

Analysis of ANAB Remote Assessments in the Product Accreditation Program through Quantitative and Qualitative Techniques

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Executive Summary:

This paper is a summary of a research project undertaken by the ANAB Product accreditation program (Product group) to analyze the effects of moving to a predominately remote assessment model, in response to the COVID-19 pandemic. We posed the question: Did moving to a primary remote assessment model in 2020 affect the ability of ANAB's assessment process to deliver quality assurance and assessment in the accreditation process? We sought to answer this question through 3 methods: (A) Quantitative Analysis, (B) Qualitative Analysis, and (C) Analyzing a Case Study on the Comparison of the Telecommunications Certification Body, TCB Applicant A (TCB A), via Remote and Onsite Assessments.

Quantitative Analysis

For this study, data on all non-conformities (NCRs) and opportunities for improvement (OFIs) cited to ISO/IEC 17065 for all assessments performed in the ANAB Product group in 2019 and 2020 were obtained from the ANAB IT department. Data was separated by year, and citation type (NCR, OFI, and both NCRs & OFIs combined). The total number of citations by type category and year were summed and then used to statistically analyze whether differences in the total number of citations in the two years were significantly different, using an analysis of variance (ANOVA) statistical test. The ANOVA statistical results for only NCRs, only OFIs, and both NCRs & OFIs all indicated that the groups of 2019 and 2020 citations were not statistically different. Therefore, this study

found that there was no statistically significant difference between the number of findings for ISO/IEC 17065 assessments issued during a primarily onsite assessment period (2019) and a primarily remote assessment period (2020).

Qualitative Analysis

For this study, surveys were developed to understand ANAB Product CBs, ANAB Product assessors, and ANAB Accreditation Committee for Product Certification Bodies (ACC) members exposure, experience, opinions, and confidence in remote assessments, along with getting insights on their opinions on how remotes can be improved and what role should remote assessments play in the future. Surveys were administered using Survey Monkey, with email invites to all ANAB Product CBs, active ANAB Product assessors, and ACC members on October 1, 2021. The survey was open for 3 weeks. Seventy-one surveys were completed by CBs (75% completion rate, 48% response rate), 29 surveys were completed by Product assessors (94% completion rate, 76% response rate), and 4 surveys were completed by ACC members (57% completion rate, 33% response rate).

CBs, assessors, and ACC members have had an overwhelmingly positive experience with remote assessments (96 to 100% positive experience). Over 90% of both CBs & assessors rate both headquarters/critical office remote assessments and remote witness assessments as moderately (3) to completely successful (5) in meeting the assessment goals, with a higher percentage of CBs rating the remote assessments as entirely successful (5). Eighty-eight percent of both CBs and assessors want remotes to continue after the COVID-19 pandemic, with CBs most frequently suggesting that all or most assessments should be remote, and assessors most frequently suggesting that remotes assessments be held when meet certain conditions.

When asked how remote assessments can be improved, comments from CBs and assessors commonly fit in the following categories: (1) Better Preparation, Planning, Forms, Communication; (2) Standard File Sharing System or ICT Software; (3) CB or Assessor Choice for Remotes or Onsite, (4) Additional Technology Options for Witnesses, and (5) Time Zone Differences.

When asked if assessors have encountered challenges while conducting remote assessments, and if so, to describe, assessors comments most frequently cited (1) Internet/Wi-Fi/Cell Connection Strength, (2) General Technology Problems, and Limited Video View/Technical Video Challenges.

Case Study

In early 2020, a CB contacted ANAB requesting accreditation for several certification schemes including the Federal Communications Commission (FCC)'s Telecommunications Certification Body (TCB) program. Although the CB had been accredited to these schemes for several years by another AB, it was considered an initial

accreditation by ANAB. The FCC scheme requires all initial assessment to be conducted onsite. However, when scheduling the onsite, the COVID-19 pandemic began, and with travel restrictions imposed at the time, traveling onsite become unworkable. In solution, ANAB conducted a remote assessment in July 2020, and then conducted an onsite assessment in September 2020. The onsite was to validate the remote assessment findings and to satisfy the FCC's requirement that the initial assessment shall be conducted onsite. The combination of conducting a remote assessment and then shortly thereafter an onsite assessment of the same CB allowed ANAB a unique opportunity to compare the merits of the two assessment methods.

In this case study, the Lead Assessor (LA) was different in these two assessments with the onsite LA identifying three additional findings and verified the findings identified during the remote assessment. The Technical Assessor (TA) was the same for both assessment and did not identify any new finding during the onsite assessment. The TA verified the findings identified during the remote assessment and reviewed TCB A corrective actions associated with those findings. The TA assessed the competence of appropriate applicant employees both remotely and onsite. In both cases the TA was able to confirm that the applicant employed appropriately trained and competent personnel. All NCRs were addressed by the TCB A and TCB A was granted accreditation by ANAB. Our review of this case provides us with a degree of confidence that remote assessments can provide an effective alternative or complement to onsite assessments.

In summary, this paper helps provide insights on the consistency of results in using remote methods, and review of survey results indicating the broad acceptance of remote methods by CBs, assessors, ACC members, while pointing to areas for improvement and ideas for future use of remote assessments.

Introduction:

Background

2020 was a year of significant change for the global conformity assessment community. By March, the global reach of the novel COVID-19 virus, was being realized and the World Health Organization formally declared the spread of COVID-19 a pandemic. Countries, regions, states, and even cities began imposing travel restrictions, making traveling onsite to perform assessments nearly impossible in many locations. This was a unique challenge to the conformity assessment community, since the main method more used at the time to confirm conformity to the requirements was through the use of onsite assessments or audits of offices, plants, factories, farms, and labs, with the assessor or auditor traveling, sometimes across the world, to be able to be onsite.

With travel restrictions being instituted to prevent the spread of COVID-19, it became clear to Regulators, Scheme Owners (SOs), Certification Bodies (CBs), and Accreditation Bodies (ABs) that

the conformity assessment community needed to respond to the new challenges present by the pandemic while continuing to perform the critical work of supporting quality assurance for the global marketplace.

To help provide guidance in this unsettled time, ANSI National Accreditation Board (ANAB) issued a letter on March 21, 2020 to scheme owners of programs based on ISO/IEC 17065 recommending the SOs to publish guidelines and requirements for the CBs to follow in response to the implementation of the certification schemes and travel restrictions imposed by the COVID-19 pandemic. As defined in ISO/IEC 17065, a scheme owner is a person or organization responsible for developing and maintaining a specific certification scheme, which is a certification system related to specified products, to which the same specified requirements, specific rules, and procedures apply. In addition, ANAB sent a letter on the same date to all applicant and accredited Certifications Bodies, stating that in response to challenges presented based on the global pandemic, “Accredited Certification Body and applicant will follow the policies defined by the scheme owner. Please contact your scheme owner to obtain the necessary scheme policies you need to follow as an ANAB accredited certification body or applicant.”

With international travel restrictions, the need to quarantine for up to 2 weeks, and even within country travel restrictions, many SOs created procedures to allow some form of remote audits, whether that is partial remote audits or full remote audits for at least some certification programs under low-risk circumstances. CBs responded to the SO instructions and began to implement remote audits in the CBs operations as allowed by the scheme owners. For schemes owned by the CB, the CB issued guidance for the use of remote evaluation (audits-inspection-testing) as appropriate.

With CBs and SOs altering their standard evaluation methods, ABs also needed to respond to changing needs of how to complete accreditations during the COVID-19 pandemic. Assessors with the AB ANAB, who assess CBs with international locations and reach, typically travel extensively both domestically and internationally. ANAB, in response to the increasing use of remote audits completed by CBs along with the travel restrictions limiting its assessors’ ability to perform onsite assessments, revised its procedures on remote assessment (that were first approved in 2006) to allow for increased use of remote assessments of CBs audits/inspections as part of the accreditation techniques used in the accreditation process. According to ISO/IEC 17011, assessment technique is the method used by an accreditation body to perform an assessment and can include (but are not limited to) remote assessment, witnessing, document review, file review, measurement audits, review of performance in proficiency testing and other inter-laboratory comparisons, validation audits, unannounced visits, and interviewing. On April 7, 2020, ANAB issued a revised version of PRO-PR-103 Remote Assessment Procedure for Product Certification Accreditation. The revision took the previous procedure issued in 2012 and updated it to reflect the requirements of IAF MD 4:2018 IAD Mandatory Document for the Use of Information and Communication Technology (ICT) for Auditing/Assessment Purposes and principles in IAF ID 12; 2015 Principles on Remote Assessment. PRO-PR-103 made clear that remote assessments may be part of initial, surveillance, reassessment, witness assessment, or accreditation scope expansion activities if allowed by the scheme, and that in all ANAB

procedures for product certification, references to onsite activities are understood to include remote activities when a remote assessment is applicable.

ANAB has used remote assessments conducted with Information and Communication Technology (ICT) in its accreditation process for at least 15 years, mainly for assessments of the CB at its headquarters or satellite offices and to witness CBs conducting auditing or testing. In 2014, ANSI launched programs for Determining the Eligibility of Environmental Labeling Certification Scheme Owners and Determining the Eligibility of Program Operators for Type III Environmental Labels and Declarations based entirely on remote eligibility reviews using ICT. Although ANAB assessors performed some witness assessments remotely prior to 2020, the more widespread use of ICT for witness assessments was a new circumstance for many assessors that have not conducted remote assessment prior to 2020. ANAB staff facilitated the training of its assessors through emails on best practices and training in the monthly assessor calls dedicated to discussing remote assessments.

Study Goals

This paper is a summary of a research project undertaken by the ANAB Product group to analyze the effects of moving to a predominately remote assessment model. We posed the question: Did moving to a primary remote assessment model in 2020 affect the ability of ANAB's assessment process to deliver quality assurance and assessment in the accreditation process? We sought to answer this question through 3 methods: (A) Quantitative Analysis, (B) Qualitative Analysis, and (C) Analyzing a Case Study on the Comparison of the TCB A via Remote and Onsite Assessments.

To conduct the Quantitative Analysis, described in detail in section A of this report, the total number of findings (Nonconformities (NCRs) and Opportunities For Improvement (OFI)) issued to ISO/IEC 17065 from all ANAB Product assessments were compiled for 2019 and 2020 from the ANSICA database. Using the total number of findings for those 2 years, a statistical analysis was conducted to see if there was a statistically significant change in the issuance of findings (OFI/NCRs) when remote assessments became predominate in 2020, compared to 2019, when remote assessments were not the predominate method.

