DISTRICT COURT, JEFFERSON COUNTY, COLORADO 100 Jefferson County Parkway Golden, Colorado 80401-6002	DATE FILED: June 19, 2020 5:37 PM CASE NUMBER: 2018CV31077
Plaintiff(s): BOARD OF COUNTY COMMISSIONERS OF ADAMS COUNTY, et al. **v.** **Defendant(s):** CITY AND COUNTY OF DENVER	▲ COURT USE ONLY▲ **Case Number:** 2018CV31077 **Division:** 2 **Courtroom:** 4B

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND JUDGMENT

THIS MATTER comes before the Court on Plaintiffs' Third Amended Complaint which seeks various declarations of the parties' rights, orders for specific performance, and liquidated damages based on the 1988 Intergovernmental Agreement on a New Airport ("IGA"). The Court held a five-day bench trial September 30, 2019 through October 4, 2019. At trial, the Court heard the testimony of Steve O'Dorisio, Elliot Cutler, Matthew Sneddon, Dr. Sanford Fidell, Kim Day, Mike McKee, David Crandall, Michael Rikard-Bell, Vince Mestre, and Mary Ellen Eagan. The Court has also reviewed the deposition and prior trial testimony submitted by the parties of Christopher Rossano, Andrew S. Harris, Joyce Hunt, David Crandall, James W. Spensley, Paul Dunholter, Steven Robert Alverson, and Kristin Sullivan. In addition, the Court has considered the Exhibits admitted into evidence, including Plaintiffs' Exhibits 1, 2, 3, 4, 5 ,6 ,7 ,8 ,10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 37, 37-2, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 79, 80, 81, 82, 85, 86, 87, 88, 89, 91, 92, 93, 94, 96, 97, 100, 102, 103, 105, 106, 107, 108, 110, 111, 112, 113, 114, 115, 119, 121, 123, 124, 125, 126 and Defendant's Exhibits A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Z, AA, BB, CC, DD, EE, FF, GG, HH, JJ, KK, LL, MM, NN, OO, PP, QQ, RR, SS, UU, VV, WW, XX, ZZ, AAA, EEE, FFF, III, JJJ, NNN, QQQ, RRR, SSS, TTT. Having considered the evidence presented at trial as well as the post-trial submissions of the parties, the Court enters the following FINDINGS OF FACT, CONCLUSIONS OF LAW:

I. BACKGROUND

This action arises out of a dispute involving an Intergovernmental Agreement [on a New Airport] ("IGA") entered into on April 21, 1988 between the City and County of Denver ("Denver" or the "Defendant") and the County of Adams ("Adams"). The IGA incorporates

> various agreements of the parties regarding the construction and operation of Denver International Airport ("DIA"). As relevant here, the IGA establishes certain noise exposure performance standards ("NEPS") by which to measure the noise generated by aircraft flight operations at DIA. The IGA provides a mechanism for calculating the NEPS and sets forth the NEPS requirements for the operation of DIA. If the noise generated by aircraft flight operations at DIA violates the NEPS, the IGA provides specific procedures to be followed and certain remedies to the Plaintiffs. In sum, after complying with the conditions set forth in the IGA, Plaintiffs may bring legal action to enforce the NEPS or may seek noise mitigation payments based upon the NEPS violations.

(Ex. 4 at 2; Ex. 1).

Over the years since 1988, the parties have extensively litigated regarding the terms of the IGA. In 1991, Denver notified Adams County of Denver's decision not to install a noise monitoring system and instead model noise levels with the FAA's Integrated Noise Model (INM). (Ex. 103). Adams objected, insisting on the installation of a noise monitoring system, and when negotiations broke down, Adams initiated a lawsuit in 1992 seeking a court order compelling Denver to install a noise monitoring system in compliance with the IGA. (Ex. 111). The 1992 lawsuit was eventually dismissed after Denver stated it was proceeding with a process that would result in the installation and operation of a state-of-the-art noise monitoring system. (Ex. 112 at 5). Based on these representations and later actions by Denver to obtain a noise monitoring system, the 1992 lawsuit was dismissed without prejudice in February 1993. (Ex. 114).

After DIA opened, the parties again resorted to litigation in 1998 to resolve disputes over noise violations for the first few years of operations. In its first three annual noise reports, Denver reported numbers for both the noise modeling system, ARTSMAP, and the noise monitoring system, ANOMS. At trial, Denver argued Plaintiffs could not use the reported ARTSMAP data to seek damages because ARTSMAP model data was only "calculated" noise levels and not "actual" noise levels. (Ex. 3 at 21). The Court found the IGA did not contemplate the Plaintiffs being required to incur the costs necessary to calculate the NEPS values, and it was Denver's sole responsibility to provide the NEPS data. (Ex. 3 at 13-15). Accordingly, Plaintiffs could rely on the NEPS violations contained in the annual reports based on ARTSMAP modeling and were not required to do their own analysis of ANOMS data to prove NEPS violations.

In subsequent years, Denver began reporting NEPS compliance using only ARTSMAP modeling data and the parties reached settlements based on those reports. However, in December 2014, at a joint meeting between Denver and the Plaintiffs, Denver provided a package of materials. (Ex. 20). One of the documents in the package was a Noise Climate Report for the first nine months of 2014. (Ex. 20 at 22). The Noise Climate Report provided the results of the ANOMS noise monitoring system at each of the noise monitoring terminals. Plaintiffs subsequently requested the ANOMS data and engaged a noise expert to calculate the NEPS values based on the ANOMS data. The ANOMS data was later compared to nearby NEPS grid point values reported by Denver's ARTSMAP model for the same time period. (Ex. 21). The comparison showed a wide discrepancy between values estimated by ARTSMAP and the values being

measured by the ANOMS noise monitoring system. (Ex. 22). The realization of this discrepancy resulted in the parties being unable to reach a settlement and the present litigation ensued.

In this case Denver takes the opposite position it took in the 1998 litigation; now arguing ARTSMAP is a reliable noise "monitoring" system as required by the IGA, and that the ANOMS system data is insufficiently reliable to be used for NEPS enforcement. In the 1998 litigation, the Court found Plaintiffs could, but were not required to, analyze the ANOMS data themselves and could instead rely on Denver's reports of ARTSMAP numbers. Here, Plaintiffs have opted to go through the expense of analyzing the ANOMS data to determine NEPS violations. Rather than providing its own analysis of NEPS violations based on the ANOMS data, Denver attempts to discredit Plaintiff's analysis and insists Plaintiffs should be required to use the ARTSMAP data to measure NEPS compliance.

II. FINDINGS OF FACT

A. Creation of the IGA

In the early 1980s, Stapleton International Airport was considering expansion onto the Rocky Mountain Arsenal to accommodate its increased volume of traffic as a multiple airline hub. Aircraft noise from Stapleton had become an increasing problem for communities in Adams County. Due to the existing noise concerns that would be exasperated by an expansion onto the Rocky Mountain Arsenal, Adams County opposed the expansion. Trial Tr. Day 2 at 6-8.

The location of a new airport was investigated by the Denver Regional Council of Governments (DRCOG). This group suggested a regional airport should be created in Adams County, with multiple jurisdictions participating. This proposal was rejected by Denver. Denver insisted on being the owner of the airport, as well as the governmental jurisdiction, in order to receive all applicable tax revenues. Trial Tr. Day 2 at 8-10; Dep. Spensley at 32.

By 1985, Adams County and Denver reached a Memorandum of Understanding where Adams County would allow Denver to annex 55 square miles of Adams County for the purpose of building a new airport. In exchange, Denver agreed to strict constraints on airport noise, including set limits in the established residential areas in Adams County and the wildlife sanctuary at Barr Lake. Trial Tr. Day 2 at 10-12; Dep. Spensley at 35. The annexation was conditioned on Denver agreeing to these strict noise limits. Trial Tr. Day 2 at 14-16.

Extensive negotiations ensued between the parties regarding noise levels in the existing residential areas of Adams County. As a result of the negotiations, the airport was moved further east and north to achieve lower noise levels agreeable to Adams County. Trial Tr. Day 2 at 27-29. In addition, the parties negotiated the option of fixed standards or standards to be calibrated after the airport opened. Fixed standards were selected because the parties believed Adams County voters would not agree to the annexation without fixed and enforceable standards. Trial Tr. Day 2 at 16-20; Dep. Spensley at 36-37.

During negotiations, Denver and Adams County recognized the negative effects of aircraft noise were caused primarily by flight patterns of the aircraft, which is determined by the FAA. However, the FAA would not agree to be a party to the agreement. As such, the agreement was structured so Denver would act as the guarantor regarding aircraft noise and oversee the FAA to operate the airport in a manner consistent with the environmental impact statement. If necessary, Denver would use its influence as an airport proprietor with the FAA to obtain any needed changes. Trial Tr. Day 2 at 21-24, 49-51; (Ex. 96).

B. Noise Standards Under the IGA

Under the IGA, Denver promised to operate DIA within maximum noise levels called Noise Exposure Performance Standards ("NEPS"). Denver agreed if these set noise standards were exceeded and not cured as provided by the IGA, then Denver would compensate Plaintiffs with noise mitigation payments of $500,000 per uncured violation. (Ex. 1 at § 5.6.3).

> The IGA establishes two standards by which DIA noise levels are calculated. The first is referred to as the "65 Ldn noise contour." "Ldn" is defined in the IGA as a level of noise which is "the 365-day average, in decibels, of day-night average sound levels generated by aircraft flight operations" associated with DIA.

(Ex. 4 at 2; Ex. 1 at § 2.31). The parties have not raised any violation of the 65 Ldn noise standard in this action.

> The second noise standard is referred to as "Leq(24)." The Leq(24) is the 365-day average of the steady A-weighted sound level in decibels over a 24-hour period that has the same acoustic energy as the fluctuating noise during that period which is generated by aircraft flight operations associated with DIA. (Ex. 4 at 2; Ex. 1 at § 2.32). Leq(24) is measured at various grid points established in areas surrounding DIA. The grid points were established to protect, among other things, both residential areas existing at the time the IGA was signed and the wildlife sanctuary at Barr Lake.

(Ex. 4 at 2; Ex. 1 at § 5.3.2). The Remote Monitoring Terminals ("RMT") locations were to be within 1.5 miles of each grid point. (Ex. 1 at § 5.4.1). The NEPS values would then be calculated through extrapolation. Trial Tr. Day 2 at 31-32.

The 65 dB Ldn contour was traditionally used by the FAA and other agencies to determine areas consistent with residential development. However, the concept of the new airport was to place the airport at a distance from existing residential neighborhoods. Additional noise standards were set to protect and monitor these residential areas from excessive airport noise. As these areas were at a distance from the airport, the parties were aware that the enforcement levels were lower than noise levels traditionally monitored at airports. Trial Tr. Day 2 at 16-17.

IGA Section 5.5.1 provides that "an actual Leq(24) value for any grid point . . . which exceeds the Leq(24) NEPS for that grid point by 2 dB or less" is a Class I NEPS violation, and IGA Section 5.5.2 provides that "an actual Leq(24) value for any grid point . . . which exceeds the NEPS Leq(24) for that grid point by more than 2 dB" is a Class II NEPS violation. (Ex. 1 at § 5.5.1-5.5.2). The IGA permits Adams County to seek relief for Class II NEPS violations. The Court previously summarized the procedure as follows:

> Upon a determination that there has been a Class II violation, based on data generated by Denver's noise monitoring system, Adams or any city within which a violation occurs may send a written notice of the violation to Denver. Exhibit 1, ¶ 5.5.2.1. Upon receipt of such notice, Denver may undertake a study to determine if the NEPS were violated due to extraordinary weather conditions or unusual military activity at DIA. Exhibit 1, ¶ 5.5.2.1. If, within 60 days of the notice of violation, Adams approves a determination by Denver that the violation was caused by extraordinary weather or unusual military activity, the provisions of paragraph 5.5.1.1 regarding Class I violations shall apply. If Adams does not approve such a determination, the enforcement provisions of paragraph 5.6 apply. Exhibit 1, ¶ 5.5.2.1.
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> Paragraph 5.6 describes the enforcement process which "shall be followed whenever a Class II violation of the NEPS has occurred." When a Class II violation occurs, Denver and Adams shall jointly petition the Federal Aviation Administration ("FAA") to implement whatever changes in flight procedures or airport operations are necessary to achieve and maintain the NEPS. Exhibit 1, ¶ 5.6.1. If the FAA fails to act to bring noise levels into compliance with the NEPS, Denver shall exercise its authority as Airport Proprietor to impose such rules and regulations as will achieve and maintain the NEPS. Exhibit 1, ¶ 5.6.2. Unless Adams consents otherwise, the FAA has failed to act when the FAA has not stated its intention to implement changes within 180 days of the joint petition, or if the FAA has stated its intention to implement such changes, but has not done so, within one year of the joint petition. Exhibit 1, ¶ 5.6.2.
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> If Denver has not exercised its authority as Airport Proprietor within 90 days of the FAA's failure to act, then Adams or any city within which a violation has occurred may seek a court order compelling Denver to do so. Exhibit 1, ¶ 5.6.3. The parties stipulated that any legal action "shall lie in the First Judicial District . . . ." Exhibit 1, ¶ 11.3. This Court has asserted jurisdiction for the purpose of this action. "If the court, after hearing the matter, does not order Denver to exercise its authority to impose such rules and regulations as will achieve and maintain the NEPS, or determines that Denver does not have such authority, then [DIA] shall make a noise mitigation payment of $500,000 for each violation to Adams County or to the city, if any, within which the property affected by the NEPS violation lies." Exhibit 1, ¶ 5.6.3.

(Ex. 4 at 3-4).

C. Noise monitoring under the IGA

Section 5.4 of the IGA provides: "As part of the construction and operation of [the Airport], Denver shall install and operate a *noise monitoring system* capable of recording noise levels sufficient to calculate Ldn noise contours and Leq(24) values for the purpose of monitoring and enforcing the NEPS." (Ex. 1 at §5.4) (emphasis added). IGA Section 5.4.1 requires the establishment of "[p]ermanent noise monitoring stations . . . in such a way that each grid point for which a NEPS has been established shall be no more than one and one-half miles from a monitoring station." *Id.* IGA Section 5.4.2 provides that "the data generated by the [noise monitoring] system will be made available to Adams County and its cities on a real-time, continuous basis," and further requires Denver to "publish data in quarterly reports, to which Adams County and its cities shall have immediate access." *Id.* IGA Section 5.4.3 provides that the "data generated by the noise monitoring system shall be used to calculate on an annual basis . . . the actual 65 Ldn noise contours and the actual Leq(24) values at the grid points . . . in order to determine compliance by [the Airport] with the NEPS." *Id.*

At the time of the agreement, the parties were aware that a noise monitoring system capable of measuring aircraft noise levels at the locations of the NEPS grid points did not exist and would have to be developed. The parties were also aware the noise monitoring system might not be completely accurate. The parties agreed to enter into the IGA with this understanding. Trial Tr. Day 2 at 35-38; (Ex. 6 at 8). The parties were also aware in 1988 that the models used to predict the noise levels were inherently imprecise, and the FAA's Integrated Noise Model ("INM"), which was used to model the predicted noise levels tended to understate the actual noise levels. Trial Tr. Day 2 at 14; (Ex. 100 at 31). Despite this knowledge, the parties agreed to fixed noise standards at the NEPS grid points. (Ex. 1; Ex. F).

