation sectional charts  
7 indicate there is rapidly raising terrain. He testi-  
8 fied that the summit of Atigun Pass is about 4,800  
9 feet, which requires a significant climb in altitude in  
10 a short distance.

11 He testified that once the plane flew over,  
12 he saw the aircraft continue up the Pass. He testified  
13 he was driving north on Dalton Road, on the Shelf, as  
14 the plane was heading north. He watched the aircraft  
15 until it disappeared from sight. He testified that he  
16 was concerned for the aircraft because at the point he  
17 lost sight of the aircraft is the area where there is  
18 an extreme climb, and he was concerned that he did not  
19 see the aircraft circle back. Mr. Fickus testified  
20 that during the time he had the aircraft in sight, he  
21 did not see anything unusual in the way that it was  
22 flying. It was in stable flight with no apparent loss  
23 of control that he could observe. He later learned  
24 that the airplane crashed at Atigun Pass.

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1           On cross-examination, he testified again  
2 that the aircraft flew at 100 feet over the top of the  
3 Chandalar Shelf. He testified it was 300 feet over his  
4 head and directly in front of him when it flew over  
5 while he was driving his truck on Dalton Road. He  
6 testified that he saw the plane for about five or six  
7 seconds, but was able to gauge the altitude of the  
8 aircraft in that period of time.

9           As far as the testimony of the passengers,  
10 they also testified about the final minutes of the  
11 flight. Ms. McCann testified they entered the mountain  
12 area and Mr. Spencer asked Mr. Kirst whether or not  
13 there would be animals on the side of the mountain.  
14 She could not remember what Mr. Kirst's response was.  
15 She felt that the plane banked to the right and  
16 remembered thinking they hit an air pocket. Then she  
17 opened her eyes and saw the mountains in her face and  
18 realized that they had crashed. She testified she did  
19 not remember a blade of the propeller flying off. Ms.  
20 McCann testified she remembered a downward thrust like  
21 an air pocket. When she was asked if she remembered  
22 Mr. Spencer flopping forward against controls before  
23 the crash, she answered no. Both he and Marcene Nason  
24 were looking out the window to the right with their

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1 cameras. She testified she did not remember any loud  
2 noises before the crash, and she testified she did not  
3 remember any vibrations or shaking of the airplane  
4 before the crash.

5 On cross-examination, she testified she did  
6 not know their altitude. She testified she was offered  
7 Gravol by Mr. Spencer after they had circled the moose  
8 in the pond. She was asked if she was sure that Mr.  
9 Spencer had actually given her Gravol and had not given  
10 her some other drug, and she testified that Mr. Spencer  
11 was a man of God and does not lie.

12 Ms. McCann testified she never experienced  
13 hallucinations when she has taken Gravol in the past,  
14 and she has never suffered any bad side effects. It  
15 does not make her sleepy, she testified. She testified  
16 that when they were in the mountain area it was rocky,  
17 with fewer trees. She testified as soon as they saw  
18 the mountains, Mr. Spencer asked if there would be any  
19 wildlife on the mountains. Ms. McCann testified that  
20 when they entered the mountains, the mountains were on  
21 her left side.

22 Ms. McCann testified they were not flying  
23 over the top of the mountains. She testified that when  
24 she looked out the window, she could look up and see

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1 the top of the mountain. She testified that they were  
2 about three-quarters of the way from the top of the  
3 mountains. She testified the next thing she remembered  
4 was that Mr. Kirst banked the airplane, and when she  
5 opened her eyes, they had crashed.

6 Marcene Nason testified that after taking  
7 pictures of the moose, they flew into a mountain area.  
8 She testified she heard Mr. Spencer ask Mr. Kirst if  
9 there would be any animals on the side of the mountain  
10 that he could photograph.

11 She testified Mr. Kirst said that normally  
12 he would fly over the mountains, but he said he would  
13 go through the mountains for them. She testified she  
14 remembered that there were rocks on both sides of the  
15 airplane and mountains with trees on them. She testi-  
16 fied that the ride was bumpy.