The Qualitative Analysis described in detail in section B of this report was conducted by developing surveys to help ANAB understand how remote assessments were received by CBs, Assessors, and ACC members, how remote assessments can be improved, and what role CBs, Assessors, and ACC members would envision for remote assessments in the future. Using Survey Monkey, surveys were sent in October 2021 to representatives of CBs accredited by ANAB's Product group, Product assessors, and volunteers on the ACC committee.

The Case Study in section C of this report was conducted as it presented ANAB a unique opportunity to evaluate the effectiveness of remote vs onsite assessments. The combination of conducting a remote assessment and then shortly thereafter to conduct an onsite assessment on

the same CB allowed ANAB an opportunity to directly compare the merits of these two assessment techniques.

Section A - Quantitative Analysis: Comparing the Effectiveness of Remote vs Onsite Assessments

Introduction

The study team developed a study design for the quantitative analysis that we believe would best analyze the available data so that reliable conclusions could be developed. This study design evolved into a reliance on the output of the many assessments that ANAB conducts each year on accredited CBs. Specifically, we chose to compare the ANSICA (Digital Platform) data of all assessed CBs for years 2019 and 2020. We limited the study to two years due to the time constraints for the completion of the study.

The data to be studied included the selection of all NCRs and OFIs issued to unique entities (CBs) in 2019 to represent a primarily onsite assessment period. That data from 2019 would be compared to the data from all NCRs and OFIs issued to unique CBs in 2020 which represents a primarily remote assessment period.

The study team developed this design since we believe it would best analyze the available data to maximize the likelihood that reliable conclusions could be developed. The data used in our study included over 70 CB for each year and approximately 700 findings for each year. These data were provided to the study team by the ANSI IT Department as an Excel file of data extracted from the ANSICA database.

Preparation of the Data

Each row in the spreadsheet contained one unique finding either for 2019 or 2020. To prepare the data so that it could be more easily analyzed, the data were separated into two spreadsheets, one for 2019 and one for 2020. Each of these spreadsheets were separated into three new spreadsheets; one contained NCRs, one contained OFIs, and one contained NCRs plus OFIs.

These three spreadsheets for each year were then sorted by name of the organization associated with each NCR or OFI. All findings that did not directly reference ISO/IEC 17065 and were not under the product accreditation program were eliminated from the spreadsheets. The numbers of NCRs and OFIs for each CB were counted and the sum of those numbers was added to the appropriate spreadsheet.

This provided the number of NCRs and OFIs for each CB for each year and constituted the data used in the analysis.

Analysis of the Data

To analyze the data, the Analysis of Variance (ANOVA) technique was chosen since it provides a detailed output that can be instructive when making decisions regarding the study question. As an example, the ANOVA test output provides the results of the variation of the data for each group and also the means for each group. If the variance of the groups is significantly less than the difference between the means, an expectation that the groups are different seems appropriate. To the contrary, if the variance of the groups is significantly greater than the difference between the means, an expectation that the groups are similar may be inferred.

Finally, for comparison purposes, the data were also analyzed using the t-Test and the z-Test techniques. The output from these two tests provided similar results to the ANOVA test reported in this document. Additionally, the Levene test was used to check the homogeneity of variance for each of the three cases. The results of the Levene test for each case confirmed the homogeneity of variance. The result from the t-Test, the z-Test, and the Levene test have not been included in this paper.

Analysis of NCRs plus OFIs

Null Hypothesis : There is no statistically significant difference between the number of NCRs plus OFIs issued per CB regarding ISO/IEC 17065 during a primarily remote assessment period (2020) as compared to the number of NCRs plus OFIs issued per CB during a primarily onsite assessment period (2019).

Alternative Hypothesis : There is a statistically significant difference between the number of NCRs plus OFIs issued per CB regarding ISO/IEC 17065 during a primarily remote assessment period (2020) as compared to the number of NCRs plus OFIs issued per CB during a primarily onsite assessment period (2019).

ANOVA - Single

Factor

Alpha 0.05

Groups	Count	Sum	Mean	Variance
Column 1 (2020)	78	638	8.18	215.37
Column 2 (2019)	76	738	9.71	392.66

Source of Variation	SS	df	MS	F	P-value	F critical
Between Groups	90.23	1	90.23	0.30	0.59	3.90
Within Groups	46033.12	152	302.85			
Total	46123.35	153				

Observations on the Data

An ANOVA analysis of the data highlights several key factors or characteristics. These characteristics may be seen in the Groups and Source of Variation sections of the ANOVA results.

The first characteristic of interest is to compare the difference between the means of the two groups with their associated variances. As can be seen in the results above, the magnitude of the difference between the two means of the groups, 1.53, is much less than the variance of each group, 215.37 and 392.66. This result would imply that the data of the groups overlap each other to a large degree and therefore the two groups are more similar than dissimilar.

The second characteristic of the data to look at is the column identified as the P-value. The P-value is compared to the Alpha criteria that is specified prior to performing the ANOVA analysis and for this analysis is set at 0.05. A level of 0.05 is setting the probability that these results could have occurred by chance at 0.05. That is, if the P-value is calculated at a level less than 0.05, we would conclude that the results of this ANOVA analysis did not occur by chance. This level indicates the likelihood. Therefore, a P-value of 0.59 again indicates the means of these two groups are more similar than dissimilar.

The final characteristic to review is the F factor. The analysis of the F factor uses a F distribution to characterize the likelihood that these two groups are dissimilar. To decide that they are dissimilar a level is calculated which is identified under the column titled F critical. If the F factor, identified under the F column, is greater than the F critical value, then this analysis indicates that the means of the two group are statistically dissimilar. However, since the F factor is much less than the F critical value, this analysis would indicate that the means of these two groups are more similar than dissimilar.

Conclusion: We cannot reject the Null Hypothesis. After a review of the ANOVA data we believe the data shows that the two groups are much more similar than dissimilar.

Analysis of NCRs

Null Hypothesis : There is no statistically significant difference between the number of NCRs issued per CB regarding ISO/IEC 17065 during a primarily remote assessment period (2020) as compared to the number of NCRs issued per CB during a primarily onsite assessment period (2019).

Alternative Hypothesis : There is a statistically significant difference between the number of NCRs issued per CB regarding ISO/IEC 17065 during a primarily remote assessment period (2020) as compared to the number of NCRs issued per CB during a primarily onsite assessment period (2019).

ANOVA - Single Factor

Alpha 0.05

Groups	Count	Sum	Mean	Variance
Column 1 (2020)	59	307	5.20	111.48
Column 2 (2019)	69	406	5.88	147.60

Source of Variation	SS	df	MS	F	P-value	F critical
Between Groups	14.74	1	14.74	0.11	0.74	3.92
Within Groups	16502.63	126	130.97			
Total	16517.37	127				

Observations on the Data

Our observations on the data regarding NCRs is similar to those noted above for NCRs plus OFIs. We will review the important characteristics that follow from the ANOVA analysis.

In similar fashion to the earlier analysis, the first characteristic of interest is to compare the difference between the means of the two groups with their associated variances. As can be seen in the results above, the magnitude of the difference between the two means of the groups, 0.68, is much less than the variance of each group, 111.48 and 147.60. This result would imply that the data of the groups overlap each other to a large degree and therefore the two groups are more similar than dissimilar.

The second characteristic to compare is the P-value to the Alpha factor. The P-value for the NCRs analysis is 0.74 which is much greater than the Alpha factor of 0.05. Therefore, for the NCRs analysis we may concluded as we did with the NCRs plus OFIs that the means of the two groups are more similar than dissimilar.

The third characteristic to compare for the NCRs analysis is the F factor. The F factor for the NCRs is 0.11 which is much less than the F critical value of 3.92. Since to be statistically significant that the means of the two groups are different the F factor much be greater than the F critical value, our analysis indicates that the means of these two groups are not statistically different and therefore that the two groups are similar.

Conclusion: We cannot reject the Null Hypothesis. After a review of the ANOVA data we believe the data shows that the two groups are much more similar than dissimilar.

Analysis of OFIs

Null Hypothesis : There is no statistically significant difference between the number of OFIs issued per CB regarding ISO/IEC 17065 during a primarily remote assessment period (2020) as compared to the number of OFIs issued per CB during a primarily onsite assessment period (2019).

Alternative Hypothesis : There is a statistically significant difference between the number of OFIs issued per CB regarding ISO/IEC 17065 during a primarily remote assessment period (2020) as

compared to the number of OFIs issued per CB during a primarily onsite assessment period (2019).

ANOVA - Single Factor

Alpha 0.05

Groups	Count	Sum	Mean	Variance
Column 1 (2020)	75	331	4.41	34.14
Column 2 (2019)	66	332	5.03	81.08

Source of Variation	SS	df	MS	F	P-value	F critical
Between Groups	13.36	1	13.36	0.24	0.63	3.91
Within Groups	7796.13	139	56.09			
Total	7809.49	140				

Observations on the Data

Our observations on the data regarding OFIs is similar to those noted above for NCRs plus OFIs and NCRs. We will review the important characteristics that follow from the ANOVA analysis.

As we have done in the prior cases, we compare the difference between the means of the two groups with their associated variances. As can be seen in the results above, the magnitude of the difference between the two means of the groups, 0.62, is much less than the variance of each group, 34.14 and 81.08. Consistent with the NCRs plus OFIs and NCRs analysis, this result would imply that the data of the groups overlap each other to a large degree and therefore the two groups are more similar than dissimilar.

The second characteristic to compare is the P-value to the Alpha factor. The P-value for the OFIs analysis is 0.63 which is much greater than the Alpha factor of 0.05. Therefore, for the OFIs analysis we may concluded as we did with the NCRs plus OFIs and the NCRs that the means of the two groups, 2019 group vs 2020 group, are more similar than dissimilar.

The third characteristic to compare for the OFIs analysis is the F factor. The F factor for the OFIs is 0.24 which is much less than the F critical value of 3.91. Since to be statistically significant that the means of the two groups are different the F factor much be greater than the F critical value, our analysis indicates that the means of these two groups, 2019 vs 2020, are not statistically different and therefore that the two groups are similar.

Conclusion: We cannot reject the Null Hypothesis. After a review of the ANOVA data we believe the data shows that the two groups are much more similar than dissimilar.

Summary Results

The ANOVA results provides valuable information about the likelihood that these groups are similar or dissimilar. We found that the number of CBs in each group were about as expected. We also found that there were approximately 24% fewer NCRs issued in 2020 and there was approximately an equal number of OFIs issued in 2019 and 2020.

In all three cases analyzed above, the F value and the p value indicate that these group are not statistically different and therefore we cannot reject the Null Hypothesis.

Finally, the ANOVA analysis for NCRs plus OFIs, NCRs, and OFIs all demonstrated similar results.