The IGA was signed in April 1988. By June 1988, Harris Miller Miller & Hanson, Inc. ("HMMH") was hired to develop a noise monitoring system. Andy Harris of HMMH knew their task was to develop a noise monitoring system to comply with the noise monitoring compliance with the NEPS. Their assumption was the agreement was workable as written. HMMH believed they would be pushing technologies, but they had several years available to develop the system. (Ex. 97).

In November 1988, HMMH stated that the system could be greatly improved with the availability of near real-time radar and if made available, aircraft identification would become nearly positive. (Ex. 100 at 36). In September 1991, HMMH sent a proposed contract to Denver for a demonstration project to test new technology. (Ex. 102). The contract's scope of work proposed a budget for a noise monitoring system of $1.1 million. (Ex. 102 at 29). A month later, Denver rejected the HMMH proposed contract for the development of the noise monitoring technology. Denver notified Adams County on October 15, 1991 of its decision not to install a noise monitoring system and instead model the noise levels with the FAA's Integrated Noise Model (INM). (Ex. 103).

Adams County objected and insisted on the installation of a noise monitoring system. Extensive negotiations ensued where various proposals and counterproposals were made, including suggestions of the temporary use of modeling until the noise monitoring system had been proven and Denver's insistence that

the cost of installation of the noise monitoring system be capped and shared with Adams County. (Ex.s 105; 106; 107; 108; 110).

The parties eventually failed to reach an agreement, and Adams County filed a lawsuit in the Jefferson County District Court in June 1992 seeking a court order compelling the IGA requirement of an installation of the noise monitoring system. (Ex. 111). Almost contemporaneous with the filing of the lawsuit, Andy Harris of HMMH advised Denver in May 1992 that he believed a company called Technology Integration, Inc. could develop a noise monitoring system that could distinguish between aircraft and non-aircraft noise even where aircraft noise was close to the background noise. (Ex. 108).

In August 1992, Denver filed a Motion for Summary Judgment seeking dismissal of the Adams County lawsuit. (Ex. 112). In its Motion, Denver noted its obligation to install a noise monitoring system capable of recording noise levels to sufficiently calculate the NEPS. Denver denied ever stating it did not intend to meet the IGA requirements if it was technologically possible to meet the standard. Denver went on to state that its noise consultant now believed recent improvements in technology would result in proposals that will allow Denver to meet the obligations of the IGA. (Ex. 112 at 4). Denver stated it was proceeding with a process that would result in the installation and operation of a state-of-the-art noise monitoring system. (Ex. 112 at 5). Denver asserted Adams County was asking the Court to order Denver to do what they were already doing, and therefore the action was premature. (Ex. 112 at 2-6). Based on these representations and later actions by Denver to obtain the noise monitoring system, the 1992 lawsuit was dismissed without prejudice in February 1993. (Ex. 114).

D. ANOMS

Thereafter, Denver entered into a contract to design the system. (Ex. 115). Denver entered into a contract with Technology Integration, Inc. that installed ANOMS (Airport Noise and Operations Monitoring System) at DIA as a state-of-the-art aircraft noise monitoring system. After installation, the ANOMS system was field tested for accuracy and found compliant with the specifications of the contract. The contract expressly required differentiation of aircraft noise and community noise, DIA local aircraft from other aircraft, and local aircraft noise from simultaneously occurring community noise. Trial Tr. Day 3 at 194-5.

During the installation of the noise monitoring system, Adams County retained BBN Systems and Technologies ("BBN") to review the system being installed by DIA. Dr. Fidell of BBN provided reports with his observations and concerns about the proposed systems. (Ex. GG). Adams County provided the report to Denver along with their objections to the proposed system. (Ex. TT). Despite the objections, Denver proceeded to install ANOMS.

The original ANOMS was developed by Technology Integration, Inc. and installed at DIA prior to the commencement of operations in February 1995. The technology was subsequently passed in 1999 to the corporate predecessor of B&K. Since 1995, the program has undergone several software improvements through ANOMS Versions 4, 5, 6 and 8. Denver replaced and upgraded the noise monitoring terminals in 2012. Trial Tr. Day 4 at 90-4. ANOMS was the noise monitoring system installed at DIA during the annual

years 2014 through 2016. Evidence at trial established that ANOMS is a state-of-the-art noise monitoring system owned and distributed by B&K. The ANOMS noise monitoring system is widely used at over 200 airports worldwide and constitutes 70% of the airport noise monitoring market. Trial Tr. Day 4 at 92-4.

DIA was purposefully located at a distance from any highly populated residential areas in Adams County. When the IGA was signed, it was recognized by all parties that the NEPS grid point areas would be a distance from the airport, and therefore the aircraft noise or the noise generated by the aircraft would be adjacent to background noise (i.e., a low signal-to-noise ratio) and make detection and identification of aircraft noise difficult.

To deal with this problem, the ANOMS system installed at DIA utilized a floating threshold which allows the detection threshold of the noise events to rise and fall with the background noise. This was designed to assist detection in areas with a low signal-to-noise ratio. Trial Tr. Day 4 at 98-101. The ANOMS system also used a detection and correlation algorithm. Trial Tr. Day 4 at 106-10. The detection algorithm uses 35 variables of characteristics of an aircraft noise event placed into five categories. Each of the five categories are weighed, and only if the product of all categories reaches a certain level is it characterized as a noise event. Trial Tr. Day 4 at 102-12.

Thereafter, any identified noise event must pass through a correlation algorithm. The correlation algorithm takes radar data, and through three weighted categories determines if a DIA related aircraft was in the area and could be matched to the noise event. Again, only if the product of the three categories shows a significant correlation is the event categorized as an aircraft noise event. Trial Tr. Day 4 at 106-8.

Once the aircraft noise events are categorized, ANOMS identifies the highest level of noise (Lmax), and together with the duration of the event applies a standardized formula to calculate the sound exposure limit (SEL) for each aircraft noise event. The total energy of all aircraft SEL during a defined time period are logarithmically summed to determine the Leq (equivalent sound limit). The Leq24 metric used in the IGA is the logarithmic sum of all aircraft SELs during a 24-hour period. The annual Leq24 is the average of all daily Leq24s. When making this calculation, the logarithmic sum of all the Leq24s for the year are divided by a denominator representing the number of days data is available from the individual RMT. Trial Tr. Day 1 at 166-167; Trial Tr. Day 5 at 24-5.

E. ARTSMAP

ARTSMAP is a proprietary noise model developed by Denver's consultant, HMMH, under a separate contract. It is a noise model based upon NOISEMAP, an aircraft noise model originally developed for military use. While ARTSMAP does receive a radar feed compiled by the B&K ANOMS system, the noise monitoring systems and the noise model systems are totally separate. The noise monitoring systems and the noise model are separately serviced, updated and maintained by their separate vendors, and neither has responsibility for the other's system. Trial Tr. Day 4 at 96.

ARTSMAP was developed for Denver, to "model the operations of every flight into and out of [the Airport] from the radar data." Dep. Harris at 36:12–17, 37:19– 38:1, July 1, 1999. ARTSMAP uses the input from FAA radar and flight track data to model noise from aircraft using the Airport. Trial Tr. vol. 3 at 126:19–127:24, Oct. 2, 2019. By using actual flight track data, ARTSMAP models every flight based on its actual flight path and actual altitude. *Id.* at 124:11–126:13. Further, by modeling every flight track, ARTSMAP does not omit any aircraft operation from its calculations nor does it include any false positives or contamination from non-aircraft sources. *Id.* at 123:17–124:2, 126:19–127:24; *see also id*. at 34:16–36:22. The computational engine was derived from NOISEMAP Version 5.2, which was released in 1989. (Ex. 87-004; Ex. 45). The INM Database 4.10 issued in December 1993 was used as the ARTSMAP aircraft data base. (Ex. 84-4; Exhibit 45). The computation engine used was SAE AIR 1751, as drafted in 1981 (Ex. 44) as its lateral attenuation algorithms. (Ex. 47). A lateral attenuation algorithm is a calculation procedure used to calculate the noise reduction from an aircraft to a location on the ground, taking into consideration aircraft design and engine placement, atmospheric absorption and ground effects. (Tr. Day 2 at 130-133). ARTSMAP still uses the 1981 algorithm, and the program cannot be updated to reflect current aircraft noise, which, according to Elliot Cutler, are now quieter in the new fleets, or updated temperatures, humidity, atmospheric absorption rates, and other ground effects. The ARTSMAP program was "locked" in 1996 by a HMMH employee, and remains locked to any updates today.

At the trial during the 1998 litigation, Denver argued the ARTSMAP model data was only "calculated" noise levels and not "actual" noise levels, and the Plaintiffs could not use the ARTSMAP model data in the Annual Reports to enforce the NEPS. (Ex. 3 at 21). The Trial Court found the IGA did not contemplate the Plaintiffs being required to incur the costs necessary to calculate the NEPS values, and it was Denver's sole responsibility to provide the NEPS data. (Ex. 3 at 13-5). Denver reports noise levels at DIA in Annual Reports. In the first three annual reports, Denver reported both the ARTSMAP modeling numbers, and the ANOMS calculations. Thereafter, Denver only reported ARTSMAP modeling numbers. After the 1999 trial, Denver continued to report the NEPS values at the grid points using only ARTSMAP data. As no other enforcement data was available other than the ARTSMAP model calculations, the Plaintiffs and Defendant settled subsequent-year violations based upon the Courts' ruling in the 1998 case. The model data reported by Denver in each annual report was used to determine noise violations, the parties used the Courts' ruling that violations not cured in the next annual year constitute a compensable noise mitigation payment, and the parties calculated prejudgment interest as set by the Trial Court and the Court of Appeals. (Ex. 5 at 1-2; Ex. 6 at 8-9).

III. PREVIOUS COURT RULINGS

As described above, the instant litigation is not the first court case to arise from the IGA. The 1998 litigation ended in a trial and an appellate case. The trial court and the Colorado Court of Appeals made the following findings and rulings which are relevant here:

1. Under statutory and contractual provisions, Adams County and its Cities have standing to pursue remedies under the 1988 IGA. (Ex. 6 at 33).

2. The language of the 1988 IGA is unambiguous as to the definition of the actual noise levels constituting the NEPS and the binding nature of those definitions on the parties to the 1988 IGA. (Ex. 3 at 14; Ex. 4 at 5).

3. Paragraph 5.4 requires that Denver shall install and operate a noise monitoring system "for the purpose of monitoring and enforcing the NEPS." (Ex. 1 § 5.4) (emphasis added). The IGA defines "Annual Calculation" and states that the "data generated by the noise monitoring system shall be used to calculate on an annual basis . . . the actual 65 Ldn noise contours and the actual Leq (24) values . . . in order to determine compliance "by DIA" with the NEPS established in paragraph 5.3." (Ex. 1 § 5.4.3) (emphasis added). The plain and unambiguous language of these provisions of the IGA provide that the noise monitoring equipment shall measure the actual values of the NEPS to determine DIA's compliance. (Ex. 3 at 14; Ex. 4 at 19).

4. Denver is obligated to install a noise monitoring system for the purpose of monitoring and enforcing NEPS. (Ex. 3 at 14; Ex. 4 at 5; Ex. 6 at 34).

5. At the time the parties entered into the IGA, they were aware the technology to create a noise monitoring system capable of generating accurate measurements of the actual noise generated by DIA aircraft at the grid points did not exist. (Ex. 4 at 19).

6. The plain language of the IGA establishes the parties agreed it would be Denver's responsibility to develop a system sufficient to comply with the noise monitoring requirements. (Ex. 4 at 19).

7. It was reasonably foreseeable at the time the parties entered into the IGA that the noise monitoring system may not be completely accurate, and Denver entered into the IGA with this understanding. In addition, Denver had not demonstrated any change of circumstance rendering its promise to comply with the NEPS different from what the parties responsibly should have contemplated when they entered into the IGA. (Ex. 4 at 19; Ex. 6 at 8).

8. Plaintiffs were entitled to rely on the Annual Reports which set forth the NEPS violations, as the basis for their claims. (Ex. 4 at 5).

9. The noise mitigation payments of the 1988 IGA constitute a liquidated damage provision. (Ex. 3 at 22; Ex. 4 at 5, 23). The $500,000 noise mitigation payment per violation was a reasonable estimate of the potential actual damages that a breach of the NEPS could cause at the time the parties executed the IGA. (Ex. 4 at 30-3). The $500,000 per violation noise mitigation payments are valid and enforceable liquidated damage provisions under controlling Colorado law. (Ex. 4 at 33; Ex. 6 at 4-6).

10. The noise mitigation payment provision is not, as a matter of law, an unenforceable penalty. (Ex. 4 at 5, 23-3).

11. Adams County and its Cities have no obligation to prove the cause of the NEPS violations or what rules and regulations could be adopted by Denver to achieve and maintain the NEPS. (Ex. 3 at 15-6; Ex. 4 at 5, 21; Ex. 6 at 34).

12. The parties contemplated the 1988 IGA would be in effect, and that DIA would operate, for up to 50 to 100 years into the future. (Ex. 4 at 24; Ex. 6 at 4).

13. The NEPS grid points were established to act as a noise fence or wall to protect not only those properties in the immediate vicinity at a given grid point but also to protect those communities beyond. (Ex. 4 at 31-2; Ex. 6 at 4). Otherwise, protection provided by these remote grid points would be insignificant or nonexistent. (Ex. 4 at 31).

14. The parties always understood if the NEPS were violated, the violations would cause damage to Adams County and its Cities, and noise levels above the NEPS levels would cause actual damages in the areas protected by the grid points and 65 Ldn contours. (Ex. 4 at 34-6; Ex. 6 at 31).

