

From the Desk of the President

Visual and Aerial Survey Patrols

New Era Technology approaches visual surveys differently from many other companies who perform this very vital function for the safety of our infrastructure. We are dedicated to giving our pilots and flight engineers the well-rounded training and experience prior to them being put on their own.

This starts with the hiring process and continues through training prior to flying, the OQ process and training in the aircraft.

All New Era visual aerial patrols are done with seasoned pilots who are FAA certified commercial pilots with hours well beyond the minimum requirements. Prior to taking over the PIC reins each pilot must fly the client's line in the right seat as the flight engineer and observer.

If it is a new client, only a veteran pilot with many hours of experience will fly the routes until the less experienced pilots are comfortable with the flight plan. To ensure the process is successful the veteran pilot will work as the flight engineer to verify that flight process is up to New Era standards.

In addition to the normal Operator Qualification requirements from the client, each pilot, flight engineer, and analyst must go through the New Era in house training course for proficiency and safety.

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Update from the Customer Solutions Group

Safety and the Visual Aerial Survey

For many of NETI's clients that are in the crude/product/gas transmission sector frequent OQ Visual Aerial ROW Patrols are as important as remote sensing for fugitive emissions flights. Monitoring threats to pipelines be it vegetation encroachment, identifying heavy equipment, new construction activity, signs of washouts, and fire hazards are all critical to identify, analyze, and when necessary, to quickly rectify.

NETI is just as interested in the OQ missions as we are in missions for fugitive emissions... this is evident by NETI recently taking delivery of 2 new additional Sentinel aircraft (and possibly another set before the end of this year) that are specifically designed to assure thorough yet low cost OQ missions.

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Notes from the Scientific Laboratory

Remote Sensing

In the spring of 2019, NETI began the development of its third generation airborne leak sensor, v3. NETI has contracted Breault Research Organization (BRO) of Tucson, AZ to design and manufacture the optical, mechanical and system engineering of the v3 instrument. We are working closely with BRO to ensure the sensor will achieve maximal sensitivity, is operationally efficient, and integrates to NETI's SANDS survey navigation and data system.

The results of this review led to a year-long research project into how to achieve our goals with v3. This research involved radiative transfer modelling, detector models, and lab experiment to confirm model results. The result of this project was a detailed report, a patent application, and a draft engineering specifications document for the v3 sensor.

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From the Desk of the President

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New Era has been flying for the gas industry for 13 years without an accident or incident. We are very proud of our safety record and work diligently to keep it clean and uncompromised. Safety beyond the flight crew extends to keeping the aircraft in top condition. Any squawks in the aircraft are addressed immediately and if not corrected that aircraft is grounded until the squawks are resolved. There is no such thing as a minor squawk in an aircraft.

Unlike many companies that fly visual surveys, New Era will only fly with a two-man crew on any survey. Although the video equipment can be operated with only one person in the aircraft, we will not fly without the second crew member. We do not believe that a single pilot can safely operate the aircraft, talk to ATC, watch for other aircraft and observe the lines. Something must suffer, either safety or the accuracy of the observations. Even if the lines are being video recorded, we do not believe a single pilot operation is in the best interest of our personnel or the client.

Observed potentially dangerous incidents and visible leak potential are reported in real time. Pictures are taken from the aircraft and with the GPS data are sent to the main office for reporting to the client.

If a client chooses, and most of our clients do, the flight can be video recorded for an intense review after the flight is completed. We recognize that no matter how careful a crew is there is always a potential for something to be missed. The video review that is done coupled with the TSSP reporting system can also avoid the reporting of areas where the client is aware of activity and saves the client from having to unnecessarily waste time on a known issue.

Our TSSP reporting system is available to clients who choose to take advantage of a proven reporting and storage system rather than spending many thousands of dollars to develop their own or purchasing one that they will most likely have to modify.

Just a point of interest, New Era currently flies over 475,000 miles per year for clients who use our aerial survey programs.

Notes from the Laboratory

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The engineering development of v3 has just completed the conceptual design phase. The next phase is the detailed design, where the optical and mechanical designs are finalized, ready for component manufacture. After this stage, the next stages are the manufacture, assembly, calibration and testing of the sensor. We are currently still on schedule for first v3 sensor in the spring of 2020.

From the Customer Solutions Group

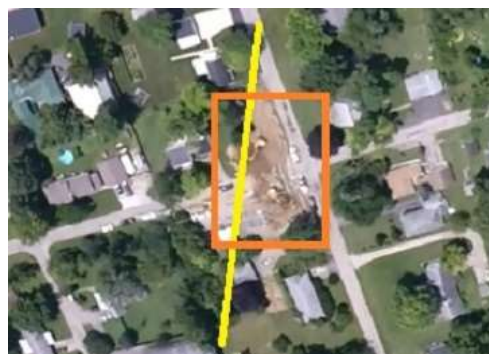
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The NETI Advantage... is that NETI flies lowest stall range aircraft with two Qualified Operations Observers compared to most OQ service providers that fly single OQ. Any operator who performs both the OQ role and the pilot role will testify to the difficulties experienced in solo missions... keeping course, staying focused to avoid aircraft (especially in urban areas), watching gauges, keeping above stall speed, taking photographs, and taking notes while also looking for anomalies along the ROW is most challenging. Solo OQ ROW flights are bottom line dangerous to life and property.



Still other NETI advantages are that all threat nominations found, all anomalies discovered, are reported to NETI's clients from the cockpit at real time/near real time depending upon our client's capabilities. At the end of the mission NETI clients can quickly receive date/time/GPS stamped coordinate imagery of each threat anomaly identified as well as a video recording of the flight. All data documenting the mission and its results for management and regulators... NETI provides a true trail of evidence that may be used in a court of law.

When it's time to consider OQ Visual Aerial Patrol providers NETI has more to offer.



NEW ERA AIRCRAFT

The current fleet of aircraft for New Era consists of Cessna 206, Cessna 182, Cessna 172 and Symphony 160. The company is looking to add two more Symphony 160 aircraft to the fleet later this year.



Cessna 206



Symphony 160

With the expected success of the new sensor in 2020 New Era will be adding aviation partners to accommodate the expected growth and demand for the leak indication that will come in the United States and Canada.



Helicopter option where it is most economical for the client.



Paul Marcum Operations Manager

Paul has been with New Era Technology, Inc. (NETI) for the last 4 years as the Operations Manager. Paul oversees the operations at NETI's home office in Boardman, Ohio as well as their remote locations in Salisbury, North Carolina and Houston, Texas. Paul's responsibilities include flight and staff scheduling, video and aerial flight review, report production and overall communications with NETI's associates and clients, training, purchasing and account managing. Paul is also responsible for ensuring team members remain in compliance with various OQ processes. Paul enjoys most working one on one with NETI's clients. Paul is a graduate of Youngstown State University.

In Paul's off-time he enjoys spending time with his family and dogs, watching and attending sporting events and traveling.

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AIRCRAFT LOCATIONS

North Lima, Ohio (4G4)

Salisbury, North Carolina (KRUQ)

Houston, Texas (KTME)

FUTURE NEWSLETTERS

Issue Dates:

September 2019

December 2019

March 2020

June 2020

Future contents:

Progress reports on sensor development

Details on navigation system

Business Updates

Technical Updates

Who's Who at New Era