Conclusion

This study found that there was no statistically significant difference between the number of findings for ISO/IEC 17065 assessments issued during a primarily onsite assessment period (2019) and a primarily remote assessment period (2020).

Section B - Qualitative Analysis: Survey Results and Review

To better understand the experiences that certification bodies, ANAB assessors in the Product division, and ACC committee members have had with remote assessments during the COVID-19 pandemic, we designed and sent online surveys to gauge their engagement with remote assessments, opinions of them, ideas for improvement, and feelings on the role of remote assessments in the ANAB assessment process after the COVID-19 pandemic. The surveys, which can be found in the Appendix (B1 – B3), contained between 6 questions (for ACC members) to 16 questions (Assessors) with a mix of Yes/No questions, questions to rank on a scale of 1 to 5, and fill in the blank questions. SurveyMonkey was used to administer the survey. SurveyMonkey's program to evaluate the surveys rated them as "perfect", with an estimated time to complete of 1 to 4 minutes to complete. The surveys were sent via email on 10/1/21 with reminders sent 7 & 14 days after. The surveys were open for 3 weeks to all recipients.

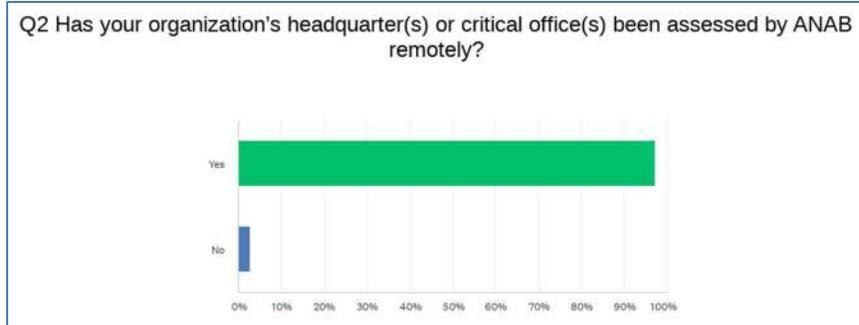
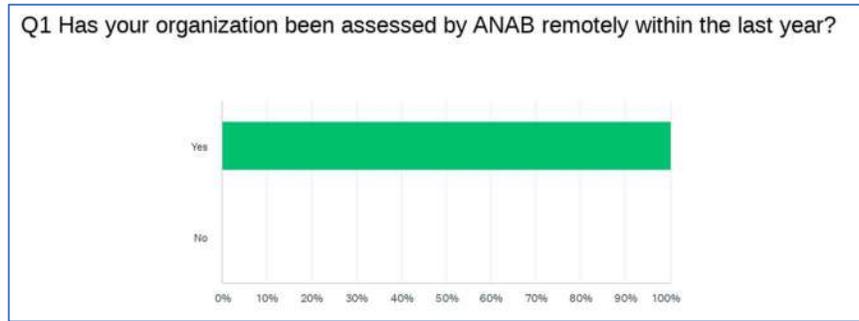
Survey to CBs

The remote assessment survey was emailed to 149 contacts for CBs certified by the ANAB Product group. Of those 149 emails, 94 were opened (63%), 51 were not opened (34%), and 4 bounced (3%). Of the 94 surveys that were opened, 77 were clicked through (52%), and 71 surveys were fully responded to (total responses). There were no partial responses received. For the surveys to the CB, this corresponded to a 75% completion rate (total responses/opened surveys) and a 48% response rate (total responses/total number of invitations sent).

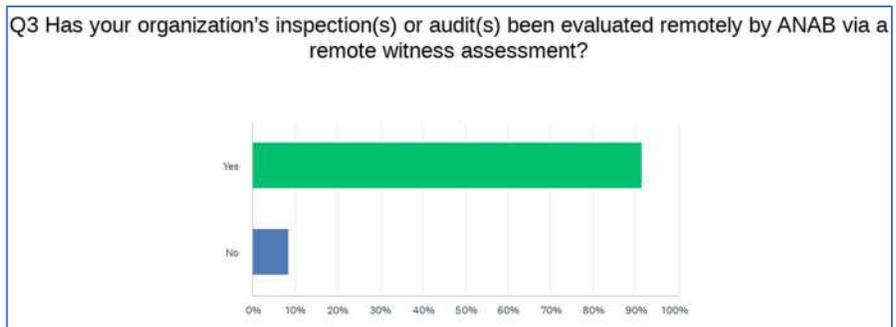
The CB survey contained 10 questions, with 8 questions that were Yes/No or on a scale of 1 to 5 style questions, and 2 fill-in-the-blank questions. Questions 1 to 3 surveyed the CBs exposure to ANAB remote assessments.

Exposure to Remote Assessments

For question 1 (Q1), which asked “Has your organization been assessed by ANAB remotely within the last year?”, all 71 responses responded to yes (100%), they have been assessed remotely by ANAB within the last year. Question 2 (Q2) asked if the CB’s headquarter(s), or critical office(s) had been assessed by ANAB remotely. Sixty-nine CB respondents (97%) answered that yes , ANAB assessed the CBs’ headquarters or critical offices remotely, while two respondents responded no (3%).



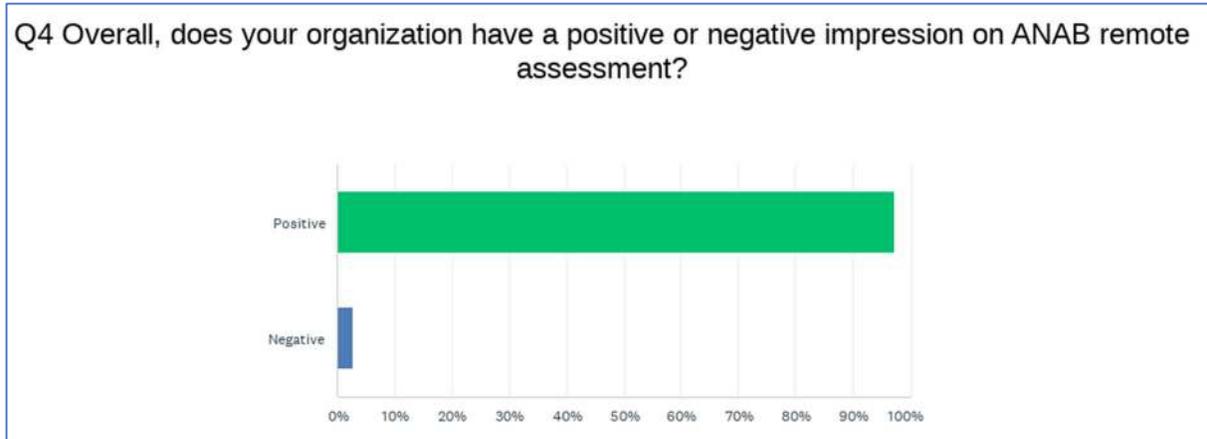
In question 3 (Q3), the CB survey looked to understand how many CB have experienced an ANAB remote witness assessment. Question 3 stated “Has your organization’s inspection(s) or audit(s)



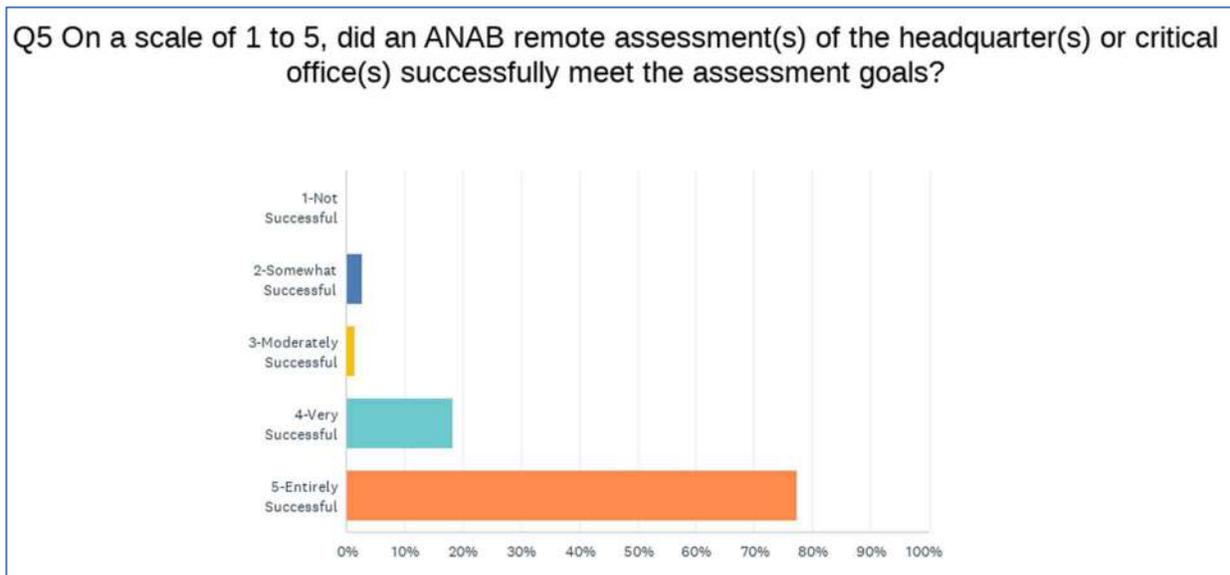
been evaluated remotely by ANAB via a remote assessment?” 91% of CB respondents (64 responses) replied that yes, the CB has had a remote witness assessment, while 9% (6 responses) responded that no, the CB’s inspection(s) or audit(s) had not been remotely witnessed.

Impressions of Remote Assessments

As can be seen from Q1 to Q3, all CB respondents had encountered an ANAB remote assessment, with the vast majority of respondents organizations having experience with headquarter/critical office remote assessments and/or remote witness assessments. Next, the survey looked to understand the CB’s impression of ANAB remote assessments. Question 4 (Q4) asked “Overall, does your organization have a positive or negative impression on ANAB remote assessments?” Sixty-nine CB respondents (97%) had a positive impression of ANAB remote assessments, while 2 respondents (3%) had a negative impression.