15. Both Plaintiffs' and Denver's chief negotiators, Cutler and Spensley, testified that throughout the negotiations of the IGA, the parties presumed Plaintiffs would sustain damages if the NEPS provisions were violated. Thus, the parties agreed if the NEPS were violated, Plaintiffs would be damaged by exposure to higher levels of aircraft noise than they agreed to in the IGA. (Ex. 4 at 3).

16. The Court finds Plaintiffs have demonstrated that NEPS violations caused actual damages in the areas protected by the grid points. (Ex. 4 at 34-5).

17. The Court finds the evidence establishes the increased noise levels caused actual damages to Plaintiffs, and therefore, the noise mitigation payment provision of the IGA is enforceable. (Ex. 4 at 36).

18. Prejudgment interest under CRS § 5-12-102 runs from the date of the breach of contract, determined to be the last day of the year in violation to the date of Judgment. (Ex. 5 at 2-3; Ex. 6 at 9).

IV. PLAINTIFFS' FIRST CLAIM: USE OF ANOMS

In their first claim for relief, Plaintiffs seek (1) a determination that the IGA requires Denver to install and operate an airport noise "monitoring" system, as opposed to a noise "modeling" system; (2) a determination that Denver is in breach of this requirement by using ARTSMAP, a noise modeling system, to measure NEPS compliance; (3) an injunction ordering Denver not to use the ARTSMAP system to calculate or report the NEPS; (4) an order for specific performance requiring Denver to recalculate and report annual calculations of the NEPS for 2014 through 2018 and future years until ANOMS is replaced with an improved and compliant monitoring system; and (5) should Denver argue (and presumably succeed in proving) the ANOMS system is not sufficiently accurate to measure NEPS compliance, an order for specific performance

requiring Denver to install a noise monitoring system, agreed to by Plaintiffs, that is sufficiently accurate to measure NEPS compliance.

The plain language of the IGA requires the installation and use of a noise monitoring system to measure compliance with the NEPS. Because ANOMS was the only noise monitoring system installed at DIA during the applicable period, Plaintiffs may rely on the data measured by the ANOMS system to determine compliance with the NEPS.

The primary goal of interpreting a contract is to determine and give effect to the intent of the parties. *USI Props. East, Inc. v. Simpson*, 938 P.2d 168 (Colo. 1997); *Fed. Deposit Ins. Corp. v. Fisher*, 2013 CO 5, ¶ 11, 292 P.3d 934; *Condo v. Conners*, 266 P.3d 1110 (Colo. 2011). Where possible, the intent of the parties is determined from the language of the written contract itself. *Id.; Draper v. DeFrenchi-Gordineer*, 282 P.3d 489 (Colo. App. 2011) (the primary goal of contract interpretation is to give effect to the intent of the parties, which is determined primarily from the language of the agreement). "If the contract is complete and free from ambiguity, we deem it to represent the parties' intent and enforce it based on the plain and generally accepted meaning of the words used." *Sch. Dist. No. 1 v. Denver Classroom Teachers Ass'n*, 2019 CO 5, ¶ 14, 433 P.3d 38, 41; *Rocky Mountain Expl., Inc. v. Davis Graham & Stubbs LLP*, 2018 CO 54, ¶ 59, 420 P.3d 223; *Ad Two, Inc. v. City & County of Denver*, 9 P.3d 373 (Colo. 2000).

However, extrinsic evidence may be conditionally admitted to determine whether a contract is ambiguous. *Lazy Dog Ranch v. Telluray Ranch Corp.*, 965 P.2d 1229 (Colo. 1998) (rejecting rigid application of "four corners" rule); *accord East Ridge of Fort Collins, LLC v. Larimer & Weld Irrigation Co.*, 109 P.3d 969 (Colo. 2005); *Lobato v. Taylor*, 71 P.3d 938 (Colo. 2002) (fact that extrinsic evidence may reveal ambiguities in contract is especially true when interpreting ancient document). Moreover, a contract must be interpreted considering the context and circumstances of the transaction. *First Christian Assembly of God v. City & County of Denver*, 122 P.3d 1089 (Colo. App. 2005).

The provisions of a contract are ambiguous when they are susceptible to more than one reasonable interpretation. *Am. Family Mut. Ins. Co. v. Hansen*, 2016 CO 46, ¶ 23, 375 P.3d 115. The fact the parties may have different opinions regarding the interpretation of a contract does not itself mean the contract is ambiguous. *See Filatov v. Turnage*, 2019 COA 120, ¶ 14 ("While the parties agree that these provisions are unambiguous, they disagree as to how they should be interpreted."); *Mashburn v. Wilson*, 701 P.2d 67 (Colo. App. 1984). The court "should not allow a hyper-technical reading of the language in a contract to defeat the intention of the parties." *Ad Two, Inc.*, 9 P.3d at 377. The conduct of the parties may not be used to contradict the contract's plain, unambiguous meaning. *Great W. Sugar Co. v. White*, 47 Colo. 547, 108 P. 156 (1910). The entire agreement is to be considered in determining the existence or nature of the contractual duties. *Federal Deposit Insurance Corp. v. Fisher*, 2013 COA 5, ¶ 11, 292 P.3d 934; *Allstate Insurance Co. v. Huizar*, 52 P.3d 816, 819 (Colo. 2002) ("[T]he meaning of a contract must be determined by examination of the entire instrument, and not by viewing clauses or phrases in isolation.")

Section 5.4 of the IGA requires: "Denver shall install and operate a noise monitoring system capable of recording noise levels sufficient to calculate LDN contours and Leq24 values for the purpose of monitoring and enforcing the NEPS." (Ex. 1). Denver takes the position that the ARTSMAP noise model system complies with this requirement. Plaintiffs take the position that the ARTSMAP system does not comply with the IGA requirements. They argue Denver is not in compliance with the IGA as only ARTSMAP was used to determine compliance with the NEPS in violation of IGA § 5.4.3. Plaintiffs instead take the position that data from the ANOMS system should be used to determine compliance with the NEPS.

The Court finds section 5.4 is explicit in its requirement of using noise monitors physically located near the NEPS grid points to measure the actual noise generated by DIA airplanes and using those measurements to determine NEPS compliance. The noise monitoring system must be "capable of recording noise levels." (Ex. 1 at § 5.4). The noise monitoring system must involve "permanent noise monitoring stations. . . established and maintained in the noise-sensitive areas." (Ex. 1 § 5.4.1). The data from the monitoring stations "will be made available to Adams . . . on a real-time, continuous basis" and Denver "will publish data in quarterly reports." (Ex. 1 at § 5.4.2). "The data from the noise monitoring system shall be used to calculate on an annual basis . . . the actual 54 Ldn noise contours and the actual Leq(24) values . . . in order to determine compliance by [Denver] with the NEPS." (Ex. 1 § 5.4.3). The Court finds the plain language of the IGA requires the measurement of the actual noise levels generated by aircraft using noise monitors near the grid points. The Court further finds the ANOMS system complies with this requirement because it uses noise monitors to measure the actual sound in the noise sensitive areas. The ARTSMAP does not use noise monitors near the grid points as required by section 5.4 and the system does not record the actual sound emitted by aircraft. Therefore, the Court finds ARTSMAP does not comply with the IGA's requirement of measuring noise to determine NEPS compliance.

Testimony at trial and exhibits admitted into evidence establish that a noise monitoring system and a noise model system are fundamentally different technologies. Trial Tr. Day 1 at 134; Trial Tr. Day 5 at 4-5). Dr. Fidell testified credibly that there is no noise system that incorporates measuring and modeling. The meaning of the terms, both back in 1988 and the present, are such that a noise monitoring system uses actual onsite measurements of noise at noise monitor terminals, processes the measurements in order to separate aircraft noise from other events, and sums the noise totals. Trial Tr. Day 1 at 106-12; Trial Tr. Day 4 at 93-108). Conversely, a noise model system makes no use of actual measurements, but relies solely on radar tracks to establish location and time of the aircraft, uses performance and noise data for the type of aircraft, determines the distance between the aircraft and the point of interest (slant distance), and then uses the lateral attenuation algorithm to estimate how much noise would reach the point of interest. Trial Tr. Day 1 at 104-5).

The Court finds Denver has separately installed both a noise monitoring system, ANOMS, and a separate noise modeling system, ARTSMAP. The Court finds the only noise monitoring system installed at DIA in the 2014 to 2016 period at issue here was the ANOMS system. The parties spent a great deal of time at trial presenting evidence as to the strengths and weaknesses of the ARTSMAP and ANOMS systems. The main issue in the ARTSMAP vs ANOMS struggle is the low signal to noise ratio at the NEPS grid-points.

That is, some of the grid points are at such a distance from the airport and airplanes, that it is difficult for a noise monitoring system like ANOMS to distinguish airport noise from community noise. However, the role of this Court is not to decide which system or a hybrid system, is best. The role of this Court is to determine which kind of system the parties agreed to use for measuring NEPS compliance. Here, the parties chose to use a system that measures the actual noise of aircraft near the grid points, not a modeling system.

Under the IGA, "Denver is obligated to install a noise monitoring system for the purpose of monitoring and enforcing NEPS" (Ex. 3 at 14; Ex. 4 at 5; Ex. 6 at 34), and "The plain language of the IGA establishes the parties agreed it would be Denver's responsibility to develop a system sufficient to comply with the noise monitoring requirements." (Ex. 4 at 19). If Denver believes the accuracy of their chosen noise monitoring system is not acceptable, they have the ability under the IGA to develop and install a better system. Under the IGA, the parties agreed Denver would assume the risk of an insufficiently accurate noise monitoring system. Denver was also given the responsibility for developing and installing the noise monitoring system. Therefore, it is clear the parties intended Denver to be incentivized to develop an accurate noise monitoring system by giving it the power to choose and install the system, while assigning it the risk of inaccurate measurements if the system did not perform well. Denver cannot now avoid liability by claiming the ANOMS system, which Denver chose and continues to maintain, is too inaccurate to be relied upon.

The role of this Court is also not to second-guess the wisdom of the parties' choices. Instead, the Court determines what risks were knowingly undertaken by each party and enforces the choices they made knowing those risks. Denver pled the affirmative defenses of frustration of purpose and impossibility. However, both of those defenses "yield to a contrary agreement by which a party may assume a greater as well as a lesser obligation. By such an agreement, for example, a party may undertake to achieve a result irrespective of supervening events that may render its achievement impossible, and if he does so his non-performance is a breach even if it is caused by such an event." Restatement (Second) of Contracts § 261 (1981), comment *a*; *City of Littleton v. Employers Fire Ins. Co.*, 169 Colo. 104, 113, 453 P.2d 810, 814 (1969) ("The exception to the defense of impossibility is applicable where, on an interpretation of the contract in the light of accompanying circumstances and usages, the risk of impossibility due to presently unknown facts is clearly assumed by the promisor"); *see Magnetic Copy Servs., Inc. v. Seismic Specialists, Inc.*, 805 P.2d 1161 (Colo. App. 1990). Put another way, "A party may, by appropriate language, agree to perform in spite of impracticability that would otherwise justify his non-performance . . . He can then be held liable for damages although he cannot perform," and "even absent an express agreement, a court may decide, after considering all the circumstances, that a party impliedly assumed such a greater obligation. Restatement (Second) of Contracts § 261 (1981), Comment *c*. This issue is especially pertinent in the context of "technology pushing" contracts:

> Whether a party has assumed such an obligation is a particularly troublesome question where the parties make a contract calling for technological development under a mistaken assumption that such development either is feasible under the existing state of the art or will become feasible as a result of a technological breakthrough . . . In such a case the court will determine whether the obligor took the risk that development might not be practicable by

> looking at such factors as the history of the negotiations, the relative expertise and bargaining power of the parties, their respective roles with regard to plans and specifications, the nature of the performances and the state of technology in the industry.

Restatement (Second) of Contracts § 266 (1981), Comment *b*.

In this case, the Court need not detail the merits and shortcomings of the ARTSMAP and ANOMS systems if future shortcomings, or even outright inability to perform in certain respects, were understood by the parties when the IGA was formed. It appears from the credible evidence that Denver assumed the risk of shortcomings of any future noise monitoring system under the IGA. Denver agreed to use a noise monitoring system that uses actual noise measurements to determine NEPS compliance, knowing that such a system did not exist at the time, and that future monitoring systems might not be entirely accurate. Denver assumed that risk when it entered the IGA and cannot now claim that it should not have to comply with the noise monitoring system requirement due to the inaccuracy of that system.

The Court already found in previous rulings that "At the time the parties entered into the IGA, they were aware that the technology to create a noise monitoring system capable of generating accurate measurements of the actual noise generated by DIA aircraft at the grid points did not exist," (Ex. 4 at 19) and that:

> It was reasonably foreseeable at the time the parties entered into the IGA that the noise monitoring system might not be completely accurate, and that Denver entered into the IGA with this understanding. In addition, Denver had not demonstrated any change of circumstance rendering its promise to comply with the NEPS different from what the parties responsibly should have contemplated when they entered into the IGA.

(Ex. 4 at 19; Ex. 6 at 8).

As to each of Plaintiffs' requests in its first claim for relief, the Court finds and orders: (1) the IGA requires the installation of a noise monitoring system, as opposed to a noise modeling system, that measures actual noise levels; (2) the ARTSMAP system does not measure actual noise levels, is not a noise monitoring system as defined in the IGA, and therefore Denver is in breach of the IGA by using ARTSMAP to measure NEPS compliance; (3) The Court finds an injunction ordering Denver not to use the ARTSMAP system to calculate or report the NEPS for purposes of meeting the IGA's reporting requirement is not necessary as the Court has found such a use of ARTSMAP would be a breach of the IGA; (4) because the ANOMS system is the only noise monitoring system installed at DIA, Plaintiffs may rely on the data measured by the ANOMS system to determine compliance with the NEPS and Denver must report NEPS compliance based on the ANOMS system so long as ANOMS remains as the only noise monitoring system installed at the airport; and (5) the Court declines to grant an order for specific performance regarding the installation of a new noise monitoring system because the Court did not find the ANOMS system to be so inaccurate as to require such a change and for the same reasons explained below regarding Plaintiffs' fourth claim for relief.