17 When asked if she remembered seeing Mr.  
18 Spencer hunched over the flight controls, she answered  
19 no. She remembered him looking out the window, taking  
20 pictures. She did not remember any loud noises just  
21 before the crash, nor did she remember any unusual  
22 vibrations. She remembered the plane hitting a little  
23 air pocket. She did not remember the propeller or any  
24 portion of it flying off.

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1           She testified on cross-examination that she  
2 was sitting behind Mr. Spencer in the aircraft. She  
3 testified that he had offered her Gravol, to both she  
4 and her sister. She took a pill, but did not know if  
5 Mr. Spencer himself took a pill. She testified her  
6 sister had taken the Gravol. Ms. Nason testified that  
7 Gravol does not cause any drowsiness in her, nor did it  
8 have any other type of side effects.

9           She testified she was just nervous about the  
10 flight because they were flying through the mountains  
11 and she remembered Mr. Kirst saying that they usually  
12 flew over the mountains and she remembered thinking,  
13 "Please, let's go over the mountains and get there."

14           She again testified she remembered Mr.  
15 Spencer asking about whether there would be any  
16 wildlife on the side of the mountain, and Mr. Kirst  
17 said they would take a look. She testified Mr. Kirst  
18 said normally he flies over the mountains, but he would  
19 go in and have a look. She remembered flying over a  
20 truck on the road, during the flight. She testified  
21 she had no memory of the actual plane crash and she had  
22 very little memory about what happened after the crash.

23           She testified of flying through the moun-  
24 tains, and that she was quite nervous about it. She

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1 testified, "We seemed to be flying between them and I  
2 just, you know, from Star Wars or some of those movies,  
3 I just felt like we were going into that kind of a  
4 thing, and I was quite nervous. It seemed too close."  
5 Again, she remembered flying over the highway and  
6 seeing vehicles on the road.

7 She testified she was nervous about the  
8 flight through the mountains, because it was such a  
9 narrow opening. She agreed that she could see terrain  
10 on each of the airplane over the wings, as they flew  
11 through the mountains.

12 Mr. Motzko testified that the data on the  
13 last pages of Exhibit-A16 at 779 to 786 of data points  
14 indicate the flight crossing of the Chandalar Shelf and  
15 towards Atigun Pass. The elevation when crossing  
16 Chandalar Shelf above ground elevation, as I stated, is  
17 rapidly rising. He testified that the GPS unit shows  
18 the terrain is changing beneath the aircraft at a climb  
19 -- at approximately 300 to 500 feet per minute, until  
20 the final data point.

21 Mr. Motzko testified that data point 781,  
22 Mr. Kirst's altitude, is 3,346 feet and he needs to get  
23 to 4,800 to get over the Pass in approximately four  
24 minutes, at a climb rate of 300 to 500 feet per minute.

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1 He testified that Exhibit-51 shows the flight to be on  
2 a normal path, no circles or no maneuvering until the  
3 data stops at the crash point.

4 He testified that Exhibit-A52 is the cross  
5 sectional elevation of the data from A16, and that  
6 exhibit shows a steady increase in altitude until the  
7 final data point, the crash, at approximately 4,500  
8 feet. The exhibit does not indicate that the aircraft  
9 ever flew at an altitude higher than 4,500 feet before  
10 the crash.

11 Mr. Kirst maintains that he was flying at  
12 5,500 feet, trying to reach 6,000 feet. He testified  
13 he could see the traffic on the other side of the pass.  
14 The nose pitched over. Mr. Spencer was slumped over  
15 the controls. He testified he yelled for the other  
16 passengers to pull Mr. Spencer back, but that they did  
17 not help. He testified when he added power, things got  
18 worse. He added flaps and that raised the nose. He  
19 made a turn heading down the valley, and then he testi-  
20 fied because he was losing altitude at 1,000 feet per  
21 minute and the plane could no longer fly, he decided to  
22 make another turn back toward to the mountain and he  
23 performed a landing stall, then went into the side of  
24 the mountain.