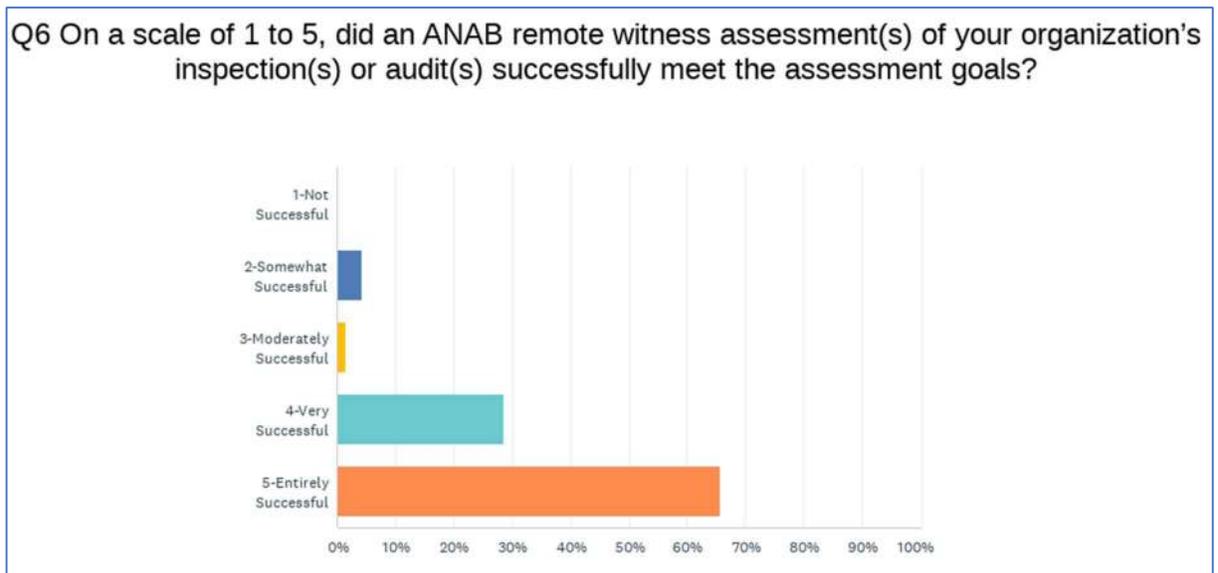


Next, CBs were asked their opinions on whether remote assessments met the assessment goals. In question 5 (Q5), CBs were asked “On a scale of 1 to 5, did an ANAB remote assessment(s) of the headquarter(s) or critical office(s) successfully meet the assessment goals?” Fifty-five (77%) of respondents stated that the remote assessments of the headquarters or critical offices were



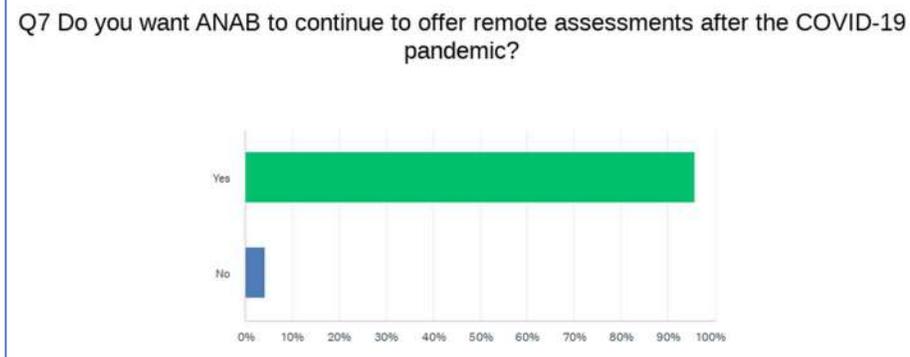
5 - Entirely successful, thirteen respondents (18%) thought they were 4 – Very Successful, one respondent (1%) thought they were 3 – Moderately Successful, and 2 respondents (3%) felt that they were 2 – Somewhat successful. No CB respondents thoughts that the headquarters and/or critical office ANAB remote assessments were not successful. Overall, CB respondents had an overwhelming positive response; 97% rated ANAB remote headquarters/critical office assessments as moderately (3) to completely successful(5) in meeting the assessment goals.

For question 6 (Q6), the survey asked the CBs opinion on whether ANAB remote witness assessments of the CBs inspection(s) or audit(s) successfully met the assessment goals. 65% of respondents (46 responses) felt that remote witness assessments were 5 - Entirely Successful, 9 responses less than in Q5. A larger proportion responded that remote witness assessments were 4 – Very Successful (20 responses, 29%) to question 6 than for question 5. One CB rated the remote witness assessments as 3-Moderately Successful (1%), three as 2-Somewhat Successful (4%), and no one rated them as 1-Not Successful. Nearly all CBs who filled in the survey rated remote witness assessments overall as successful; 96% of CB respondents rated remote witness assessments as moderately (3) to entirely (5) successful in meeting the assessment goals.



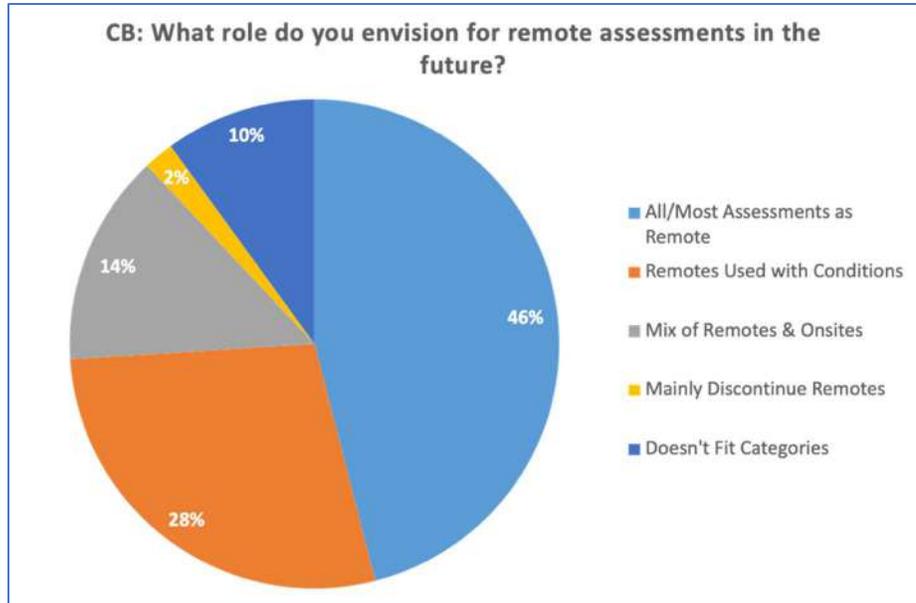
Future of Remote Assessments

In question 7 (Q7), the survey looked to understand CBs ideas on remote assessments after the COVID-19 pandemic. Q7 asked “Do you want ANAB to continue to offer remote assessments after the COVID-19



pandemic?” Sixty-eight CB respondents (96%) stated that yes, they want remote assessments to be offered after the COVID-19 pandemic, while 3 respondents said no (4.23%).

Fifty CB respondents wrote responses to question 8 (Q8), which asked “What role do you envision for remote assessments in the future?” To be able to better analyze the responses, the survey team reviewed all responses to this question by CBs and Product Assessors and developed the following categories for the fill-in-the-blank responses:

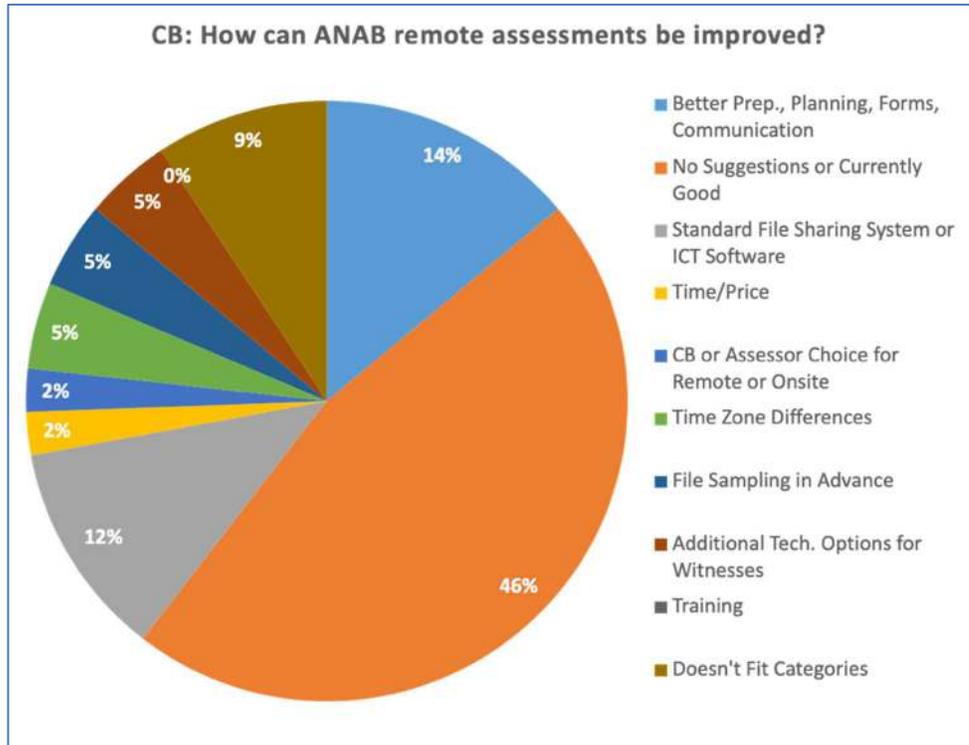


All/Most Assessments as Remote, Remotes Used with Conditions, Mix of Remotes & Onsites, Mainly Discontinue Remotes, Doesn't Fit Categories. All written responses were reviewed and assigned the one category that was considered the best fit.

The most commonly assigned category for the written responses was that CBs would like all/most assessments as remote (46%). Next, the most commonly assigned category was Remotes Used with Conditions (28%), such as for surveillance assessments, reassessments, every 2 years, for headquarters assessments, etc. When respondents indicated that they support interspersing remote assessments with in-person assessments without stating the rationale, the response was assigned to Mix of Remotes & Onsites, which represented 14% of written CB responses. Only 2% of responses fell into the Mainly Discontinue Remotes category. Overall, 88% of CB respondents want remotes to continue, with 46% wanting all or most assessments as remote, and 42% wanting remotes either mixed with onsites or use of remotes under certain conditions.

Improvements for Remote Assessments

The last question (Q10) in the CB survey was a fill-in-the blank question, “How can ANAB remote assessments be improved?” 42 CB respondents answered the question while 28 skipped the question. Like what was done for the last question, every response for this question and the same question posed to the Product assessors were reviewed and put



into the one category of the ten created that best fit the comment.