V. PLAINTIFFS' SECOND CLAIM: INSTALLATION OF NOISE MONITORING TERMINALS

In their second claim for relief, Plaintiffs seek (1) a declaration that the IGA requires Denver to install a sufficient number of noise monitoring terminals so that each grid point has a noise monitoring terminal within 1.5 miles; (2) a declaration that Denver is in violation of this provision; (3) an order of specific performance requiring Denver to add sufficient noise monitoring terminals to meet the IGA requirements; (4) a declaration that any noise monitoring system be "capable" of recording noise levels sufficient to calculate NEPS compliance, and that the current system fails to capture a significant number of local aircraft noise events; (5) an order for specific performance requiring Denver to install a noise monitoring system meets current industry standards and the state of the art, that the system be validated by initial and annual testing to establish it is sufficiently accurate; and (6) that the court retain continuing jurisdiction over the case to monitor compliance.

IGA section 5.4.1 requires the establishment of "[p]ermanent noise monitoring stations . . . in such a way that each grid point for which a NEPS has been established shall be no more than [1.5] miles from a monitoring station." (Ex. 1 at 15).

At trial, Denver demonstrated when evaluating locations for establishing noise monitors as required by the IGA, it would be impossible to use noise monitors to accurately measure Leq(24) values at certain locations with background noise levels greater than those caused by aircraft overflights from the Airport, such as industrial areas or highway interchange expanses. Trial Tr. vol. 3 at 165:12–167:3, Oct. 2, 2019; (Ex. LL).

Denver made Adams County aware of this difficulty with siting certain noise monitors, and of its intent not to install noise monitors at those locations, which would leave some NEPS points more than 1.5 miles from the nearest noise monitor. (Ex.s LL; MM). At trial, Cutler recalled Adams County's agreement during the 1991 to 1993 period that it would waive the 1.5-mile requirement with respect to some of the NEPS points and confirmed that this agreement is reflected in the location of the monitors as they exist today. Trial Tr. vol. 2 at 103:23–104:13, Oct. 1, 2019.

Consistent with this waiver, McKee testified that he was not aware of any requests by Adams County to Denver between 1995 and 2017 to add monitors so that there would be a monitor located within 1.5 miles of each NEPS grid point. Trial Tr. vol. 3 at 169:17– 21, Oct. 2, 2019.

Additionally, Adams County did not present sufficient credible evidence at trial regarding which monitors it claims do not meet the 1.5-mile requirement. Adams County also did not present any evidence showing that the location of noise monitors in any way impairs Denver's ability to comply with the IGA. By contrast, McKee testified he had visited the areas around the NEPS grid points where there is not a monitor located within 1.5 miles, and that these areas have highways, secondary streets, and residential, commercial, and industrial development. *Id.* at 168:15–169:10. McKee testified that the conditions that made siting a noise monitor within 1.5 miles of each NEPS point in these areas inappropriate in the early 1990s had not changed discernably today. *Id.* at 169:14–16.

Plaintiffs' second claim for relief also alleges the ANOMS system fails to adequately capture many of the local aircraft noise events and argues the ANOMS system is not adequately capable of recording noise levels sufficiently to properly calculate the NEPS as required to comply with the IGA. As a remedy, Plaintiffs request an order from the Court requiring Denver to install and operate a noise monitoring system capable of recording noise levels with sufficient accuracy to calculate and enforce the NEPS. Plaintiffs seek an order of specific performance or a mandatory injunction ordering Denver to install an airport noise monitoring system that complies with current industry standards and the state of the art, and that such system be validated by initial and by annual testing to establish that a high percentage of the local aircraft noise events are being captured by the system.

At trial however, Plaintiffs did not present evidence of under-reporting by the ANOMS system. Instead, Plaintiffs spent most of their time at trial presenting evidence to show the accuracy of the ANOMS system and even compared its results to other methodologies. Denver also did not present evidence that would show the ANOMS system is under-reporting noise levels. To the contrary, Denver attempted to show that the ANOMS system over-reports noise levels. Accordingly, Plaintiffs have failed to present sufficient credible evidence for the Court to find in their favor on the second claim for relief as it relates to installation of a noise monitoring system.

The Court therefore concludes, through either waiver or failure to present any evidence to support its claim, Plaintiffs did not meet their burden to show Denver is in violation of the IGA requirement to establish noise monitors so that each NEPS point is no more than 1.5 miles from the nearest noise monitor, nor that the ANOMS system is insufficiently capable of meeting the noise monitoring requirements under the IGA. Finally, the Court declines to grant an order for specific performance for the same reasons explained below regarding Plaintiffs' fourth claim for relief.

VI. PLAINTIFFS' THIRD CLAIM: ACCESS TO DATA

In their third claim for relief, Plaintiffs seek (1) a declaration that Denver is required to provide data from the ANOMS system on a continuous basis and that Denver has failed to meet this requirement; (2) an order for specific performance requiring Denver, at its own cost, to supply a terminal at Adams County's offices for monitoring of the system; and (3) an order for specific performance requiring Denver to provide Plaintiffs quarterly and annual reports of the ANOMS monitoring system.

Plaintiffs claim Denver has failed to make ANOMS data readily available to Plaintiffs, in violation of the IGA's requirement to make data from the noise monitoring system available to Adams County on a real-time continuous basis. (Third Am. Compl. ¶¶ 101 – 102).

IGA Section 5.4.2 provides "the data generated by the [noise monitoring] system will be made available to Adams County on a real-time, continuous basis." (Ex. 1 at § 5.4.2). The IGA specifically requires Denver to "publish data in quarterly reports, to which Adams County and its cities shall have immediate access," but provides no other instruction regarding how data shall be "made available." *Id.*

At trial, Denver presented affirmative evidence of the ways in which it makes data available to Plaintiffs. First, in the 1990s, Denver offered to make a data terminal available in Adams County's offices, to be paid for by Adams County, but Adams County declined this offer as cost-prohibitive. (Ex. GG at 7); Trial Tr. vol. 3 at 12:24–13:17, 158:12–159:5, Oct. 2, 2019. Instead, Denver made a computer terminal available at the Airport for Adams County to access and use to extract data during normal business hours. Trial Tr. vol. 3 at 159:6– 159:18, Oct. 2, 2019. Denver still maintains that terminal today. *Id.* at 159:22–160:2.

Second, during the Airport's first three years of operations, the annual noise reports also included a comparison of measurements of Leq(24) values taken at each noise monitor and ARTSMAP-calculated Leq(24) values at those locations. Trial Tr. vol. 3 at 162:1–21, Oct. 2, 2019; *see also* (Ex. B at 3); (Ex. C at 3); (Ex. D at 3). McKee testified that Adams County never requested Denver return to providing monitor information in its noise reports or provide monitor information in some other way. Trial Tr. vol. 3 at 163:2–16, Oct. 2, 2019.

Third, Denver makes a webpage available to Adams County and the public that shows aircraft departing from and arriving at the Airport, and shows the noise monitors and real-time, continuous noise data generated by the system. *Id*. at 136:9–137:6, 160:3–18.

Finally, Denver makes data available upon request, as it did when requested by Adams County for the Fidell-Sneddon analysis. *Id.* at 160:19–23. Like McKee, Kim Day, Chief Executive Officer of the Airport, testified that prior to 2017, Adams County officials never expressed concerns to her about not receiving enough data or information from the noise monitoring system, or requested that Denver provide more data from the noise monitoring system. *Id.* at 64:22–65:1, 65:8–11. Both Day and McKee testified that if Adams County wanted more access to data, Denver would be willing to provide that access. *Id.* at 67:18–21, 163:17–20.

Adams County did not present any evidence at trial that refuted Denver's evidence of Adams County's access to data. Adams County did not present any evidence to show that data from the noise monitoring system has not been "made available" as required by the IGA, or that Adams County has ever requested noise monitoring data from Denver and been denied. Adams County Commissioner Steve O'Dorisio testified that Denver makes noise monitor data available upon request, and that he was not aware of any effort by Adams County to obtain additional access to data prior to 2014. Trial Tr. vol. 1 at 74:6–75:7, Sept. 30, 2019. Adams County's Director of Public Works, Kristin Sullivan, also testified she was not aware of any Adams County plan or action to access data from Denver over the years, Dep. Sullivan 49:8–16, Aug. 8, 2019, nor was she aware of Adams County taking advantage of any of Denver's offers to provide access to noise monitoring data. *Id.* at 49:25–51:1. Sullivan did not think Adams County ever objected to the way Denver did or did not provide noise monitoring data between 1995 and 2015. *Id.* at 73:14–74:2.

The Court finds Plaintiffs have failed to meet their burden on this claim. Denver has made data from the noise monitoring system available to Plaintiffs, but Plaintiffs have chosen not to take advantage of that access to data. The Court concludes Plaintiffs have failed to demonstrate non-performance or a breach of contract on this claim.

VII. PLAINTIFFS' FOURTH CLAIM: ORDER FOR SPECIFIC PERFORMANCE

In their fourth claim for relief, Plaintiffs seek an order for specific performance requiring Denver to implement reasonable, non-discriminatory rules and regulations concerning airport operations to achieve and maintain compliance with the NEPS. IGA section 5.6.2 states that when the FAA fails to act, "Denver shall exercise its authority as the Airport Proprietor for the New Airport to impose such rules and regulations as will achieve and maintain the NEPS." If Denver does not exercise its authority per section 5.6.2, then Plaintiffs may seek an order for specific performance. (Ex. 1 at § 5.6.3). If the court declines to "order Denver to exercise its authority to impose such rules and regulations as will achieve and maintain the NEPS, or determines that Denver does not have such authority," then Denver "shall make a noise mitigation payment. . ." *Id.*

The Court declines to order specific performance to cure Class II NEPS violations. The Court's previous ruling in the 1998 litigation is also applicable to the evidence presented in the instant case and is incorporated herein. While Plaintiffs presented some evidence of technological measures Denver could take to improve the accuracy of the noise monitoring system, *see e.g.* (Ex. 27 at 46-7, App. A),

> At trial, Plaintiffs presented no evidence of the potential rules and regulations that could be adopted by Denver as Airport Proprietor that would in fact achieve and maintain the NEPS. . . It is clear to the Court that the Plaintiffs were not in [the] position of, and could not readily obtain, the information necessary to propose what rules and regulations Denver could impose to comply with the NEPS. Further, since it is Denver's obligation, pursuant to paragraph 5.6.2, to impose rules and regulations to achieve the NEPS, Denver has an implicit burden to identify such rules and regulations. At trial, Denver did not present any evidence of potential rules and regulations Denver could impose to achieve NEPS compliance. . .
>
> Clearly, the Court does not have the expertise to enter an order for specific performance in a principled fashion. Since the parties failed to present the requisite evidence, any order of specific performance would impose a burden of enforcement and supervision on the Court that would be disproportionate to any advantage gained from specific enforcement. Further, it appears that any order of specific performance by the Court would be impracticable if not impossible for Denver to perform, thereby entitling Plaintiffs to seek damages. Thus, the Court denies Plaintiffs' request for specific performance pursuant to paragraphs 5.6.2 and 5.6.3, and finds that Plaintiffs may assert a claim for the noise mitigation payments.

(Ex. 4 at 21-22) (internal citations omitted).

VIII. PLAINTIFFS' FIFTH CLAIM: LIQUIDATED DAMAGES

In their fifth claim for relief, Plaintiffs seek an order of judgment in favor of Plaintiffs against Denver in the amount of five hundred thousand dollars ($500,000) for each Class II violation that occurred during 2014, 2015 and 2016 that remained uncured in the succeeding annual year.

A. Evidence of Class II Violations

IGA Section 5.5.2 provides "an actual Leq(24) value for any grid point . . . which exceeds the NEPS Leq(24) for that grid point by more than 2 dB" is a Class II NEPS violation. (Ex. 1 at 15-16). The IGA permits Adams County to seek relief for Class II NEPS violations. (Ex. 1 at § 5.6.2-5.6.3). However, a Class II NEPS violation becomes actionable only if it is not subsequently cured. (Ex. 4 at 14, 17.)

The evidence at trial established that at a December 19, 2014 joint meeting between Denver and the Plaintiffs, representatives of Denver provided to Plaintiffs' representatives a package of materials. (Ex. 20). One of the documents in the package was a Noise Climate Report for the first nine months of 2014. (Ex. 20 at 22). No evidence was presented that the Noise Climate Report had previously been provided to Adams County or its Cities.

The Noise Climate Report provided the results of the ANOMS noise monitoring system at each of the noise monitoring terminals. The RMT data was later compared to nearby NEPS grid point values reported by Denver's ARTSMAP model for the same period of time. (Ex. 21). The comparison showed a wide discrepancy between values estimated by ARTSMAP and the values being measured by the ANOMS noise monitoring system. (Ex. 22).

In May 2017, Plaintiffs retained airport noise experts, Sneddon and Fidel, who both testified credibly at the trial regarding airport noise and the monitoring systems. Adams requested the noise monitoring data for the years 2014 through 2016. Denver's Noise Office produced the "hourly" noise levels for each of the 27 noise monitoring terminals. Denver also provided the output from the ARTSMAP system. Denver provided the 2014 through 2016 Noise Climate Reports. (Ex. 23). Denver later produced in discovery the Noise Climate Reports for 2006 through 2013. (Ex. 24).

Plaintiffs' experts noticed several anomalies in the provided data. This was raised with the Denver Noise Office. It was eventually determined that the regular calibration signals have been included in the noise monitoring data since the new monitoring terminals were installed in 2012. The 2014 – 2016 monitor data was corrected by the ANOMS vendor, B&K, and provided to Adams County's consultants. (See Ex. 26 at 12).

Upon receipt of the corrected ANOMS data for 2014 through 2016, Mr. Sneddon found additional anomalies, including remaining calibration signals, which he removed. He then logarithmically summed the hourly Leq values to obtain the Leq24 values for each RMT, and then calculated the annual values for each

year using the average of the daily averages per the IGA. (Ex. 1 § 2.3.2, 5.3.2 and 5.4.3); Trial Tr. Day 1 at 118-120.

Mr. Sneddon next extrapolated the RMT values to the NEPS grid points as contemplated by the IGA. Trial Tr. Day 2 at 31-32. Mr. Sneddon used the slope of contours from the ARTSMAP output for each annual year. (Ex. 30), and using the nearest RMT to each grid point, calculated the annual actual NEPS value for each grid point. The actual annual values were compared to both the IGA NEPS values, and the number of Class I and Class II violations were calculated. (Ex. 25). The calculations for the RMT values were set forth in a preliminary report and compared to ARTSMAP. (Ex. 26, Tables 2-4); Trial Tr. Day 1 at 117-121. The ARTSMAP estimates of noise levels were found to be significantly lower than the noise measurements of the ANOMS system.

In performing the calculations, Mr. Sneddon again noticed some hourly data appeared implausibly high and could potentially inflate not only the daily but the annual values. The Preliminary Report stated that the DIA Noise Office or its vendor would have to examine, explain and correct its own data. (Ex. 26 at 18, Section 4.1); Trial Tr. Day 1, at 147-149.