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1           He testified that after the crash, he could  
2 not remember anything, until months later in the hospi-  
3 tal. He could not remember saying, "What happened?  
4 What happened," or that witnesses testified he said,  
5 "It was a down draft," nor does he remember saying,  
6 "There goes my business. There goes my insurance," nor  
7 does he remember, "Maybe I was flying too low? I don't  
8 know."

9           There are no other witnesses that remember  
10 the events the same way as Mr. Kirst described. He  
11 provides no witnesses or proof to establish his version  
12 of the events occurred.

13           Ms. Nason and Ms. McCann testified they did  
14 not remember any violent shaking or any other vibra-  
15 tions before the crash. When asked if they remembered  
16 Mr. Spencer falling over the controls, they both  
17 answered no. The both felt as though they hit an air  
18 pocket, but they did not describe the violent pitching  
19 of the aircraft or losing altitude or turning back  
20 toward the valley and then turning back to the side of  
21 the mountain. Mr. Kirst testified this all occurred  
22 within 40 seconds.

23           Mr. Kirst maintains that the testimony of  
24 Ms. Nason and Ms. McCann cannot be trusted because they

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1 took Gravol before the crash. That drug has serious  
2 side effects, such as hallucinations.

3           However, Ms. Nason and Ms. McCann both  
4 testified they never experienced side effects from  
5 Gravol, the Canadian equivalent of Dramamine. They  
6 also testified that they took the Gravol no more than  
7 about ten minutes before the crash.

8           No one on the ground witnessed or described  
9 erratic descending flight, as described by Mr. Kirst.  
10 To the contrary, Mr. Torrez testified he saw the  
11 aircraft in controlled flight and then making what he  
12 called an awkward landing on the rocks. All of the  
13 witnesses who saw the aircraft from the ground testi-  
14 fied it was flying low, lower than other aircraft that  
15 fly over Atigun Pass.

16           Aviation Safety Inspector Sipperley testi-  
17 fied that based on his investigation and review of the  
18 evidence, he believed that Mr. Kirst entered the canyon  
19 heading for Atigun Pass at an extremely low altitude,  
20 as shown by all of the data, as expressed by the  
21 passengers in the airplane, and as expressed by all of  
22 the witnesses on the ground that saw the airplane. Mr.  
23 Kirst did not have sufficient altitude to make it over  
24 the Pass, and he had to make a controlled landing into

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1 terrain. Mr. Sipperley testified that based on the  
2 evidence he had compiled and reviewed, he concluded  
3 that it was careless for Mr. Kirst to operate at such a  
4 low altitude.

5 Mr. Kirst agreed with the allegations in  
6 Paragraph 8 of the second amended emergency revocation,  
7 which alleges that the Fairbanks Sectional Aviation  
8 Chart, in effect at the time of the flight, warns  
9 pilots of enhanced dangers of low flight near Atigun  
10 Pass, specifically alerting readers that the Atigun  
11 Pass is an area of rapidly rising terrain. Aviation  
12 Inspector Sipperley testified that to enter an area at  
13 such a low altitude that is a known area for accidents  
14 and one that is clearly marked on the aviation charts  
15 as a dangerous area is reckless.

16 As previously discussed, Mr. Kirst maintains  
17 that the crash on August 25, 2014 was not the result of  
18 careless or reckless conduct on his part. Mr. Kirst  
19 maintains that the crash was caused by a mechanical  
20 failure, the loss of a propeller blade. He testified  
21 that during his medical recovery, he learned that the  
22 propeller or the blade had been missing from his  
23 crashed aircraft. He testified that once he found that  
24 out, it became clear to him that the crash was actually

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1 caused by the loss of a propeller blade. He testified  
2 that the pitching forward of the aircraft, and things  
3 getting worse when he added power, that all added up to  
4 being caused by a lost prop blade.