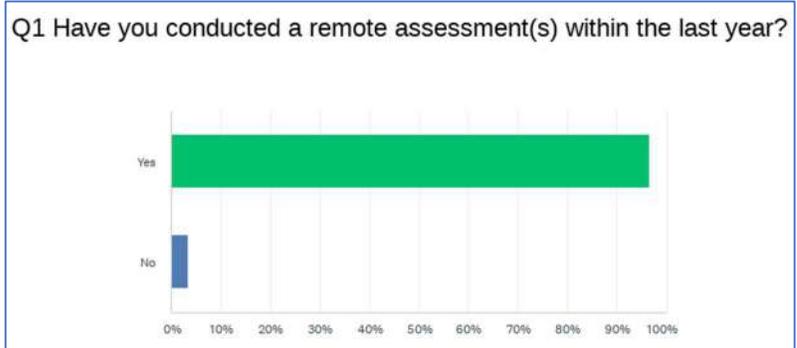
As can be seen in the pie graph, the most commonly given response by CBs was No Suggestion or Currently Good (46%). Written comments that fit in the categories Better Preparation, Planning, Forms, Communication comprised 14% of comments, and comments that fit the category Standard File Sharing System or ICT Software comprised 12% of CB comments. Other comments fit in the following categories: Time/Price (2%), CB or Assessor Choice for Remote or Onsite (2%), Time Zone Differences (5%), File Sampling in Advance (5%), Additional Technology Options for Witness (5%), Training (0%), and Doesn’t Fit Categories (9%).

Survey to Product Assessors and Comparison with CB Survey

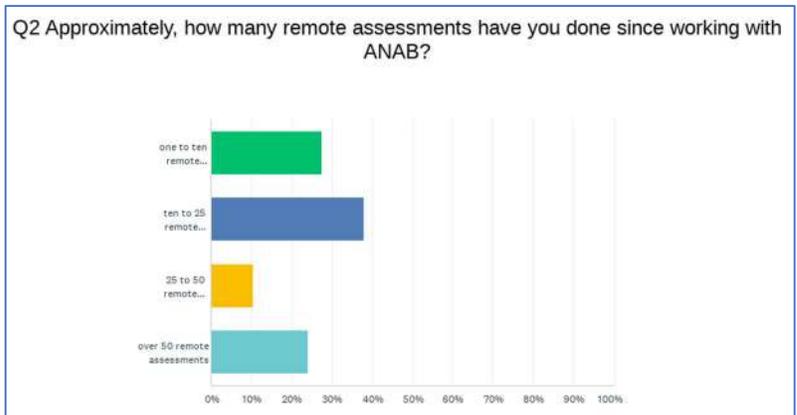
A survey was also sent to active assessors in the ANAB Product division, to better understand their experiences and opinions on remote assessments. The survey contained 16 questions, of which 4 were fill-in-the blank style questions. The survey was sent to 38 assessors, and 31 assessors opened the survey (82%), 30 assessors clicked through the survey (79%), and 7 assessed did not open the survey (18%), and zero emails on the survey bounced. The Product Assessor survey had 29 complete or total responses and zero partial responses. This corresponds to a 94% completion rate (total responses/opened surveys) and a 76% response rate (total responses/total number of invitations sent).

Exposure to Remote Assessments

First, the survey of assessors asked about each assessors exposure to ANAB remote assessments. Question 1 (Q1) asked “Have you conducted a remote assessment(s) within the last year?” Twenty-eight assessors responded yes (97%), they have conducted a remote assessment in the last year, while one assessor responded that they have not performed a remote assessment in the last year (3%).

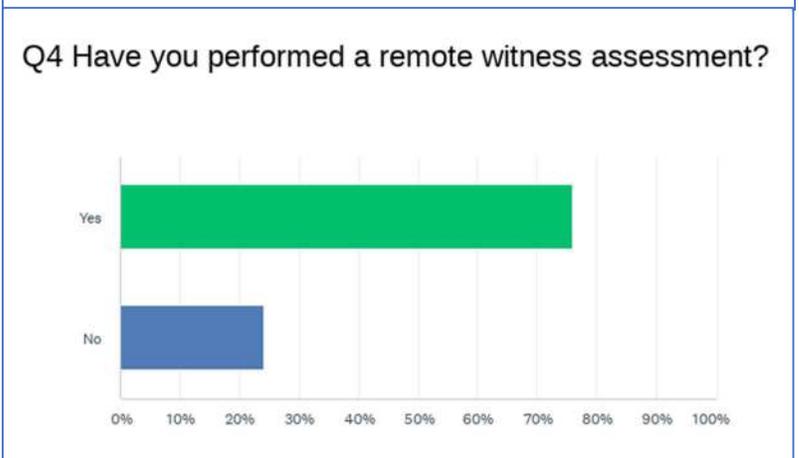
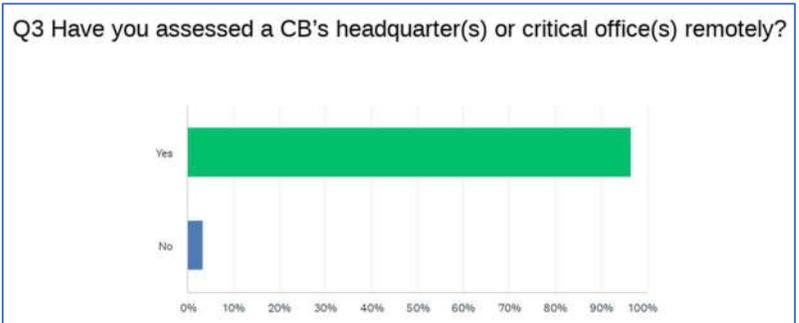


Question 2 (Q2) asked “Approximately, how many remote assessments have you done since working with ANAB?” As seen in the bar graph, 8 assessors (28%) have conducted 1 to 10 remote assessments, 11 assessors (38%) have conducted 10 to 25 remote assessments, 3 assessors (10%) have conducted 25 to 50 remote assessments, and 7 assessors (24%) have conducted over 50 remote assessments since working with ANAB.



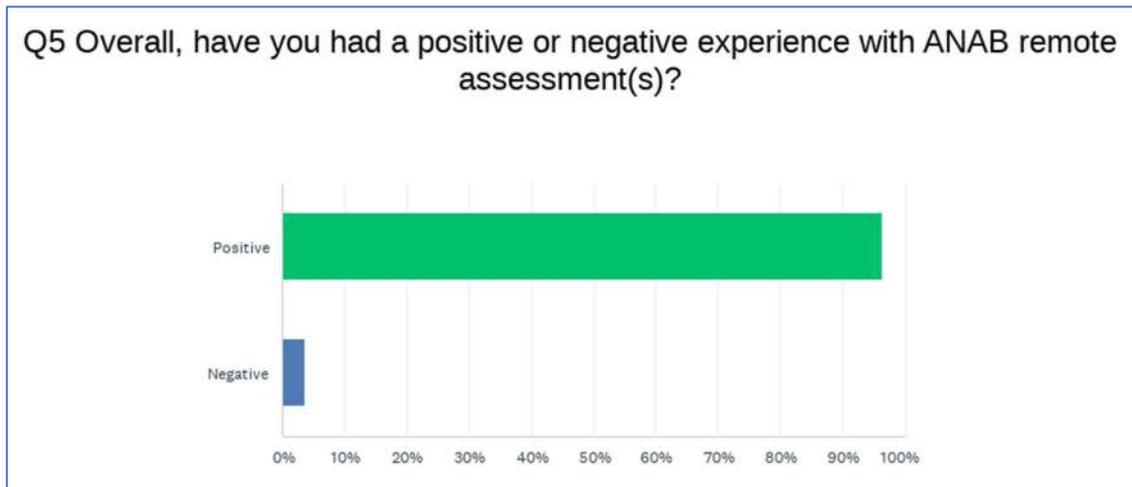
Question 3 and Question 4 looked to survey the assessors experience with the different types of remote assessments:

headquarters/critical office remote assessments and remote witness assessments. Q3 asked if you have assessed a CB’s headquarter(s) of critical office(s) remotely. Twenty-eight assessors responded yes (97%), they assessed a CB’s headquarter(s) or critical office(s) remotely, and one assessor (3%) responded no. Q4 asked “Have you performed a remote witness assessment?” Twenty-two assessors answered yes (76%) they have completed a remote witness assessment, while 7 assessors answered no (24%).



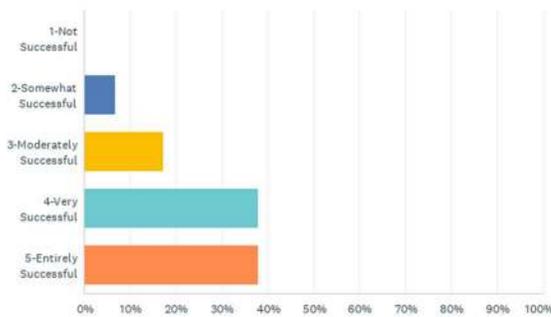
Impressions of Remote Assessments

Next, the assessors were asked in Q5 if “Overall, have you had a positive or negative experience with ANAB remote assessment(s)?” Twenty-seven assessors had a positive experience (96%), while one assessor responded that they had a negative experience (4%).



Question 6 and Question 7 looked to better understand the assessors' opinions on how remote assessments met the assessment goals. Q6 asked “On a scale of 1 to 5, in your experience, did performing a remote assessment(s) on a CB’s headquarter(s)

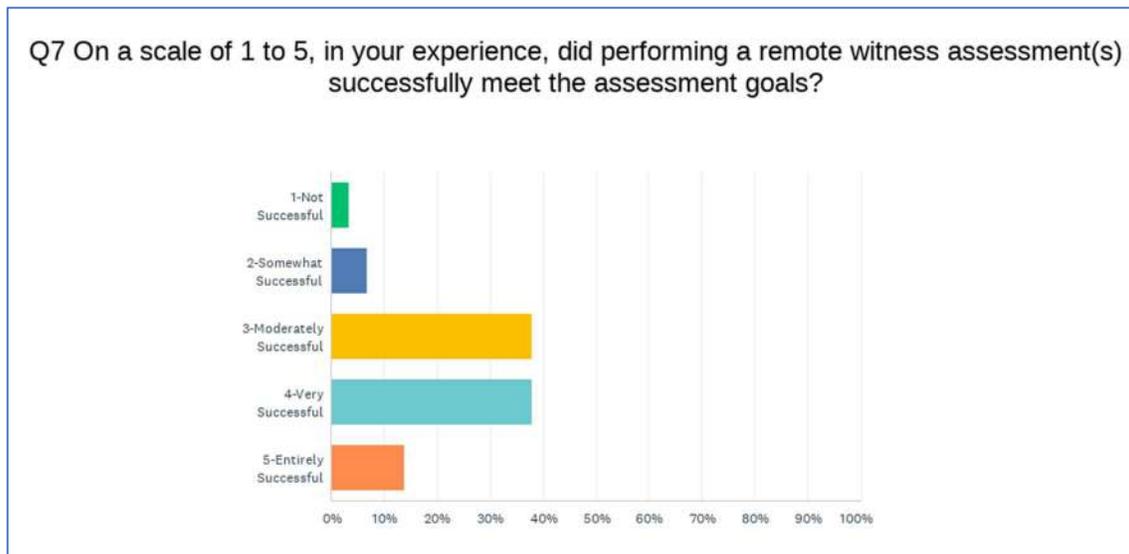
Q6 On a scale of 1 to 5, in your experience, did performing a remote assessment(s) on a CB’s headquarter(s) or critical office(s) successfully meet the assessment goals?



or critical office(s) successfully meet the assessment goals?”. Eleven assessors responded that the remote assessments were 5-Entirely Successful (38%), and an equal number of assessors (11, 38%) responded that the headquarters/critical office remote assessments were 4- Very Successful. Five assessors (17%) responded that the headquarters/critical office remote assessments were 3 -Moderately Successful, while 2 assessors replied that the remotes were 2- Somewhat Successful (7%). No assessors thought that the headquarters/critical office remote assessments were 1-Not Successful. For headquarter/critical office remote assessments, 93% of assessors rated them as moderately (3) to entirely successful (5). This compares to 97% of CB respondents that rated headquarter/critical office remote assessments as moderately to completely successful in the same question in the CB survey.