The preliminary analysis was provided to Denver, along with all background materials and calculations. The request for corrected data was also renewed. However, no corrected data was provided by Denver. In discovery, Denver was asked about the status of the corrected data. Denver responded on February 5, 2019 that its expert was currently reviewing and had not resulted in a final set of corrected data. If any was finalized, Denver would release the analysis with its expert disclosures. (Ex. 126 at 9, Resp. to Interrog. No. 7). There is no evidence that any further sets of corrected data were ever provided to Plaintiffs by Denver.

In the Plaintiffs' Expert Report submitted in this suit, the anomalous outliers were removed from the data to avoid an overstatement of noise values or violations. Mr. Sneddon applied a statistical analysis, Chauvenet's Criterion, to remove the outliers. It was applied to the hourly data that had been provided by the Denver Noise Office. Values were again logarithmically summed to the annual RMT values, and those values again calculated to the grid points. Results compared to the IGA NEPS values and the number of Class I and Class II violations were again calculated. (Ex. 31). The application of Chauvenet's Criterion reduced the number of Class II violations in 2014 from 62 to 38; in 2015 from 50 to 26; and in 2016 from 30 to 28. (Ex. 31); Trial Tr. Day 1 at 152-156. There was a total of 92 Class II violations for years 2014 through 2016.

Next, Mr. Sneddon determined which of the Class II violations remained uncured in the following annual years. Results are provided on Exhibit 32. The results provided that in 2014, 23 Class II violations remained uncured; in 2015, 23 Class II violations remained uncured; and in 2016, 21 Class II violations remained uncured. The number of 2014 through 2016 Class II noise mitigation payments sought total 67. Trial Tr. Day 1 at 156-157.

B. Denver's Challenges to Plaintiffs' Calculation of NEPS Values

At trial, Denver attempted to challenge the methods of Adam's calculation of Class II violations. The Denver Noise Office provided hourly data for each of the 27 RMTs. This data was logarithmically summed in order to obtain the annual average Leq 24 value for each RMT. In the calculation, Mr. Sneddon used as the denominator only the number of days that each RMT had reported data. Trial Tr. Day 1 at 118-9.

The expert report of Denver expert Mary Ellen Eagan raised questions as to the manner used by Mr. Sneddon to only use the dates where data was provided by the noise monitoring system to calculate the annual average Leq24. (Ex. II at 18-9). The report does not claim any effect on the 2014 through 2016 NEPS calculations at issue in this case.

Both Plaintiffs' expert Mr. Sneddon, as well as defense experts, testified it was proper to calculate the yearly values using only dates that you have data as the denominator. Trial Tr. Day 1 at 166-7; Trial Tr. Day 5 at 24-5. Further, Denver's expert stated in their report the exact same method of excluding dates where no data was used to calculate the yearly values in ARTSMAP. (Ex. II § 4.1.1). The Court finds Denver has failed to establish any error in the calculation of the yearly RMT values on this basis. Nor did Denver provide any alternative calculation for years 2014 through 2017.

Denver also raised issues as to the application of Chauvenet's Criterion to the hourly data, as opposed to the one-second event data. Evidence at trial established the Sneddon/Fidell Preliminary Report noted anomalous data and requested that the data be corrected by Denver or its vendor. (Ex. 26 at 18). Testimony at trial established that Denver's vendor, B&K, performed a correction study using a statistical methodology, Quartile analysis, and developed a set of corrected data for at least 2014. Trial Tr. Day 4 at 144-146. However, there is no evidence the corrected data of B&K was ever provided to the Plaintiffs.

Mr. Sneddon testified credibly that in order to remove what was implausible hourly values, he applied a similar statistical method, Chauvenet's Criterion, to remove the implausible data. Denver's experts did not raise an issue to the use of Chauvenet's Criterion as a proper statistical method but did raise issues as to its use with the hourly data as opposed to using the one-second data and applying it to individual events. Mr. Sneddon testified that he applied the Criterion to the only data that he had available when the study was performed. Mr. Sneddon agreed that to apply the Chauvenet's Criterion to the hourly data could have also potentially eliminated otherwise good data. Trial Tr. Day 1 at 210. However, this method would only have the effect of understating the noise values, benefitting Denver.

This underestimation was reflected in the report and testimony of Denver's expert, Mr. Rikard-Bell, of B&K. Mr. Rikard-Bell performed a correction of the data for 2014 and reported the RTM values in Exhibit KK, p. 21, Table 6, Corrected Column. When compared to the Sneddon calculations (Exhibit 29, p. 29, Table 1, 2014 NMT Chauvenet's Column), Mr. Rikard-Bell testified his corrected calculations averaged 1 dB higher than the Sneddon calculations. Trial Tr. at 144-6. Accordingly, the Court finds that Plaintiffs' calculations likely understate the number of Class II violations and therefore the error, if any, is in Denver's favor.

C. Denver's Argument for an Opportunity to Cure Following a Court Determination of NEPS Violations

At trial, Denver argued that even if the Court were to find Plaintiff's experts' methodology was sufficient for proving NEPS violations, the Court could not order Denver to pay noise mitigation payments because the IGA's contractual enforcement provisions have not been satisfied. Specifically, Denver argued "recalculating" NEPS values for past years using a new calculation methodology would deprive Denver of its right under sections 5.5 and 5.6 of the IGA to cure any Class II NEPS violations. To the contrary, all the prerequisites to awarding liquidated damages under the IGA have been met and Denver's argument does not align with the IGA's plain terms.

On November 15, 2017, Plaintiffs provided formal notice to Denver of Class II violations for 2014, 2015, and 2016 based on data from ANOMS. (Ex. 71). Those notices were later withdrawn in the hope that the parties could reach a settlement. Plaintiffs then provided formal notice to Denver of Class II violations for the same years on July 2, 2018. (Ex.s 73; 74; 75). On August 3, 2018, the parties jointly petitioned the FAA. (Ex. 76). "In the event that the FAA fails to take action to bring noise levels into compliance with the NEPS, Denver shall exercise its authority as Airport Proprietor to impose such rules and regulations as will achieve and maintain the NEPS. (Ex. 1 at § 5.6.2). The FAA did not respond to the joint petition, and per section 5.6.2, the FAA is deemed to have failed to act 180 days after the joint petition, which was January 30, 2019. After the FAA failed to act, Denver has 90 days to act in its capacity as Airport Proprietor to implement rules and regulations to achieve and maintain the NEPS which was April 30, 2019. On March 11, 2019, Denver indicated it would provide a written response "contemplated under Section 5.6.2 by May 17, 2019. (Ex. 77). On May 3, 2019, Denver provided its response stating that it believed that because "no Class II violations of the NEPS for the years 2014-2017 have occurred, there is no basis or requirement for Denver to take any action under Section 5.6 the 1988 IGA." (Ex. 79); Trial Tr. Vol. 1 at 67:23-68:13, Sept. 30, 2019.

Under the plain terms of IGA section 5.6.2 and 5.6.3, Denver has 90 days to act to implement rules and regulations to achieve and maintain the NEPS after the FAA fails to act. In this case, Denver was given formal notice of the Class II NEPS violations which Plaintiffs were alleging, and rather than acting within the prescribed time period, Denver decided to contest the determination of NEPS violations in court. Denver argues that since it contested Plaintiffs' calculation of NEPS violations, it should now get a second opportunity to cure the violations before liquidated damages can be imposed. Denver's argument is contrary to the terms of the IGA.

When Plaintiffs seek an order for liquidated damages in court, it is probable that Denver would challenge the validity of NEPS violations calculations or the validity of the enforcement procedures taken. Otherwise, the parties would not need to resort to bringing a lawsuit. Denver's argument for a second chance to cure violations would mean any time Plaintiffs seek a court order for liquidated damages as provided for in the IGA, Plaintiffs would likely have to bring two separate actions; one to determine the initial NEPS violations, and a second, if the parties again dispute the calculations after the cure period, after Denver has had another chance to cure the violations. This would also prolong the enforcement process, and final relief would not be ordered until many years after the violations. The IGA does not contemplate this procedure.

It is clear from the care with which the parties drafted the enforcement provisions, setting explicit deadlines for each action, that the parties intended relief in a timely manner. If the parties did not care how long it took to determine the remedies under the IGA, they would not have implemented these timeframes. There is nothing within the IGA which allows Denver to abrogate these timeframes because it wishes to contest the violations.

Nothing within the IGA compels a final adjudication of which NEPS violations are actionable before Denver is required to act. To the contrary, by the plain terms of sections 5.6.2 and 5.6.3, Denver is required to determine whether it will take action to cure the violations *before* Plaintiffs may seek a Court order for specific performance or liquidated damages:

> If Denver has not exercised its authority as Airport Proprietor within 90 days of FAA's failure to act, as defined in Paragraph 5.6.2, then Adams County or any city within which a violation has occurred may seek an order . . . compelling Denver to do so. If the Court, after hearing the matter, does not order Denver to exercise its authority to impose such rules and regulations as will achieve and maintain the NEPS, or determines that Denver does not have such authority, then the New Airport shall make a noise mitigation payment of $500,000 for each violation. . . .

(Ex. 1 at § 5.6.3).

Here, Denver failed to issue rules or regulations to achieve and maintain the NEPS in a timely manner, and the Court finds there is no contractual provision in the IGA that allows Denver to file a lawsuit in order to prolong their duty to promulgate rules and regulations. The IGA does not provide for tolling of the cure provision merely because the NEPS violations are contested.

D. Where there is no credible evidence that either the FAA or Denver acted to cure Class II NEPS violations, Class II NEPS violations in an annual year that reoccur in the following annual year are actionable.

Adams requests the Court rule that a Class II NEPS violation in an annual year is uncured if not cured in the following annual year. The parties have used that assumption as the basis of settlements following the 1998 litigation. (Ex.s BB; CC; DD; EE; FF). However, the Court finds, as it did during the 1998 litigation, that the parties did not set a fixed interval for the cure period in the IGA. *See* (Ex. 4); (Ex. 5). Indeed, even if the parties were to immediately act under the provisions of paragraph 5.5 and 5.6, the cure period could extend to almost a year and a half. As an example, once the data from the noise monitoring system is reported by Denver, Plaintiffs may send a written notice of the Class II violations to Denver. Denver then could determine if any of the violations were due to extraordinary weather conditions or unusual military activity and Plaintiffs could approve such a finding within 60 days of the written notice. Thereafter, the parties jointly petition the FAA. Only after the FAA fails to take action to bring noise levels into compliance with the NEPS, which deadline could be up to a year after the filing of the joint petition, does Denver have 90 days to act as proprietor of the airport. Only after the 90 days has run, can Plaintiffs then petition the Court. In this

example, 515 days could elapse between Adams sending written notice of the Class II violations to Denver, and Adams petitioning the Court for relief. Accordingly, the Court declines to rule that a Class II NEPS violation in an annual year is always uncured if not cured in the following annual year. The cure period for each year's violations can change depending on the subsequent facts.

However, where there is no true dispute that neither the FAA nor Denver acted to cure Class II NEPS violations, Class II NEPS violations in an annual year that reoccur in the following annual year are actionable. IGA section 5.6.2 states that when the FAA fails to act, "Denver shall exercise its authority as the Airport Proprietor for the New Airport to impose such rules and regulations as will achieve and maintain the NEPS." If Denver does not exercise its authority per section 5.6.2, then Plaintiffs may seek an order for specific performance. (Ex. 1 at § 5.6.3). If the court declines to "order Denver to exercise its authority to impose such rules and regulations as will achieve and maintain the NEPS, or determines that Denver does not have such authority," then Denver "shall make a noise mitigation payment. . ." *Id.*

There is ambiguity in these sections because the IGA does not state what occurs if the FAA or Denver do act to impose new rules and regulations. That is, these sections could be interpreted to mean that if Denver institutes any new rule or regulation, regardless of whether it addresses the noise violations, then Denver would not have to make a noise mitigation payment. Because the language regarding new rules or regulations is modified by the phrase "as *will* achieve and maintain the NEPS" (emphasis added) these sections could also be interpreted to mean that Denver cannot get around its obligations by instituting nominal rule changes and instead will still have to make noise mitigation payments for violations that are not actually cured. The conduct of the parties indicates that they intended the second interpretation. To implement this interpretation, the parties have agreed that each year's violations must be compared to a subsequent year to determine which NEPS violations reoccurred (i.e. were uncured). Even here, where it is undisputed that neither the FAA, nor Denver took any action to address the NEPS violations, Plaintiffs only request noise mitigation payments which reoccurred in the following year. Accordingly, even though there were a total of 92 Class II violations for years 2014 through 2016, Plaintiffs' expert calculated, and Plaintiffs only seek, payment for a total of 67 noise mitigation payments per the liquidated damages provision. (Ex. 32); Trial Tr. Day 1 at 156-7).

The parties' agreement to compare violations to subsequent years was also shown during the 1998 litigation. There, the Court held:

> The parties apparently agree that it is only the uncured first year NEPS violations for which noise mitigation payments may be sought. The parties also apparently agree that the NEPS violations that remain uncured after the FAA "fails to act," as defined in the IGA, are actionable.

(Ex. 4 at 14). However, there is one important difference between the facts during the 1998 litigation, and the instant case. During the 1998 litigation, there was a dispute regarding when the "cure period" ended because there was some evidence that the FAA implemented new airplane routing. (Ex. 4 at 14). Therefore, it became necessary for the Court to analyze when the cure period ended to determine the actionable first

year violations. Here it is undisputed that neither the FAA nor Denver took any action to cure the Class II NEPS violations and therefore, there is no need to determine if the cure period extends beyond the next annual year. The Court finds, where there is no credible evidence that either the FAA or Denver took any action to change airport operations to address NEPS violations, the parties intended to determine a given year's actionable Class II violations by comparing them to the next annual year.

Finally, Denver argues that if the Court were to always determine which Class II violations were actionable based on the year following the initial violations, Plaintiffs could sit on their rights until the noise monitoring data from the second year is given, and not provide notice of violations until it was too late for Denver to reduce airport noise. First, the Court has not ruled actionable Class II violations will always be determined based on the year following the initial violations. Where there is credible evidence that the FAA or Denver acted to address the violations, an analysis of the applicable cure period is still required. Second, Denver's argument belies the fact that Denver has actual notice of the violations even before Plaintiffs. It is Denver's ANOMS system that generates the noise monitoring data, and it is Denver's duty to create the annual noise reports which it provides to Plaintiffs. If Denver desires to address noise violations with changes to airport operations, it has every opportunity to do so, even before Plaintiffs give written notice. The agreement the parties have reached to resolve the ambiguity in the enforcement provisions maintains their original intent; where Denver is incentivized to act quickly to reduce future noise from the airport in hopes of avoiding payments under the liquidated damages provision. Nothing about the enforcement provisions make it possible for Plaintiffs to "hide" the violations from Denver until it is too late for Denver to act.