5 He also maintained the broken motor mounts  
6 in his aircraft were due to the unbalanced spinning of  
7 the propeller, and the vibration caused by the lost  
8 prop blade. He testified he believed the loss of the  
9 prop blade caused the engine to almost tear itself out  
10 of the airplane, which explained what he believed were  
11 broken motor mounts on his crashed aircraft. This  
12 process would result in violent vibrations. However,  
13 neither Mr. Kirst nor his passengers, Ms. Nason or Ms.  
14 McCann, testified that they felt vibrations, violent or  
15 otherwise, of the aircraft before it crashed. FAA  
16 inspectors testified the damage to the motor mounts was  
17 caused by the impact, and not because of a loss of the  
18 propeller blade.

19 Mr. Kirst argues the propeller blade was  
20 never found. He cannot say if it came off in flight or  
21 moments before the crash. The broken tip of the  
22 missing blade was found at the accident site, which  
23 indicates at least part of the prop blade was on the  
24 side of the mountain at the accident site. Mr. Kirst

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1 does not explain that if the prop blade departed the  
2 aircraft in flight, why was the broken tip of the prop  
3 blade found at the accident site. Did the broken prop  
4 tip remain with the aircraft while the rest of the prop  
5 blade departed the aircraft in flight? That issue was  
6 never addressed at hearing.

7 Numerous individuals searched for the prop  
8 blade, but could not locate it and the loss could not  
9 be explained. Officer Scott Lanier testified that when  
10 he was searching for the prop blade with a Hartzell  
11 representative, they discussed the possibility that  
12 maybe someone took it home, it is on someone's mantle.  
13 He testified that this was a possibility, as the crash  
14 site was not secured after the crash.

15 While Mr. Kirst finds this proposition to be  
16 preposterous, it is possible. Ms. McCann testified her  
17 movie camera was never returned to her, nor has it ever  
18 been found. There was also testimony that at the time  
19 the Aviation Inspectors were investigating the crash,  
20 there were tourists and their children heading down  
21 towards the aircraft, and they had to chase them away.

22 Mr. Kirst maintains that his propeller was  
23 sold to him as new, when in fact it was not overhauled  
24 before it was sold to him. He argues that proof of

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1 this is that the prop examination after the accident  
2 indicated that screws on the propeller bracket were  
3 used and could be removed by hand. He also testified  
4 that the propeller had hard, old grease in it, which  
5 demonstrates that it was not overhauled.

6 He testified that Exhibit-79 is a service  
7 bulletin, which mentioned the clamps cracking due to  
8 corrosion. He testified there were a number of pages  
9 to Exhibit-R79, which provides warnings that a serious  
10 propeller defect may be indicated before failure, such  
11 as abnormal grease leakage, vibrations during operation  
12 and in-flight blade separation that can result in a  
13 catastrophic accident. He testified the service  
14 bulletin was issued December 20, 2001, and was in place  
15 at the time he bought the propeller.

16 He testified R38 is a return to service tag,  
17 which came with the propeller from Ottoson Propeller.  
18 He testified the paperwork indicates that Ottoson was  
19 selling the propeller as new and lists the manuals they  
20 followed, which included the service bulletin.

21 He testified that a proper investigation  
22 would have revealed that the propeller on his aircraft  
23 had failed. Ottoson Propeller had not overhauled it,  
24 nor returned it to service properly, as he claimed.

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1 Mr. Kirst's argument is based on review of Volume 7 of  
2 the propeller service manual. He argues that Volume 7  
3 indicates the service bulletin at Exhibit-R79 had not  
4 been complied with by Ottoson Propeller.

5 The Administrator produced evidence that  
6 Volume 4 of the service manual relates to propeller  
7 overhaul, was complied with by Ottoson, which indicated  
8 the required overhaul was, in fact, done. Mr. Kirst  
9 testified he could not find Volume 4 on the internet.  
10 However, he later testified he asked the propeller  
11 company for a copy of Volume 4, but they never provided  
12 it. He then clarified that they never provided it  
13 because they wanted to sell it to him and he did not  
14 want to buy it from them. He testified that he was  
15 aware that Volume 4 provided a detailed description of  
16 the overhaul procedure, but again, he did not obtain it  
17 for this case.