Although the overall percent of CBs that responded that the assessments were successful was similar to assessors surveyed, more CB respondents answered that the assessments were entirely successful. In the CB survey of the same question, 77% of respondents rated the headquarters/critical office remote assessments as 5 -Entirely Successful, versus 38% of assessors.

Question 7 (Q7) to the Product assessors asked nearly the same question as Q6, but instead for remote witness assessment(s). On a scale of 1 to 5, 90% of assessors (26 out of 29) rated remote witness assessments as moderately (3) to completely successful (5). Equal proportions (38%) of

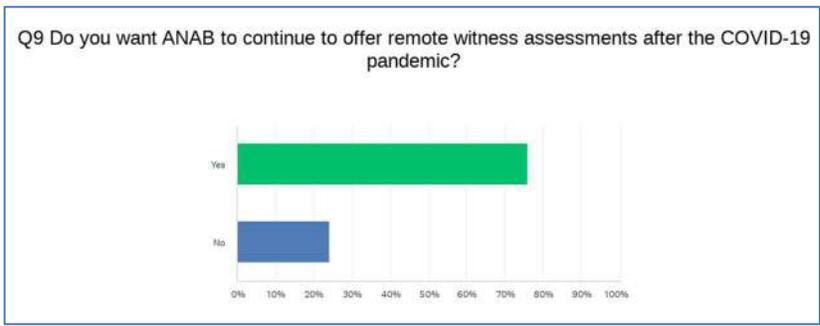
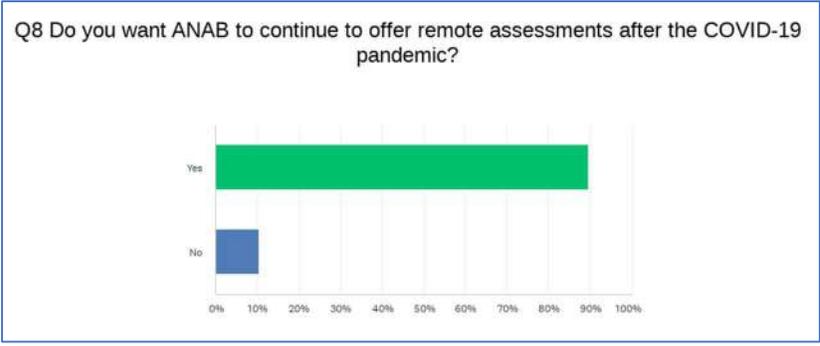


assessors rated remote witness assessments as 3 – Moderately Successful and 4 – Very Successful, while 14% (4 assessors) rated them as 5 – Entirely Successful. Two assessors answered that remote witness assessments were 2 – Somewhat Successful, and one assessor answered that remote witness assessments were 1 – Not Successful.

Similar to what was observed for question 6, CBs and assessors, which were asked the same question on the success of remote witness assessment(s) in meeting the assessment goals, rated the remote witness assessments as moderately to entirely successful in a similar percent, 96% for CBs and 90% for assessors. However, the proportion of CBs that rated remote witness assessments as 5 -Entirely Successful was greater (66% for CBs), compared to 14% for assessors.

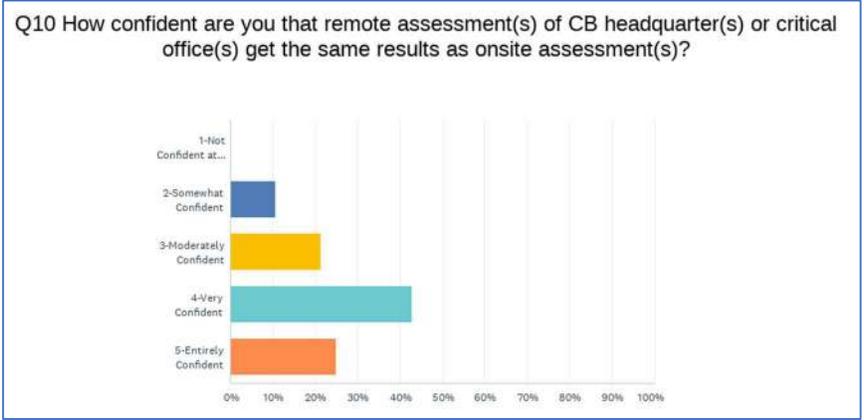
Future of Remote Assessments

Question 8 (Q8) asked assessors “Do you want ANAB to continue to offer remote assessments after the COVID-19 pandemic.” Twenty-six assessors (90%) answered yes, they would like ANAB to continue to offer remote assessments, and three assessors (10%) answered no. This compared to 96% of CBs who would like ANAB to continue to offer remote assessments when asked the same question. Question 9 (Q9) specifically asked if survey respondents would like ANAB to continue to offer remote witness assessments after the COVID-19 pandemic. For Product assessors, 76% (22 assessors) responded yes, they would like remote witness assessments still to be offered, while 7 assessors (24%) responded no. For CBs, 93% of respondents wanted remote witness assessments to be offered after the COVID-19 pandemic.



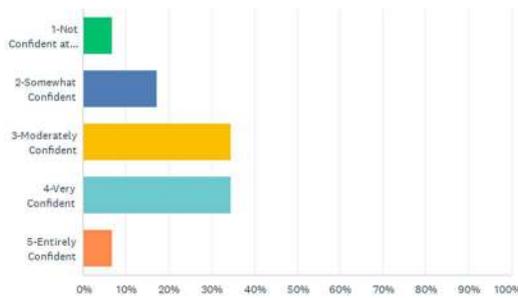
Confidence in Remote Assessments

Question 10 and Question 11 asked Product assessors on how confident they are that remote assessments get the same results as onsite assessments. Q10 asked specifically about remote assessments of CB headquarter(s) or critical office(s), and on a scale of 1 to 5, how confident was the



assessor that the remote assessment gets the same results as onsite assessments. Overall, 89% of assessors responded that they were moderately (3) to entirely confident (5) that remote assessments of CB headquarters or critical offices get the same results as onsites, while 11% (3 assessors), responded that they were 2- Somewhat confident. The most commonly given response, as seen in the graph, is 4 – Very Confident, with 43% (12 assessors) responded accordingly.

Q11 How confident are you that remote witness assessment(s) get the same results as onsite witness assessment(s)?

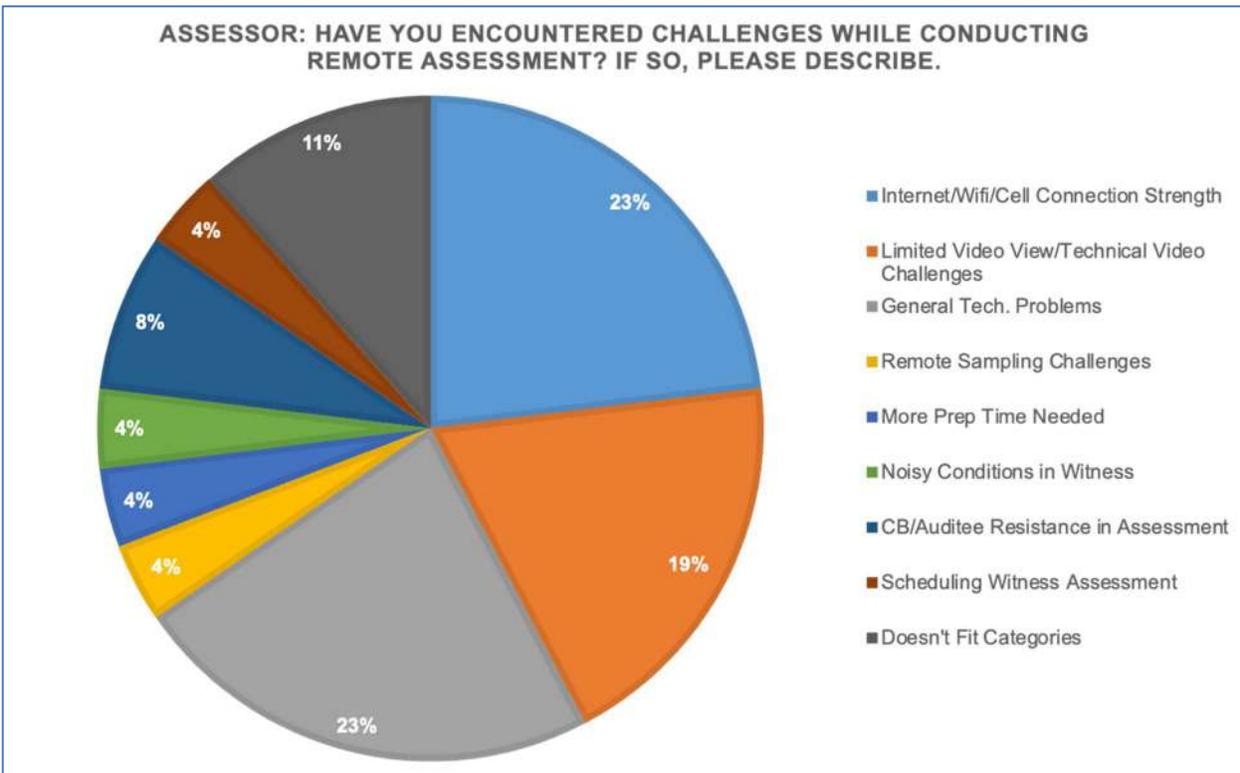


Question 11 (Q11) asked assessors “How confident are you that remote witness assessment(s) get the same result as onsite witness assessment(s)?” Twenty-two ANAB Product Assessors (75%) responded that they were moderately (3) to entirely confident (5) that remote witness

assessments(s) get the same results as onsite witness assessment(s). Equal amounts of assessors (10, 35%) responded to Q11 with 4 – Very Confident and 3 – Moderately Confident, and two assessors (7%) responded with 5 – Entirely Confident. Seven assessors (25%) responded that they were only 2 – Somewhat Confident or 1 – Not Confident at all.