E. Denver is liable for a total of 67 Class II violations during 2014, 2015, and 2016 under the liquidated damages provision of the IGA.

As discussed above, Plaintiffs established that Denver's noise monitoring system detected a total of 67 Class II violations from 2014 through 2016. (Ex. 31); Trial Tr. Day 1 at 152-156. It is undisputed that no action was taken by either the FAA or Denver in order to cure the NEPS violations. Accordingly, Denver shall make a noise mitigation payment of $500,000 for each of the 67 Class II violations to Plaintiffs.

IX. DENVER'S DEFENSES

A. Plaintiffs are not required to prove actual damages to recover under the liquidated damages provision of the IGA.

To determine that a liquidated damages clause is valid and enforceable, the court must find that: (1) at the time the contract was entered into, the anticipated damages in case of breach were difficult to ascertain; (2) the parties mutually intended to liquidate them in advance; and (3) the amount of liquidated damages, when viewed as of the time the contract was made, was a reasonable estimate of the potential actual damages the breach would cause. *Perino v. Jarvis*, 135 Colo. 393, 312 P.2d 108 (1957). This Court previously found the liquidated damages provision of the IGA is valid and enforceable based on the test in *Perino v. Jarvis*. Denver does not take issue here with that finding.

In the 1998 litigation, the Court went on to apply a second test which required evidence of actual damages. Denver argues the Court must apply this additional test to the present case as well. However, this second test is not required under Colorado law. In reviewing this Court's rulings in the 1998 litigation, the Court of Appeals noted "that the supreme court has not indicated that proof of actual damages is indispensable to the enforceability of a liquidated damages provision. Instead, the court has emphasized that the test set forth in *Perino v. Jarvis, supra*, ascertains whether a liquidated damages clause is valid and enforceable." *Bd. of Cty. Comm'rs of Adams Cty. v. City & Cty. of Denver*, 40 P.3d 25, 32 (Colo. App. 2001).

Furthermore, the trial Court's analysis requiring evidence of actual damages in the 1998 litigation was incorrectly based on *dicta* in *Clinger v. Hartshorn*. *See Clinger v. Hartshorn*, 911 P.2d 709, 710 (Colo. App. 1996) (ruling parties could not stipulate through contract to contravene the required findings for a preliminary injunction). Whether proof of actual damages is required to enforce a liquidated damages provision was not at issue in *Clinger v. Hartshorn* and that court's references to rulings on liquidated damages is therefore non-controlling *dicta*. The court in *Clinger v. Hartshorn* cited to *Grooms v. Rice* for the proposition that liquidated damages must be related to the damage actually suffered. This is an incorrect reading of the holding in *Grooms v. Rice*, as the *Grooms v. Rice* court simply found that damages for nonpayment of a specified amount were not "difficult to ascertain" as required by the first prong of the *Perino v. Jarvis* test stated above. The court in *Grooms v. Rice* found:

> One of the essential elements to the enforcement of a contract for retention of a sum paid as liquidated damages is that the damages to be anticipated are uncertain in amount or difficult to be proved. The damages for failure to make a payment of money are neither uncertain nor difficult to prove, such damages being the interest rate specified in the contract, or, if none is specified, the legal rate of interest during the term of default.

Grooms v. Rice, 163 Colo. 234, 239, 429 P.2d 298, 300 (1967). This holding does not create a separate requirement for liquidated damages, but merely reflects the first prong in the *Perino v. Jarvis* test stated above. The court in *Clinger v. Hartshorn* also cited to *Yerton v. Bowden*, 762 P.2d 786 (Colo. App. 1988). In its holding following the 1998 litigation, Court of Appeals specifically distinguished the situation in *Yerton v. Bowden* from the liquidated damages provision at issue here, finding:

> If a contract stipulates a single liquidated damage amount for several possible breaches, the damage provision is invalid as a penalty if it is unreasonably disproportionate to the expected loss on the very breach that did occur and was sued upon. *Yerton v. Bowden, supra.*
>
> Such, however, is not the case here. The IGA specified two levels of NEPS violations: Class I, where the sound level exceeds the NEPS by less than two decibels; and Class II, where the violation is more than two decibels. The $500,000 noise mitigation payments apply only to Class II violations. Therefore, as the court found, "the provision is not a one fee, single damage amount applied to any breach of any covenant in the IGA." Nor was there evidence that the liquidated damage provision is disproportionate to the anticipated loss occasioned by the breach.

Bd. of Cty. Comm'rs of Adams Cty. v. City & Cty. of Denver, 40 P.3d 25, 32 (Colo. App. 2001) (emphasis added).

As noted by the Court of Appeals, the Colorado Supreme Court has not indicated that proof of actual damages is indispensable to the enforceability of a liquidated damages provision and the Court declines to so create a second test beyond the requirements of *Perino v. Jarvis*. The Court finds Adams is not required to provide proof of actual damages in order to recover under the liquidated damages provision of the IGA.

B. Denver has failed to prove an accord and satisfaction.

Accord and satisfaction is an affirmative defense for which the party asserting it has the burdens of pleading and proof. C.R.C.P. 8(c). An accord and satisfaction acts as a new contract, taking the place of the obligations in the original contract. *United States Welding, Inc. v. Advanced Circuits, Inc.*, 2018 CO 56, ¶ 11, 420 P.3d 278, 281 ("A party to a contract may, of course, make an offer for an accord which, if accepted and satisfied, would absolve it of its obligations under the original contract."); *Hudson v. American Founders Life Insurance Co.*, 151 Colo. 54, 377 P.2d 391 (1962) (citing earlier cases).

Demonstrating an accord and satisfaction requires proof of three elements: (1) after the parties entered into the contract at issue in the case, they entered into a later contract; (2) the parties knew or reasonably should have known that the later contract cancelled or changed their remaining rights or duties under the earlier contract; and (3) the party asserting the defense fully performed the duties it agreed to perform under the later contract. CJI-Civ 30:28; *Caldwell v. Armstrong*, 642 P.2d 47 (Colo. App. 1981). To be effective, the relevant facts must be known to both parties. *Metropolitan state Bank v. Cox*, 134 Colo. 260, 302 P.2d 188, 193 (1956). In determining whether a subsequent contract was formed, "[t]he critical question in such instances is whether there was sufficient evidence to show an intent to accept the accord agreement as a discharge of the first." *Caldwell v. Armstrong*, 642 P.2d 47, 49 (Colo. App. 1981). "Whether the requisite intent existed is a question of fact to be determined by the trier of fact." *Caldwell v. Armstrong*, 642 P.2d 47, 49 (Colo. App. 1981).

Denver claims that after entering the IGA, the parties agreed that ARTSMAP was an acceptable "noise monitoring system" as required by the IGA. Such an agreement would abrogate Denver's duty under IGA section 5.4 to determine NEPS compliance using data generated by a noise monitoring system as described above. In support of this argument, Denver demonstrated at trial that after DIA opened in 1995, Denver began using ARTSMAP to calculate values at the NEPS points and issued annual noise reports based on ARTSMAP data and Adams subsequently used the annual noise reports and ARTSMAP data to enforce NEPS violations in the 1998 litigation. In the years following the 1998 litigation, the Parties also used the ARTSMAP data as the basis for settlement agreements. Denver contends that this conduct evidences that Denver offered ARTSMAP and ARTSMAP data as satisfaction of its noise monitoring obligation, and that Plaintiffs accepted Denver's offer. The Court finds Denver has not met its burden in proving the existence of an accord and satisfaction as the facts relied on by Denver do not sufficiently prove that the parties entered a subsequent contract.

The Court firsts notes the highly formal course of conduct between the parties related to negotiating the terms of the IGA, and any disputes that arose between the parties related to those terms, particularly regarding how compliance with NEPS were to be determined. In stark contrast to Denver's assertion that an accord and satisfaction can be inferred from the 1998 litigation and subsequent settlements, the record before the Court is replete with evidence that the parties treated any interpretation of or change to the IGA terms in a highly formal manner. From the lengthy negotiations that proceeded the 1985 Memorandum of Understanding, and the eventual formation of the IGA in 1988 to the negotiations and litigation surrounding Denver's initial decision in 1991 not to install a noise monitoring system and instead model the noise levels with the FAA's Integrated Noise Model, the requirements related to noise monitoring always accompanied formal correspondence between the parties and even court filings. Trial Tr. Day 2 at 14-20; Dep. Spensley at 36-37; (Ex.s 105, 106, 107, 108, 110, and 111).

Additionally, the IGA specifically limits the parties' ability to change the IGA except by formal means:

> This Agreement may be altered, amended or modified by an instrument in writing executed and approved by Denver and Adams County in a manner consistent with section 29-1-3, C.R.S. Neither this Agreement, nor any term hereof, can be changed, modified or abandoned, in whole or in part, except by instrument in writing, and no subsequent oral agreement shall have any validity whatsoever.

(Ex. 1 at § 11.5.3).

Given the terms of sections 5.4 and 11.5.3, changing the requirements of the IGA to allow noise modeling as the methodology of compliance under the IGA would necessarily be a modification of the terms of the agreement. Under the express terms of the IGA, any change is required to be in writing and formally approved by the separate jurisdictions. This written amendment and ratification have indisputably not occurred. Not only has the formal contractual requirement not been met, but Denver has failed to prove through any documents, testimony of any actual agreement between the parties, written or oral, that establishes that Adams County intended to alter the terms of the IGA to accept the results of the ARTSMAP noise model to establish NEPS compliance under the IGA.

Denver's assertion that a subsequent contract was formed is also belied by the contemporaneous acts of the parties. According to Denver's timeline of events evidencing the formation of a subsequent contract, the new contract would have been formed between 1991 and the 1998 litigation. As noted above, in 1991, Denver indicated to Adams its intention to use noise modeling, rather than a system of actual noise monitors, to determine NEPS compliance. Adams was so opposed to the proposed modification to the IGA that it initiated litigation. (Ex. 111). In August 1992, Denver filed a Motion for Summary Judgment seeking dismissal of the Adams County lawsuit. (Ex. 112). In its Motion, Denver noted its obligation to install a noise monitoring system capable of recording noise levels to sufficiently calculate the NEPS. Denver denied ever stating it did not intend to meet the IGA requirements if it was technologically possible to meet the standard. Denver went on to state that it and its noise consultant now believed recent improvements in technology would result in proposals that will allow them to meet the obligations of the IGA. (Ex. 112 at 4). Denver

stated it was proceeding with a process that would result in the installation and operation of a state-of-the-art noise monitoring system. (Ex. 112 at 5). Denver asserted Adams County was asking the Court to order Denver to do what they were already doing, and therefore the action was premature. (Ex.112 at 2-6). Based on these representations and later actions by Denver to obtain the noise monitoring system, the 1992 lawsuit was dismissed without prejudice in February 1993. (Ex. 114). Then during the 1998 litigation, Denver itself argued that ARTSMAP could not be used to prove Class II violations. Importantly, the Court did not determine during the 1998 case whether ARTSMAP met the requirements under the IGA for the noise monitoring system, but merely found that Adams could rely on the data in Denver's noise reports. This is not the same as finding that Adams acquiesced to the use of ARTSMAP.

Finally, the Court gives little weight to the fact the parties used ARTSMAP data as the basis for settlement in years following the 1998 litigation. As the Advisory Committee's Note in the Federal version of Rule 408 states, "The evidence is irrelevant, since the offer may be motivated by a desire for peace rather than from any concession of weakness of position." FED. R. EVID. 408, (Advisory Committee Notes, 1972 Proposed Rules). Like the parties' use, for settlement purposes, of the shorthand method of determining Class II violations by looking to which violations were uncured in the next annual report, the fact that the parties used ARTSMAP data for settlement purposes is of no consequence when determining the actual terms of the IGA at trial when the parties are no longer motivated by desires for peace and speedy settlement.

The accumulated evidence runs counter to Denver's assertion that a subsequent contract was made. The Court finds Denver has not met its burden of proving the affirmative defense of accord and satisfaction because Denver has not proven that a subsequent contract was created between the parties.

The Court also notes, for an accord to be effective, the relevant facts must be known to both parties. *Metropolitan State Bank v. Cox*, 134 Colo. 260, 302 P.2d 188, 193 (1956). Here the evidence established that the material information was only known to Denver. Evidence at trial has established that it become evident to Plaintiffs that the modeling-based system and the noise measurement system are producing vastly different results, and Denver has known of the discrepancy since at least 2002. This evidence includes:

1. Evidence at trial established that Denver was aware no later than July 2002 that the ARTSMAP program was using a lateral attenuation algorithm that was underestimating the actual noise levels. (Ex. 47 at 3). This information was not disclosed to the Plaintiffs by Denver.

2. In February 2003, Denver retained a noise consultant to calculate NEPS values using the ANOMS measurement data. Mr. Mestre determined that in the year 2001, there were 44 Class II NEPS violations. (Ex. 48 at 12). Denver had reported only 10 Class II NEPS violations for that year. (Ex. H). Mr. Mestre recommended that the ANOMS system be used to calculate the annual actual NEPS values at the grid points. (Ex. 48 at 29). Mr. Mestre also recommended that at least eight additional RMT locations be established in the grid point NEPS areas. (Ex. 48 at 28). None of these recommendations were adopted by Denver or reported to Adams County.

3. The IGA requires the data and reports of the NEPS calculations be made by Denver and provided to Adams County. (Ex. 1 at § 5.4). The Mestre reports and calculations were not provided during the period Denver and the Plaintiffs were involved in 2001 litigation pertaining to noise violations at DIA, including the years 1997 through 2001. (Ex. BB). After being advised of the inaccuracy of the ARTSMAP system in 2002, Denver settled the existing noise mitigation damage claims without disclosing this information to the Plaintiffs. (Ex. BB). Denver continued to knowingly report underestimated NEPS values using ARTSMAP and settle claims thereafter without requiring Adams County to file a lawsuit. (Ex.s CC, DD, EE and FF). Thus, Denver avoided any discovery of the increasing invalidity of the ARTSMAP noise model or the wide discrepancy between the actual measured data and the model estimates.