18 He also argues that there was evidence of  
19 corrosion in the pilot tubes and there was evidence  
20 that certain bolts were not changed or reversed, as  
21 required by a service bulletin. He maintains the  
22 service bulletin indicates that if the service is not  
23 performed, a propeller blade may be lost, with cata-  
24 strophic results. He agrees that he never had the

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1 corrosion tested to establish that it was, in fact,  
2 corrosion. He testified he knew it was corrosion and  
3 did not have time to have it tested. It must be noted  
4 it was Respondent who pressed for a hearing on this  
5 matter as soon as possible.

6 Mr. Kirst also argued that certain propeller  
7 parts were not returned to him after testing. However,  
8 he never requested a subpoena to force the production  
9 of the parts that he needed in this case. Certainly, a  
10 subpoena would have been issued.

11 When confronted with the fact that neither  
12 the Hartzell Propeller examination report or the metal-  
13 lurgical testing mentioned corrosion or loose bolts as  
14 causative of the crash, Mr. Kirst maintains that Hart-  
15 zell and the metallurgical testing intentionally left  
16 out those findings out to avoid liability. He provides  
17 no other evidence, except his own testimony, to corrob-  
18 orate and establish this conspiracy theory. Mr. Kirst  
19 provides no expert or any other form of testimony to  
20 support his position that he was sold an old propeller  
21 that had not been overhauled in accordance with the  
22 maintenance bulletins. Nor is there any corroborating  
23 testimony or findings of cracked brackets and alleged  
24 used bolts that could have been removed by hand were,

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1 indeed, the cause of the loss of a propeller blade in  
2 this case. Once again, the only evidence that Mr.  
3 Kirst offers to prove this theory is his own self-  
4 serving testimony and uncorroborated opinion.

5 Based on the evidence before me, I cannot  
6 find that Mr. Kirst has proven his affirmative defenses  
7 by a preponderance of the evidence. I must note that I  
8 am not making a finding that a lost propeller blade was  
9 not the cause of the crash in this case. That is not  
10 my role in this matter. My findings are limited to the  
11 evidence in this case, in terms of whether or not Mr.  
12 Kirst legally proved this affirmative defense by a  
13 preponderance of the evidence. Relative to my role in  
14 making that finding, I find that he has not met that  
15 burden.

16 Based on the evidence in this case, I find  
17 that the Administrator has proven the allegations in  
18 Paragraph 13 of the second amended emergency order by a  
19 preponderance of the evidence. Based on the evidence  
20 and testimony relative to this allegation, I find that  
21 the Administrator has proven by a preponderance of the  
22 evidence that Respondent violated 14 C.F.R 91.13(a).

23 As noted in his answer to the complaint, the  
24 Respondent also lists six affirmative defenses. I will

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1 address those at this point. The first affirmative  
2 defense is that the amended emergency order of revoca-  
3 tion dated December 11, 2105, has been superceded by a  
4 second amended order of revocation, per the Administra-  
5 tor's letter to NTSB Judge Patrick Geraghty, dated  
6 December 24, 2015. Any emergency revocation must begin  
7 on the date of that filing. To address the first  
8 affirmative defense, it is basically not really an  
9 affirmative defense, but a legal argument, which has  
10 not been made during the course of these proceedings or  
11 opening or closing argument.

12 Second affirmative defense, pursuant to 49  
13 C.F.R. 821.55(c), the airman states the Administrator  
14 has failed to comply with the Federal Rules of Civil  
15 Procedure for amending pleadings as required by the  
16 Pilot's Bill of Rights. I find that there is no  
17 evidence that's been produced which established that  
18 the Administrator has failed to comply with the rules  
19 regarding amending of the pleadings in this case.