Challenges During Remote Assessments

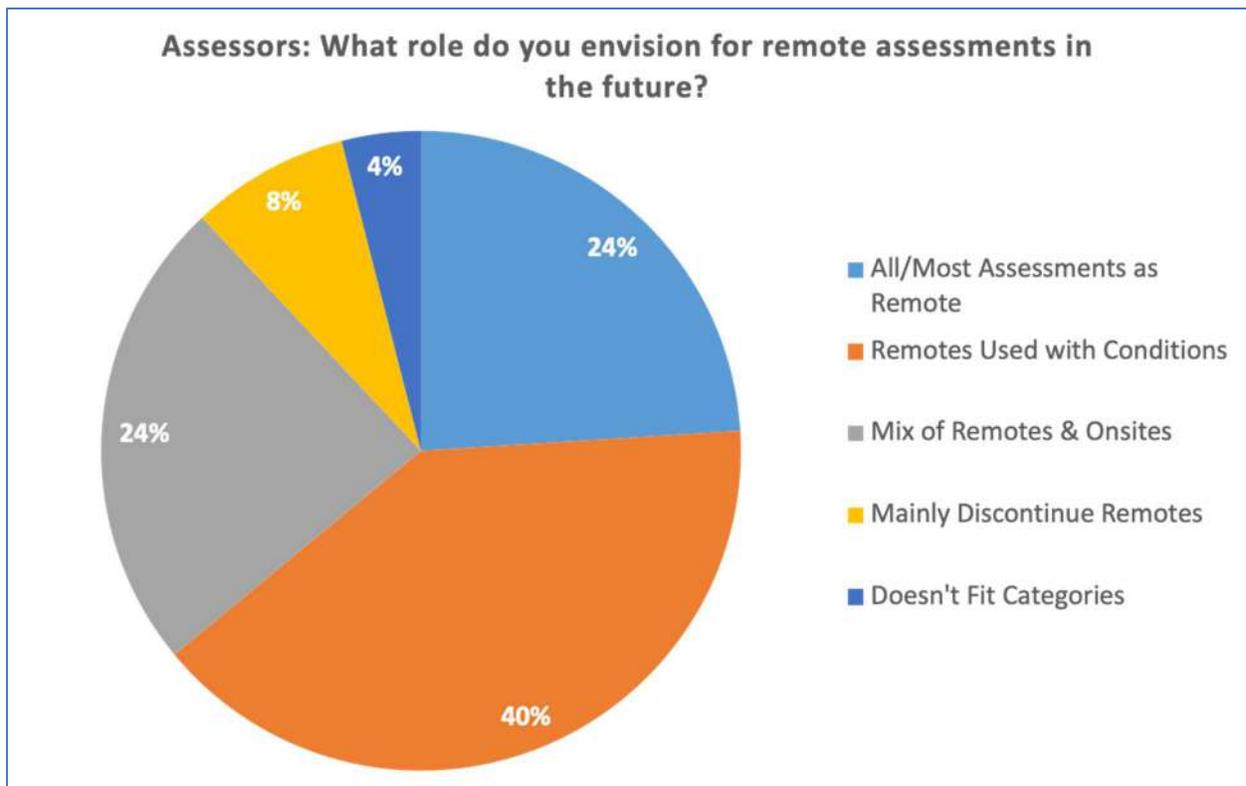
Question 12 in the ANAB Product Assessor Survey was a fill-in the blank question only posed to assessors, “Have you encountered challenges while conducting remote assessment? If so, please describe.” Twenty-six assessors provided feedback to question 12. To better understand, analyze, and present the responses, the responses were assigned one of the following 9 categories: Internet/WIFI/Cell Connection Strength, Limited Video View/Technical Video Challenges, General Technical Problems, Remote Sampling Challenges, More Prep Time Needed, Noisy Conditions in Witness, CB/Auditee Resistance in Assessment, Scheduling Witness Assessment, Doesn't Fit Categories



Noisy Conditions in Witness, CB/Auditee Resistance in Assessment, Scheduling Witness Assessment, Doesn't Fit Categories. The most common responses on the challenges encountered were Internet/WIFI/Cell Connection Strength (23%, 6 assessors), General Technical Problems (23%, 6 assessors), Limited Video View/Technical Video Challenges (19%, 5 assessors), Doesn't Fit Categories (11%, 3 assessors), and CB/Auditee Resistance in Assessment (8%, 2 assessors). All other categories encompass the comment of 1 assessor.

Role of Remote Assessments in the Future

Question 13 in the Product Assessor Survey posed that same fill-in-the-blank question asked to CBs, "What role do you envision for remote assessments in the future?" Twenty-five assessors answered the question, and their responses were assigned to one of the same 5 categories used to analyze the CBs responses to the same question: All/Most Assessments as Remote, Remotes Used with Conditions, Mix of Remotes & Onsites, Mainly Discontinue Remotes, Doesn't Fit Categories. 88% of assessors that responded want remotes to continue, with 64% wanting remotes either mixed with onsite or remotes used under certain conditions (surveillance, reassessment, headquarters assessments, every 2 years, etc.). Six assessors (24%) envision that all/most assessments as remote in the future, while two assessors (8%) responded that remote assessment be mainly discontinue remotes.

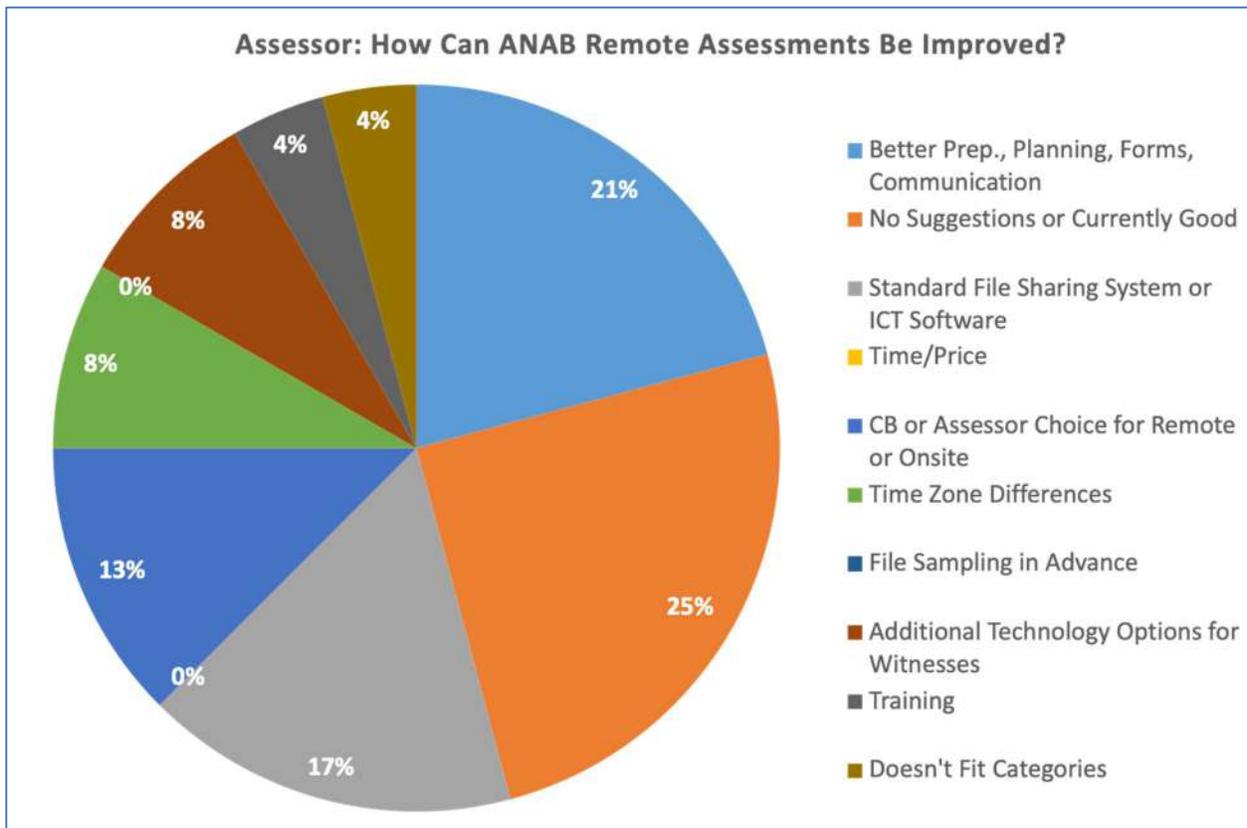


When CBs were asked the same question on what role do you envision for remote assessments in the future, the same percent (88%) want remotes to continue, with only 2% (1 respondent) wanting to mainly discontinue remotes in the future. For CB respondents, a higher percent of

the 50 respondents wants all/most assessments as remotes compared to assessor respondents (46% for CBs, 24% for Assessors). Assessors responded at a greater percent that they want remotes used with conditions (40% for assessors, 28% for CBs), and a mix of remotes & onsite (24% for assessors, 14% for CBs).