4. During this same period, Denver and its noise consultant at HMMH were aware that the ARTSMAP code was locked and the program could not be updated. This meant no new aircraft data had been added since 1996, and there could be no update of the lateral attenuation algorithm. ARTSMAP was abandoned by HMMH for studies for any of its other airport clients. Again, the Plaintiffs were not made aware of this information.

5. Denver and its consultant, HMMH, were aware by 2005 that by manipulating the grid spacing to obtain greater accuracy, the ARTSMAP program produced greatly expanded Ldn contour lines. *See* (Ex. 89 at 3) (blue lines). Denver did not disclose this report to Adams County and continued to report the more confined 65 Ldn contour lines.

6. During this time, Denver was in possession of annual Noise Climate Reports since at least 2006 forward. (Ex.s 23 and 24). These reports provided measurement data from the RMTs. These reports consistently reported much higher noise values than was being reported by the ARTSMAP model. None of these noise reports were ever produced to the Plaintiff Adams County despite the requirements of the IGA.

7. In 1999, the Denver Noise Office also participated in an HMMH study concerning the accuracy of the INM model using the same lateral attenuation algorithm as ARTSMAP. (Ex. 41). This study reported that the models underreported noise levels by three to five decibels. (Ex. 41 at 92).

8. In 2006, the Denver Noise Office again participated in a study of the accuracy of noise models. (Ex. 42). This study again noted that the modeled levels were lower than the measured levels. It also indicated that at Denver, the absorption levels of the atmosphere created a variance of up to four decibels, and the variance was even greater during the winter. (Ex. 42 at 72). Adams County was never provided with such reports

Notwithstanding the Court's determination above that a subsequent contract was not proven by Denver, the Court finds Adams would not have entered into a contract allowing ARTSMAP to be used as the measure of NEPS compliance had it been apprised of these facts. Adams therefore did not have knowledge of the material facts, or the intention to enter an accord and satisfaction with Denver. Accordingly, Denver has not met its burden of proving the affirmative defense of accord and satisfaction.

C. Denver has failed to prove the affirmative defense of waiver.

Waiver is an affirmative defense for which the party asserting it has the burdens of pleading and proof. To succeed on its affirmative defense of waiver, Denver must prove: (1) the plaintiff knew the defendant had not performed its contractual promise; (2) the plaintiff knew that failure of the defendant to perform the contractual promise gave plaintiff the right to sue defendant; (3) the plaintiff intended to give up this right; and (4) the plaintiff voluntarily gave up this right. *Assocs. of San Lazaro v. San Lazaro Park Properties*, 864 P.2d 111, 115 (Colo. 1993); *Ewing v. Colorado Farm Mut. Cas. Co.*, 133 Colo. 447, 452, 296 P.2d 1040, 1043 (1956) (Waiver is the intentional relinquishment of a known right and if a party is not aware of the material facts, there can be no waiver); *Glover v. Innis*, 252 P.3d 1204, 1208 (Colo. App. 2011) ("Waiver arises when a party to a contract is entitled to assert a particular right, knows the right to exist, and intentionally abandons that right.") Waiver may be implied by a party's conduct. *Glover v. Innis*, 252 P.3d 1204, 1208 (Colo. App. 2011); *Davis v. Brinkhouse Hotel Co.*, 74 Colo. 199, 200, 219 P. 1074, 1074 (1923) (waiver "may result from an express agreement, or it may be inferred from circumstances which indicate an intent to waive").

Denver has proven the first two elements of waiver. Denver claims Plaintiffs (1) knew Denver was not complying with the IGA's covenant requiring Denver to report NEPS compliance using noise monitoring data, and (2) knew they had the right to sue Denver for the violation.

In support of these elements, Denver demonstrated that Adams sued Denver in 1992 and alleged Denver planned to use modeling, rather than noise monitor measurements, for NEPS compliance which was a breach of the IGA. That case was subsequently dismissed after Denver agreed to install the ANOMS noise monitoring system. Denver also points to the annual noise reports for the first three years of DIA operations which included both ANOMS noise monitor data and ARTSMAP modeling data. In the years following, Denver only reported ARTSMAP data. Based on this evidence, the Court finds Adams knew Denver was not complying with the IGA's requirement to report NEPS compliance using data from noise monitors, and also knew, it had the right to sue Denver to enforce those provisions. Indeed, Adams even initiated litigation to enforce those provisions in 1992.

However, Denver has (3) failed to prove Plaintiffs intended to give up their right to enforce the IGA provisions requiring reporting using noise monitor data, and (4) failed to prove Plaintiffs voluntarily gave up that right.

During the 1998 litigation discussed above, the Court found Plaintiffs could rely on the ARTSMAP data published by Denver in its annual reports to enforce NEPS violations. Denver argues Adam's subsequent collection of noise mitigation payments based on ARTSMAP data is evidence of Adam's intentional relinquishment of its right to demand NEPS compliance be measured using the ANOMS noise monitoring system. As the Court explained above, the fact that ARTSMAP data may have been used for settlement purposes in the years following the 1998 litigation is of little evidentiary value. The only evidence of weight presented that would suggest Adams acquiesced to the use of ARTSMAP data is its reliance on the data during the 1998 litigation. But even there, the Court merely found that Adams was not *required* to

do its own analysis of ANOMS data in order to enforce the NEPS because it is the duty of Denver to report data on NEPS compliance. Because Denver was reporting NEPS compliance using ARTSMAP, the Court essentially left Adams the option to either rely on Denver's reports or, if it so chooses, to take up the expense of determining NEPS compliance from the ANOMS noise monitoring system. Put another way, Adams could, but was not required to, use the ANOMS data to enforce the NEPS. To say that Adams could rely on Denver's reports of ARTSMAP data is far from a finding that Adams intended to relinquish its right to enforce the noise monitoring provisions of IGA section 5.4. Finally, Adam's conduct in suing Denver in 1992 to require Denver to install the ANOMS noise monitoring system also runs counter to Denver's assertion that Adams intended to relinquish its right to have NEPS compliance determined using monitor data.

The evidence at trial also established that when the parties created the IGA, they foresaw that there may be circumstances where either party might not demand full performance of a contractual term. The parties provided that such a scenario of not demanding performance of a provision would not affect the ability for a party to enforce that provision in any subsequent year. This provision was designed to give flexibility to either party in the enforcement of the IGA. Trial Tr. Day 2 at 47-9. To accomplish this, section 11.2 of the 1988 IGA provides:

> Waiver. The waiver by Denver or Adams County of any breach of any term, covenant or condition of this Agreement shall not be deemed a waiver of such term, covenant or condition or any subsequent breach of the same or any other term, covenant or condition of this Agreement. Failure to act or subsequent acceptance of performance hereunder by Denver or Adams County shall not be deemed to be a waiver of any preceding breach by Adams County or Denver of any term, covenant or condition of this Agreement regardless of Denver's or Adams County's knowledge of such preceding breach at the time of the acceptance thereof, nor shall any failure on the part of Denver or Adams County to require or exact full and complete compliance with any of the covenants or conditions of this Agreement be construed as changing in any manner the terms thereof or preventing Denver or Adams County from enforcing the full provisions thereof.

The Court finds, under the plain terms of the IGA, the parties agreed that Adams County's acceptance of Denver's modeled NEPS data for any number of years did not waive or otherwise compromise Plaintiffs' ability to demand in subsequent years that the data from the noise monitoring system be used to calculate compliance with the NEPS.

Finally, as noted in the previous section relating to accord and satisfaction, Plaintiffs did not have key information relating to the enforcement of the NEPS. These facts included that ARTSMAP was known to be underestimating the actual noise levels; that ARTSMAP could not be updated and was using outdated aircraft noise data and an outdated lateral attenuation algorithm; that ARTSMAP was no longer used for any other purpose; that ARTSMAP's 65 Ldn contour expands manipulation of the accuracy; that the noise monitoring system was reporting values up to 15 dB higher than being reported by ARTSMAP; and that ANOMS calculations created more than four times or more of the number of Class II NEPS violations. Such

material information would certainly have dissuaded Plaintiffs' from making any waiver of the noise monitoring requirement.

Because Denver has failed to demonstrate Plaintiffs intended to give up their right to enforce the IGA provisions requiring reporting using noise monitor data, and failed to prove Plaintiffs voluntarily gave up that right, the Court finds against Denver on its affirmative defense of waiver.

D. Denver's duty to report NEPS compliance using monitor data is continuing in nature and therefore Plaintiffs' claims relating to the use of ARTSMAP in violation of IGA section 5.4.3 are not barred by the statute of limitations.

"A cause of action for breach of any express or implied contract . . . shall be considered to accrue on the date the breach is discovered or should have been discovered by the exercise of reasonable diligence." Colo. Rev. Stat. § 13-80-108(6); *Neuromonitoring Assocs. v. Centura Health Corp.*, 2012 COA 136, ¶ 26, 351 P.3d 486, 491. *See Jackson v. Am. Family Mut. Ins. Co.*, 258 P.3d 328, 331 (Colo. App. 2011). The defense of statute of limitations is an affirmative defense and the party asserting it has the burdens of pleading and proof. C.R.C.P. 8(c). *But see First Interstate Bank of Denver, N.A. v. Berenbaum*, 872 P.2d 1297, 1300 (Colo. App. 1993) (when complaint shows on its face that a claim for fraud was brought more than three years after the alleged fraud and defendant has affirmatively pled the statute of limitations, the burden is on the plaintiff to show the statute has been tolled). Generally, in breach of contract actions, the statute of limitations is three years. Colo. Rev. Stat. § 13-80-101(1)(a). *See Hersh Cos. Inc. v. Highline Village Assocs*., 30 P.3d 221 (Colo. 2001); *CAMAS Colo., Inc. v. Bd. of Cty. Comm'rs*, 36 P.3d 135 (Colo. App. 2001) (contractor's claims for breach of contract, quantum meruit, rescission and restitution for mistake were all governed by three-year statute of limitations for contracts). Parties may toll a statute of limitations by agreement. *See First Interstate Bank of Denver, N.A. v. Cent. Bank & Tr. Co. of Denver*, 937 P.2d 855 (Colo. App. 1996).

However, where the covenants of a contract are continuing in nature, each successive act can result in "repeated, successive breaches" so that any successive acts within the statute of limitations period are actionable. *Neuromonitoring Assocs. v. Centura Health Corp.*, 2012 COA 136, ¶ 36, 351 P.3d 486, 492 ("In circumstances where a contract contains this type of 'continuing duty to perform, generally a new claim accrues for each separate breach' and the plaintiff 'may assert a claim for damages from the date of the first breach within the period of limitation.'") The concept of continuing contractual obligations, capable of being breached on multiple successive occasions has been recognized in the context of a variety of different contracts. *Neuromonitoring Assocs. v. Centura Health Corp.*, 2012 COA 136, ¶ 35, 351 P.3d 486, 492; *citing e.g., Barker v. Jeremiasen,* 676 P.2d 1259 (Colo.App.1984) (real property covenants); *Paul Holt Drilling, Inc. v. Liberty Mut. Ins. Co.,* 664 F.2d 252, 255 (10th Cir.1981) (contractual obligation of insurer to defend insured); *Spin Doctor Golf, Inc. v. Paymentech, L.P.,* 296 S.W.3d 354, 363 (Tex.App.2009) (contract for payments to be calculated and paid on periodic basis); *Noonan v. Nw. Mut. Life Ins. Co.,* 276 Wis.2d 33, 687 N.W.2d 254, 262 (Wis.Ct.App.2004) (contract providing for right to share in divisible surplus to be determined annually and credited as dividend); *Segall v. Hurwitz,* 114 Wis.2d 471, 339 N.W.2d 333, 343 (Wis.Ct.App.1983) (covenant not to compete and agreement not to use business name).

Denver contends Plaintiffs' claims are barred by the statute of limitations. The IGA was signed in April 1988. In October of 1991, Denver notified Adams of Denver's decision not to install a noise monitoring system and instead model noise levels with the FAA's Integrated Noise Model (INM). (Ex. 103). Adams objected and insisted on the installation of a noise monitoring system. Extensive negotiations ensued, but the parties eventually ended up in litigation when Adams filed a lawsuit in 1992 seeking a court order compelling an installation of the noise monitoring system. (Ex. 111). As described above, that lawsuit was dismissed in 1993 after Denver agreed to install the ANOMS system. In its first three Annual Noise Reports, Denver reported data for both the ARTSMAP and ANOMS systems. (Ex.s B; C; D). Starting with the 1998/1999 Annual Noise Report, (Ex. E), and in all subsequent years before the start of the instant litigation, Denver only reported NEPS compliance using ARTSMAP noise modeling. During the 1998 litigation, Denver itself argued ARTSMAP model data was only "calculated" noise levels and not "actual" noise levels, and therefore Plaintiffs could not use the ARTSMAP model data in the Annual Reports to enforce the NEPS. (Ex. 3 at 21).

In its order denying Denver's first Motion for Summary Judgment, the Court found there was a genuine issue as to "whether the initial failure to install and operate a compliant monitoring system constitutes a one-time breach or if the breach occurs annually." Order re Def.'s Mot. for Summ. J. at 6 (Aug. 23, 2019).

Denver contends that the obligation to install a noise monitoring system is singular, and that there is no recurring obligation that could give rise to an annual breach of that obligation. Denver points to the language of Section 5.4 which requires Denver to "install and operate ***a***" noise monitoring system. (Ex. 1 at § 5.4) (emphasis added). Denver points out that IGA Section 5.4 does not include a requirement to reconsider, update, or improve the noise monitoring system every year, or at any time. Denver contrasts this language with IGA Section 5.4.3, which creates a recurring requirement that the "data generated by the noise monitoring system" be used to calculate NEPS compliance "on an annual basis." *Id.*

Because the Court found Plaintiff's did not present sufficient evidence to prove their second claim for relief in their case in chief, the Court need not address Denver's statute of limitations affirmative defense as it relates to the installation of a noise monitoring system, or the installation of additional noise monitors in the current ANOMS system. However, Denver also contends the statute of limitations bars Plaintiffs from using ANOMS data, rather than ARTSMAP calculations, to enforce the NEPS. Put another way, Denver alleges Plaintiffs were required to bring claims regarding Denver's use of ARTSMAP to measure NEPS compliance within three years of discovering that Denver was using ARTSMAP in the annual reports. In its first three Annual Noise Reports, Denver reported data for both the ARTSMAP and ANOMS systems. (Ex.s B; C; D). Starting with the 1998/1999 Annual Noise Report, (Ex. E), and in all subsequent years before the start of the instant litigation, Denver only reported NEPS compliance using ARTSMAP noise modeling.