20 Therefore, I find that the Respondent has  
21 not proven his second affirmative defense. The Admin-  
22 istrator appropriately amended his pleadings, which can  
23 be amended 15 days before the hearing under the rules  
24 of practice of the National Transportation Safety

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1 Board. The Federal Rules of Civil Procedure are appli-  
2 cable to these proceedings to the extent practicable.  
3 However, the rules of practice take precedence, unless  
4 the rules of practice do not address a certain area.  
5 If they do not, then the Federal Rules of Civil Proce-  
6 dure apply.

7 The third affirmative defense is the penalty  
8 sought for a violation alleged is inappropriate and in  
9 contrast to the penalty sought for similarly situated  
10 individuals. I have not heard any evidence in this  
11 case relative to any penalties that were sought for  
12 similarly situated individuals. So I cannot find that  
13 the Respondent has proven that affirmative defense by a  
14 preponderance of the evidence.

15 As to affirmative defense four, the Adminis-  
16 trator's action is barred by equitable doctrine of  
17 laches, waiver, unclean hands, and estoppel, I have  
18 heard no arguments relative to those affirmative  
19 defenses. Therefore, I cannot find that that affir-  
20 mative defense is proven by a preponderance of the  
21 evidence.

22 Number five, the Administrator's allegations  
23 may constitute a violation of the Americans with Disa-  
24 bilities Act. There was no testimony about that in the

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1 course of this proceeding, so, I cannot find that that  
2 affirmative defense has been proven by a preponderance  
3 of the evidence.

4 The sixth affirmative defense, which is  
5 really not a defense, but Respondent reserves the right  
6 to assert additional affirmative defense as it becomes  
7 apparent. I must find that the Respondent has not  
8 proven any of his affirmative defenses by a preponder-  
9 ance of the evidence.

10 Finally, I must discuss the issue of credi-  
11 bility in this case. As noted throughout this deci-  
12 sion, my determinations have been made on the basis of  
13 credibility and a determination as to what weight to  
14 assign to evidence based on credibility. Credibility  
15 is critically important in this case.

16 I indicated Mr. Kirst presented the expert  
17 testimony of Dr. Sperpeck to address what he claimed to  
18 be certain memory loses. Dr. Sperpeck testified about  
19 traumatic amnesia, which occurs after a traumatic  
20 event. He testified a person will try to fill in the  
21 missing memory with memories of routine conduct, some-  
22 thing that is routine or is always done by the indivi-  
23 dual. If this individual fills in the blank memories  
24 with routinized memories -- those, according to Dr.

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1 Sperpeck, are not false memories or misrepresentation.  
2 They're basically termed confabulation. He testified  
3 that if an individual attempts to fill in the memory  
4 blanks with non-routine matters such as the cause of a  
5 traumatic event, that memory is not reliable. He  
6 testified that in such a case, the factual evidence  
7 should be relied upon, rather than these non-routine  
8 memories that are recalled by the individual.

9           After hearing the testimony of Mr. Kirst's  
10 memory recovery after this accident, I find that Mr.  
11 Kirst appears to be filling the blanks in his memory,  
12 if they indeed exist, not with routine or mundane  
13 matters he previously experienced, but rather with  
14 facts and theories that assist him in this proceeding.

15           In this case, Mr. Kirst testified he did not  
16 recall his statements after the crash, which would be  
17 detrimental to his case. He maintains the memory loss,  
18 for example, of his statement at the crash site that,  
19 "maybe I was flying too low." He also maintains he  
20 does not remember the telephonic interview with the FAA  
21 Aviation Safety Inspectors. He maintains that memory  
22 loss may be due to his pain medication, despite the  
23 fact he had just spoken to the NTSB, and his lawyer was  
24 with him during the telephone interview with the FAA.

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1 I note that I did not rely on this information -- or  
2 these utterances -- in this case, in reaching my deter-  
3 mination relative to credibility.

4 During the course of this proceeding, I  
5 found Mr. Kirst's testimony to be evasive, non-respon-  
6 sive and at times, condescending during cross-examina-  
7 tion. I was left with the distinct impression that Mr.  
8 Kirst was trying to make matters more complex and  
9 confusing, to deflect facts and questions that were  
10 detrimental to his case, or to his theory of the case.  
11 I do not find him to be credible as to his description  
12 of what occurred before the crash in this case. I do  
13 not find him credible in any of the arguments and  
14 defenses he has advanced in this case.

15 He could not seem to find information rela-  
16 tive to the lost propeller defense, which is detrimen-  
17 tal to his case. I found his testimony to be self-  
18 serving and not corroborated by the evidence in this  
19 case.

20 An example of troubling testimony is the  
21 testimony that blood on his clothing was not from him,  
22 but from Mr. Spencer's blood, which proved that Mr.  
23 Spencer fell over the controls, and then he had to pull  
24 Mr. Spencer over him, so that he could regain control

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1 of the aircraft when it pitched forward. At one point,  
2 he testified he did not know if Mr. Spencer was bleed-  
3 ing before the crash or after the crash, or whether he  
4 cut his head on the windscreen or when the aircraft  
5 pitched over, or if he was hit by a flying camera or  
6 camera lens from the back, when the aircraft pitched  
7 over. Of great concern is his response when he testi-  
8 fied that he knew the blood on this clothing was not  
9 his, because none of the witnesses at the crash scene  
10 testified in this proceeding that they saw him bleed-  
11 ing. This is despite the fact that he admitted that he  
12 had head lacerations that required stitches. He did  
13 not produce medical records that established the  
14 remarkable fact that his head laceration did not bleed.  
15 Mr. Kirst is essentially testifying under oath to the  
16 effect that, "I say I was not bleeding and none of your  
17 other witnesses can contradict my testimony."

18 I find his testimony wholly not credible,  
19 and I am troubled by the fact that such incredible  
20 testimony would be made relative to a matter that is  
21 not of grave import in this case, as Mr. Kirst testi-  
22 fied that Mr. Spencer falling over on the controls did  
23 not cause the crash. This only raised greater concern  
24 as to his character for truth and veracity, as to his

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1 testimony, as to matters of greater import in this  
2 case. Mr. Kirst testified he has no motivation to be  
3 untruthful because he will be liable for what happens  
4 in any event. Liability is not at issue in this case.  
5 Mr. Kirst's airman certificate and whether it should be  
6 revoked is what is at issue in this case.

7 I did not find the testimony of Mr. Kirst to  
8 be credible in this case. I did find the testimony of  
9 all the Administrator's witnesses, including Ms. Nason  
10 and Ms. McCann to be credible. I have made findings of  
11 fact and conclusions of law during the course of my  
12 decision, relative to those specific allegations that  
13 the Respondent has denied in this case, and therefore,  
14 I will not repeat that at this point.

15 In conclusion, having found the Administra-  
16 tor has proven all of the allegations and violations of  
17 the Federal Aviation Regulations that they have charged  
18 by a preponderance of reliable, probative and credible  
19 evidence, I now turn to the sanction imposed by the  
20 Administrator in this case. On August 3, 2011, Public  
21 Law 112-153, known as the Pilot's Bill of Rights, was  
22 signed into law by the President of the United States.  
23 Prior to the passage of the Pilot's Bill of Rights, I  
24 was bound by regulation, by law, to give deference to

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1 the Administrator's choice of sanction or the Adminis-  
2 trator's interpretation of law or regulations they  
3 applied to this case.