As Denver itself argued, IGA Section 5.4.3, creates a recurring requirement that the "data generated by the noise monitoring system" be used to calculate NEPS compliance "on an annual basis." Rather than a one-time performance, the IGA requires Denver to make a new report every year based on new data. Section 5.4.3 requires Denver to use a noise monitoring system for the reporting of noise data in each year's report. Accordingly, each year Denver reports NEPS compliance with ARTSMAP rather than ANOMS

constitutes a "repeated, successive breach." *Neuromonitoring Assocs. v. Centura Health Corp.*, 2012 COA 136, ¶ 36, 351 P.3d 486, 492. Like the plaintiffs in *Neuromonitoring Associates* and the cases cited therein, Plaintiffs here cannot now bring claims regarding the use of ARTSMAP for annual reports outside the three-year statute of limitations on contract claims, but because Denver's duty to report NEPS compliance using data from a noise monitoring system reoccurs each year, a new claim accrues for each separate breach and Plaintiffs may assert a claim for damages from the date of the first breach within the period of limitation. Accordingly, because of the tolling agreements entered between the parties, the claims for breach of the IGA related to the use of ARTSMAP in this case are within the three-year statute of limitations.

E. Denver has failed to meet its burden on the affirmative defense of laches.

Denver also contends that Adams County's breach of contract claims are barred by the doctrine of laches, because Adams County unreasonably delayed bringing its claims. The elements of laches are: (1) full knowledge of the facts; (2) unconscionable or unreasonable delay in the assertion of an available remedy; and (3) intervening reliance by and prejudice to another. *Keller Cattle Co. v. Allison*, 55 P.3d 257, 260 (Colo. App. 2002). Absent extraordinary circumstances, a court will usually grant or withhold relief by analogy to the statute of limitations relating to the actions at law of like character. Order Re: Denver's Motion for Summary Judgment, p. 5, *Bd. of Cty. Comm'rs of Adams Cty., et al v. City and Cty. of Denver*, No. 18CV31077, (Jefferson Ct. Dist. Ct. Aug. 23, 2019) (citing *Interbank Investments, LLC v. Vail Valley Consolidated Water Dist.*, 12 P.3d 1224, 1229-1230 (Colo. App. 2000), *cert. denied* 2003 WL 22284310 (Colo. 2003)). In determining whether extraordinary circumstances exist to justify application of laches, courts may consider lapse of time, acts of conduct of parties indicating assent or acquiescence, waiver of rights and nature and character of the interests involved or affected. *Foley v. Terry*, 532 P.2d 765, 767 (Colo. App. 1974). A party asserting laches must establish that the other party unreasonably delayed proceedings and that such delay caused substantial prejudice. *Keller Cattle Co. v. Allison*, 55 p.3d 257, 259 (Colo. App. 2002). Lapse of time alone in the absence of resulting injury, prejudice, or disadvantage to the defendant or others adversely interested does not constitute laches. *Brooks v Bank of Boulder*, 911 F. Supp. 410, 476 (D. Colo., Jan. 17, 1996).

First, for the same reasons explained above relating to accord and satisfaction, the Court finds Plaintiffs did not have full knowledge of the facts. Secondly, Plaintiffs are asserting claims that arose in 2014 and after, and therefore, the Court does not find there was any unconscionable or unreasonable delay in bringing this lawsuit. Additionally, the Court finds Denver has failed to meet its burden to show the time period for laches should be any different than the three-year statute of limitation. Denver has failed to establish how it has been prejudiced or placed at a disadvantage as Plaintiffs are not seeking damages for years prior to 2014. Denver has in fact most likely benefited from its own nondisclosure of the problems it knew about ARTSMAP and the higher results of the ANOMS data. The Court finds against Denver on its affirmative defense of laches.

F. Denver has failed to prove mutual mistake in its request for reformation.

Denver requests an order of reformation based on the alleged mutual mistake of the parties. The "mistake" Denver points to is that the parties falsely believed the technology to accurately calculate NEPS compliance using noise monitors could and would be developed. Trial Tr. Day 2 at 44-5.

Reformation of a written instrument is appropriate when (1) the instrument does not represent the true agreement of the parties, and (2) the purpose of reformation is to give effect to the parties' actual intentions. *Maryland Cas. v. Buckeye Gas Prods*., 797 P.2d 11, 13 (Colo. 1990). A written instrument may fail to represent the true agreement of the parties due to a mutual mistake. The doctrine of mutual mistake has three elements. *See England v. Amerigas Propane*, 395 P.3d 766 (Colo. 2017). First, the mistake must be mutual, meaning "both parties must share the same [factual] misconception." *Cary v. Chevron*, 867 P.2d 117, 118 (Colo.App.1993). Second, the mistaken fact must be material, meaning that it is a fact which goes to "the very basis of the contract." *Carpenter v. Hill*, 131 Colo. 553, 283 P.2d 963, 965 (1955). In other words, the mistake of fact must relate to a material aspect of the contract such that, but for the mistake, the party seeking rescission would not have entered the contract. *See Reliance Fin. Corp. v. Miller*, 557 F.2d 674, 679 (9th Cir.1977) ("The court must be satisfied, that but for the mistake the complainant would not have assumed the obligation from which he seeks to be relieved.") Third, the mistaken fact must be a past or present existing one, as opposed to "a fact to come into being in the future." *Hailpern v. Dryden*, 154 Colo. 231, 389 P.2d 590, 593 (1964).

Denver's argument for reformation fails from the outset, as it relies on an alleged mutual mistake regarding the future development of technology. As the Court in *Hailpern v. Dryden* explained, "where an alleged mistake of fact is but a contingency which the parties foresaw was liable to arise from their want of personal knowledge, such contingency forming a basis, in part, of the contract, it is not a ground for rescission." *Hailpern v. Dryden*, 154 Colo. 231, 236, 389 P.2d 590, 593 (1964). In *Board of County Comm'r's v. Denver*, 40 P.3d 25 (Colo. App. 2001) (Exhibit 6), the Court found that under the plain language of the IGA, the parties agreed it would be Denver's responsibility to develop a system sufficient to comply with the noise monitoring requirements. The court found, at the time the parties entered into the IGA, they were aware that the technology did not exist to create a noise monitoring system capable of generating accurate measurements of the actual noise generated by DIA aircraft at the grid points. *Id*. The Court also found it was reasonably foreseeable at the time the parties entered into the IGA that the noise monitoring system might not be completely accurate, and that Denver agreed to enter the IGA with this understanding. *Id*. The 'mistake' Denver relies on does not relate to an existing fact at the time the IGA was made, but only to a future contingency and it therefore cannot form the basis of a claim of mutual mistake.

Additionally, the evidence at trial does not support Denver's contention. Denver installed and has operated a state-of-the-art noise monitoring system since the opening of the airport in 1995 and has recorded the results of the measurements that could be used to calculate the NEPS values as required under the IGA. In fact, Plaintiffs have obtained Denver's data and provided the Court with calculations of the annual NEPS values for the years 2014 through 2018. (Ex.s 31; 32). At best, Denver attempts to argue that the noise monitoring system is insufficiently accurate to be used to calculate the NEPS. However, Denver has not met

its burden of proof on this defense. Plaintiffs have provided the Court with comparative studies of the ANOMS data results with two separate studies using the FAA AEDT model and the newly installed EnvironmentalVue monitoring system, which shows substantial consistency between the systems. (Ex. 37-2).

Therefore, the Court finds Denver's argument for mutual mistake fails because is not supported by the facts, and even if it was supported by the facts, the alleged mistake was related to a future contingency.

X. CONCLUSION

As the District Court stated in the 1999 Order:

> Despite the myriad of arguments raised by the parties, this is a simple case. Adams and Denver, with the assistance of highly sophisticated legal and technical experts, entered into an extensively negotiated agreement in which Adams allowed Denver to annex land to build a new airport in exchange for Denver's promise to monitor and strictly limit the noise exposure levels at DIA. The parties agreed that specific noise levels would constitute a violation of the agreement, and Denver agreed to take action to remedy such noise levels. Denver agreed that if the noise levels were not remedied within the time allowed, Denver would make a noise mitigation payment of $500,000 for each violation.

(Ex. 4 at 38). Since Denver has not remedied the violations as required by the agreement, Denver must now make a $500,000 payment for each of the 67 Class II NEPS violations over the three-year period from 2014 through 2016 in the total amount of $33,500,000.

XI. JUDGMENT

A. Findings of Fact and Conclusions of Law

1. As to Plaintiffs' first claim for relief, the IGA requires the installation of a noise monitoring system, as opposed to a noise modeling system, that measures actual noise levels;

2. The ARTSMAP system used by Denver does not measure actual noise levels and is not a noise monitoring system as defined in the IGA. Therefore, Denver is in breach of the IGA by using ARTSMAP to measure NEPS compliance;

3. The Court finds an injunction ordering Denver not to use the ARTSMAP system to calculate or report the NEPS for purposes of meeting the IGA's reporting requirement is not necessary as the Court has already found such a use of ARTSMAP would be a breach of the IGA;

4. Because the ANOMS system is the only noise monitoring system installed at DIA, Plaintiffs may rely on the data measured by the ANOMS system to determine compliance with the NEPS and Denver must report NEPS compliance based on the ANOMS system so long as ANOMS remains as the only noise monitoring system installed at the airport;

5. The Court declines to grant an order for specific performance regarding the installation of a new noise monitoring system because the Court did not find the ANOMS system to be so inaccurate as to require such a change. Additionally, the Court does not have the expertise to enter an order for specific performance in a principled fashion. Since the parties failed to present the requisite evidence, any order of specific performance would impose a burden of enforcement and supervision on the Court that would be disproportionate to any advantage gained from specific enforcement.

6. As to Plaintiffs' second claim for relief, Plaintiffs failed to present sufficient evidence to support its claim. Plaintiffs did not meet their burden to show Denver is in violation of the IGA requirement to establish noise monitors so that each NEPS point is no more than 1.5 miles from the nearest noise monitor, nor that the ANOMS system is insufficiently capable of meeting the noise monitoring requirements under the IGA.

7. As to Plaintiffs' third claim for relief, the Court finds Plaintiffs have failed to meet their burden in proving a breach of IGA section 5.4.2. Denver has made data from the noise monitoring system available to Plaintiffs, but Plaintiffs have chosen not to take advantage of that access to data. The Court concludes Plaintiffs have failed to demonstrate non-performance or a breach of contract on this claim.

8. As to Plaintiffs' fourth claim for relief, Plaintiffs' request for specific performance pursuant to IGA sections 5.6.2 and 5.6.3 is denied, as the parties did not present sufficient evidence for the Court to order Denver to specifically perform those provisions.

9. As to Plaintiffs' fifth claim for relief, Plaintiffs established Denver's noise monitoring system detected a total of 67 uncured Class II NEPS violations from 2014 through 2016.

10. Plaintiffs are not required to prove actual damages to recover under the IGA's liquidated damages provision.

11. Denver has failed to prove the affirmative defense of accord and satisfaction.

12. Denver has failed to prove the affirmative defense of waiver.

13. Denver has failed to prove the affirmative defense of laches.

14. Denver's duty to report NEPS compliance using monitor data is continuing in nature and therefore Plaintiffs' claims relating to the use of ARTSMAP in violation of IGA section 5.4.3 are not barred by the statute of limitations.

15. Denver's request for reformation of the IGA based on mutual mistake of fact is not supported by the facts presented at trial, and also fails because it relies upon an alleged mistake regarding a future contingency.

B. Judgment

For all the foregoing reasons, the Court hereby enters judgment as follows:

1. The Court enters judgment in favor of Plaintiff and against Defendant on plaintiff's first claim for relief. Plaintiffs may rely on the data measured by the ANOMS system to determine compliance with the NEPS and Denver must report NEPS compliance based on the ANOMS system so long as ANOMS remains as the only noise monitoring system installed at the airport;

2. The Court enters judgment in favor of Defendant and against Plaintiffs on Plaintiffs' claim requesting the installation of additional noise monitors;

3. The Court enters judgment in favor of Defendant and against Plaintiffs on Plaintiffs' claim regarding access to data;

4. The Court enters judgment in favor of Defendant and against Plaintiffs on Plaintiffs' claim for specific performance pursuant to IGA sections 5.6.2 and 5.6.3 regarding implementation of rules and regulations to achieve NEPS compliance;

5. The Court enters judgment in favor of Plaintiffs and against Defendant on Plaintiffs' claim for liquidated damages for 67 Class II NEPS violations in the annual years of 2014, 2015, and 2016 as follows:

6. The Court enters judgment in favor of Plaintiffs and against Defendant with respect to the following Class II Leq 24 NEPS violations which occurred in 2014 and were not cured in 2015, and awards damages in the amount of $11,500,000 to Plaintiffs, plus pretrial interest pursuant to C.R.S. § 5-12-102 at a rate of Eight Percent (8%) compounded annually from December 31, 2014 to the date of judgment:

Area 1: C5, C6, D5, D6 and E5

Area 2: A1, A7, A8, A9, A10, B7, B8, B11, C8 and E2

Area 3: C-1, C0, C1, D-1, D0, D1, E-1 and F2

7. The Court enters judgment in favor of the Plaintiffs and against the Defendant with respect to the following Class II Leq 24 NEPS violations which occurred in 2015 and were not cured in 2016, and awards damages in the amount of $11,500,000 to Plaintiffs, plus pretrial interest pursuant to C.R.S. § 5-12-102 at a rate of Eight Percent (8%) compounded annually from December 31, 2015 to the date of judgment:

Area 1: C5, C6, D5, D6 and E5

Area 2: A1, A7, A8, A9, A10, B7, B8, B11, C8 and E2

Area 3: C-1, C0, C1, D-1, D0, D1, E-1 and F2

8. The Court enters judgment in favor of the Plaintiffs and against the Defendant with respect to the following Class II Leq 24 NEPS violations which occurred in 2016 and were not cured in 2017, and awards damages in the amount of $10,500,000 to Plaintiffs, plus pretrial interest pursuant to C.R.S. § 5-12-102 at a rate of Eight Percent (8%) compounded annually from December 31, 2016 to the date of judgment:

Area 1: C5, C6, D5, D6 and E5

Area 2: A1, A7, A8, B7, B8, B11, C8 and E2

Area 3: C-1, C0, C1, D-1, D0, D1, E-1 and F2

9. Plaintiffs shall file their calculation of prejudgment interest with the Court within 21 days of this order.

10. Each party shall pay its own costs and attorney fees.

Dated: June 19, 2020

BY THE COURT:

Christie A. Bachmeyer
District Court Judge