4 The Pilot's Bill of Rights did away with  
5 that language. So now, I can weigh the evidence and I  
6 am not bound to give deference to the Administrator  
7 when it comes to the recommended sanction or the  
8 interpretations of law. While I am no longer bound to  
9 give deference to the Federal Aviation Administrator by  
10 statute, the Agency is still entitled to deference due  
11 to all other Federal Agencies under the Supreme Court  
12 decision in Martin v. Occupational Safety and Health  
13 Review Commission, et al., 499 U.S. 144, 111 Supreme  
14 Court 1171. In applying the principles of judicial  
15 deference to the interpretations of law, regulations  
16 and policies that the Administrator carries out, I must  
17 analyze and weigh the facts and circumstances in each  
18 case to determine if the sanction selected by the  
19 Administrator is appropriate.

20 In the case before me, the Administrator  
21 argues that the Administrator is due deference in his  
22 choice of sanction. He argues that the Respondent has  
23 a past history of regulatory violations. Administra-  
24 tor's counsel has argued that revocation is the appro-

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1     appropriate sanction for the cited Federal Aviation viola-  
2     tions. In addition, the Administrator argues that  
3     revocation is the appropriate sanction for the viola-  
4     tion of 14 C.F.R. 61.2(a)(1) and 14 C.F.R. 61.13(a)(1),  
5     which relates to the Respondent flying after his pilot  
6     certificate was revoked on an emergency basis.

7             The Respondent has argued a lesser sanction  
8     is appropriate in this case because of the procedural  
9     history of this case. As previously noted, the case  
10    was initially brought by the Administrator in March of  
11    2014, as a non-emergency. The matter was reissued on  
12    an emergency basis on December 11, 2015. Respondent's  
13    counsel argues that there were no changes in facts in  
14    December which warranted refileing the case as an emer-  
15    gency. Respondent further argues the case languished  
16    in the NTSB Office of Administrative Law Judges for  
17    months before any action was taken. When I asked Mr.  
18    Kirst's attorney if Mr. Kirst had been prejudiced by  
19    the delay at the Office of Administrative Law Judges,  
20    prior to the issuance of the emergency revocation,  
21    Respondent's counsel indicated that Respondent had not  
22    been prejudiced. When asked if Respondent was confused  
23    by the delay in proceeding, which in this case resulted  
24    in Mr. Kirst flying after his certificate had been

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1       revoked on an emergency basis, Respondent's counsel  
2       responded no. The Administrator argued the Respondent  
3       was specifically informed the matter was not initially  
4       brought as an emergency because the Respondent had been  
5       injured in the crash in this case and could not fly.  
6       When the Administrator subsequently found out that Mr.  
7       Kirst was flying again, the Administrator refilled the  
8       case as an emergency.

9               I cannot find that Respondent's arguments  
10       are compelling or in any way present mitigating factors  
11       which would warrant the imposition of a lesser sanc-  
12       tion. The delay in proceeding with the case at the  
13       Office of Administrative Law Judges was not prejudicial  
14       to the Respondent, nor did it confuse him so as to be a  
15       factor in his continuing to fly after he was aware that  
16       his certificate had been revoked on an emergency basis.

17              I find that the Administrator's arguments  
18       relative to the appropriate sanction in this case to be  
19       compelling and supported by the facts of the case. I  
20       find therefore, that the sanction sought by the Admin-  
21       istrator is appropriate and warranted in the public  
22       interest in air commerce and air safety.

23              Therefore, I find that the second amended  
24       emergency order of revocation must be and shall be

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1 affirmed in this case. I further find that the  
2 Respondent's violation of 14 C.F.R. 61.2(a)(1) and 14  
3 C.F.R. 61.13(a)(1), flying after his pilot certificate  
4 had been revoked on an emergency basis, to be an  
5 independent basis for the revocation of the Respond-  
6 ent's commercial pilot certificate.

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ORDER

JUDGE MONTAÑO: It is ordered that the Administrator's second amended emergency order of revocation be and is hereby affirmed as issued. The Respondent's Airman Commercial Pilot Certificate No. 2933069, held by Mr. Kirst, shall be and is hereby revoked.

This order is entered on the second day of September, 2016 in Washington, D.C.



EDITED ON

October 26, 2016

ALFONSO J. MONTAÑO

Chief Administrative Law Judge