Improvements to Remote Assessments

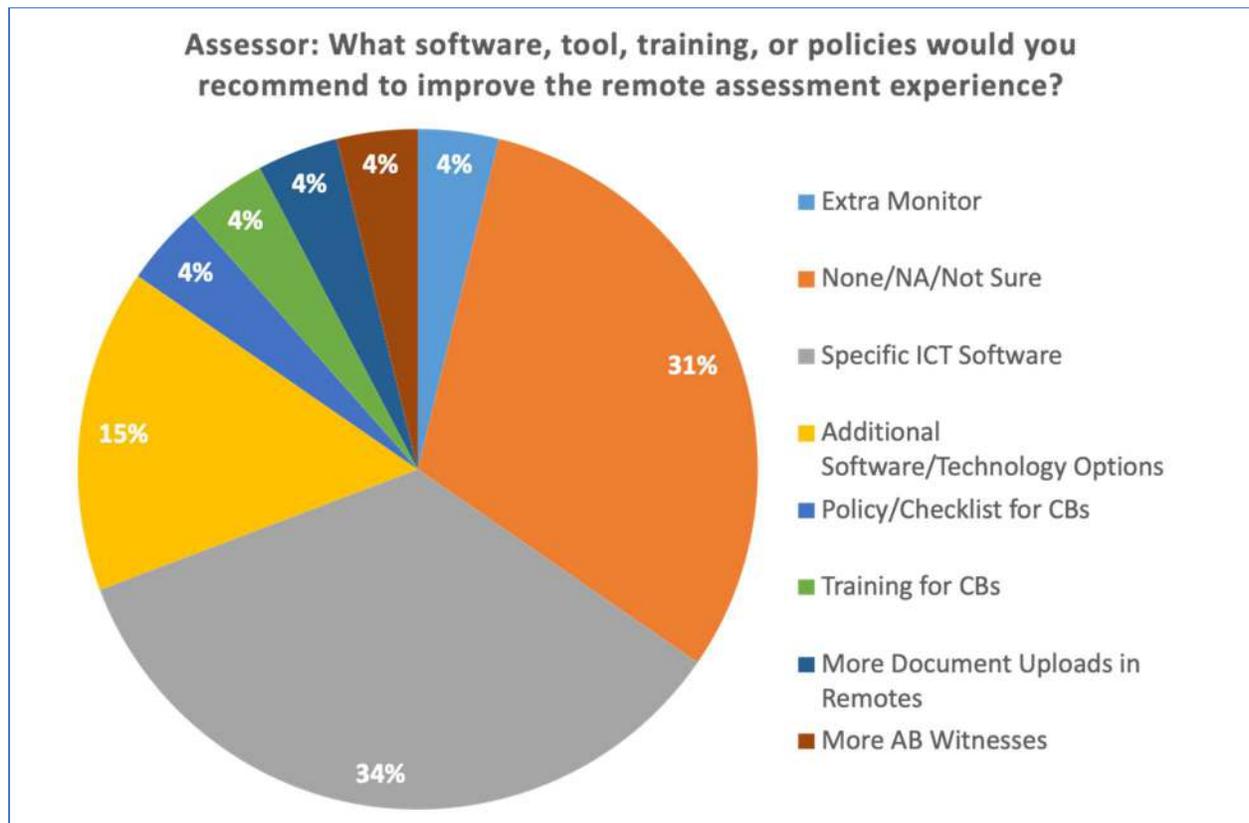
Question 14 in the Product Assessor Survey also included a fill-in-the-blank question posed to CBs, “How can ANAB Remote Assessments Be Improved?” Like what was done for the CB survey, all 24 written responses were analyzed and assigned one of the same 10 categories used to analyze the CB responses: (1) Better Prep., Planning, Forms, Communication, (2) No Suggestions or Currently Good, (3) Standard File Sharing System or ICT Software, (4) Time/Price, (5) CB or Assessor Choice for Remote or Onsite, (6) Time Zone Differences, (7) File Sampling in Advance, (8) Additional Technology Options for Witness, (9) Training, and (10) Doesn’t Fit Categories. For assessors who responded, the assessor’s written comments fit most often in No Suggestions or Currently Good (25%), Better Prep./Planning, Forms, Communication (21%), Standard File Sharing or ICT Software (17%), CB or Assessor Choice for Remote or Onsite (13%), Time Zone Differences (8%), Additional Technology Options for Witnesses (8%), and Training (4%).



CBs were asked the same question in their survey, and there were some similarities to the distribution of the response. Better Preparation, Planning, Forms, Communication was a common response category by CBs (14%) and assessors (21%). Likewise, both CBs (12%) and

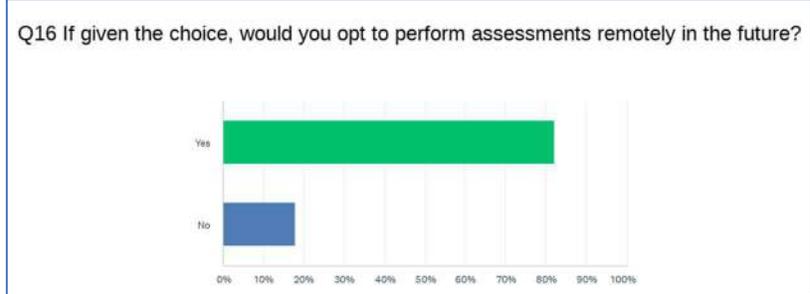
assessors (17%) identified a standard file sharing system or ICT software as an area of improvement.

Question 15 in the Product Assessor survey contained the last fill-in-the blank question posed only to the assessors, “What software, tool, training, or policies would you recommend to improve the remote assessment experience?” Twenty-six assessors response were assigned one of 8 categories: (1) Extra Monitor, (2) None/NA/Not Sure, (3) Specific ICT Software, (4) Additional Software/Technology Options, and (5) Policy/Checklist for CBs, and (6) Training for CBs, and (7) More Document Uploads in Remotes, and (8) More AB Witnesses. The most common response (34%) fit into suggestions on a Specific ICT Software, closely followed by 31% of responses in None/NA/Not Sure. Four assessors’ comments fit within Additional Software/Technology Options category, while there was a single assessor each that recommended that the remote assessment experience could be improved with an extra monitor, more AB witnesses, more document uploads in remotes, training for CBs, and a policy/checklist for CBs.



Choosing Remote Assessments

Lastly, in Question 16 (Q16), the survey asked Product Assessors “If given the choice, would you opt to perform assessments remotely in the future?” Of the 28 assessors that responded, 23 (82%) said yes, they would opt to perform assessments remotely, while 5 assessors (18%) responded that no, they would not opt to perform assessments remotely.

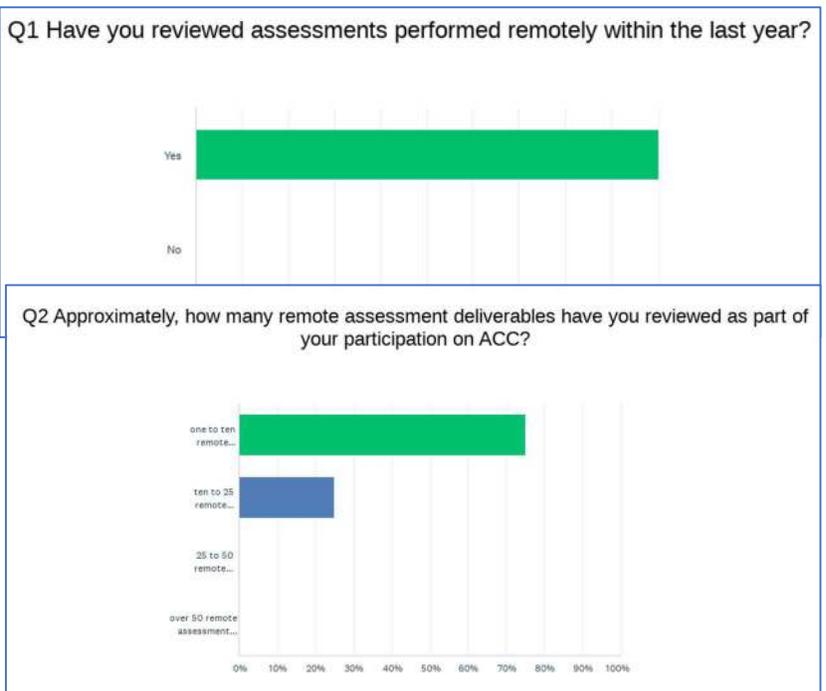


ACC Committee Survey

The Accreditation Committee for Product Certifiers (ACC) is responsible for decisions on accreditation status under ANAB’s product certification accreditation programs and advises on operational aspects of those programs. Members of the ACC comprises a balance of interested parties concerned with 3rd-party product certification, representing one of the following categories: industry, federal or state government, conformity assessment, and at-large. A six-question survey was sent to 12 ACC members. Seven ACC members opened the survey (58%), four didn’t open the survey (33%), and one survey invite bounced (8%). Six ACC members clicked through the survey (50%), and four ACC members completed the survey. The ACC survey had a 57% completion rate (total responses/opened surveys), and a 33% response rate (total responses/total number of invitations sent).

Exposure to Remote Assessments

Like the CB and assessor surveys, the ACC Survey looked to understand the respondents exposure with ANAB remote assessments. As seen in Q1, all 4 ACC members that responded stated that they have reviewed assessments performed remotely within the last year. Question 2 (Q2) asked the ACC “Approximately, how many remote assessment deliverables have you reviewed as part of your participation on ACC?” Three ACC members responded that they reviewed one to ten



remote assessments and one ACC member responded that he/she reviewed 10 to 25 remote assessments.

Impressions of Remote Assessments

The next 3 questions looked to understand the ACC committee members impressions on ANAB Product remote assessments. In Question 3 (Q3), all four respondents had a positive impression of ANAB remote assessments. In Question 4 (Q4), three respondents responded that they thought that performing a remote assessment(s) on a CB's headquarter(s) or critical office(s) 4-Very Successfully met the assessment goals and accreditation requirements, while one ACC respondent responded that it was 3-Moderately Successful. In Question 5 (Q5), when asked about whether remote witness assessments successfully met the assessment goals and accreditation requirements, all 4 ACC respondents responded 4 – Very Successful. Lastly, ACC committee members were asked how ANAB remote assessments can be improved in Question 6. Only one response was received, and the response encouraged ANAB to continue to evaluate disadvantages compared to live assessments.

Comparison to August 2021 IAF/ILAC/ISO Survey

In August 2021, the International Laboratory Accreditation Cooperation (ILAC), International Accreditation Forum (IAF), and International Standards Organization (ISO) teamed together to survey international stakeholders on the use of remote technique. The IAF/ILAC/ISO Survey received 4,350 completed responses from a mix of users, CABs, ABs, consultants, standard developers, and regulators. Even with the much larger, and more diverse pool of respondents, many of the results from the survey are quite similar to what was found in surveying ANAB Product CBs and Product Assessors.

Satisfaction with Remotes

The IAF/ILAC/ISO survey found that only 4% of respondents were dissatisfied with the remote audit/evaluation experience and 96% were either satisfied (71%) or somewhat satisfied (26%). This is strikingly similar to the 97% of Product CBs and 96% of Product assessors who responded that they have had a positive experience with ANAB remote assessments.

Confidence in Remotes

The IAF/ILAC/ISO survey asked, "Assuming an ideal setup, a remote audit/assessment/evaluation provides as much confidence as onsite audit/assessment/evaluation." Eighty percent of respondent responded agree or somewhat agree, while 20% responded disagree. Of that 80%, 37% responded agree, and 43% responded somewhat agree.

This question is similar to Question 5 & 6 in the ANAB CB survey and Question 6 & 7 in the ANAB Product assessor survey, asking respondents option on whether remotes successfully met the assessment goals. For CBs, 97% responded that remotes were moderately to completely

successful for headquarter/critical office assessments, and 96% of CBs responded that remotes were moderately to completely successful for witness assessments. Ninety-three % of product assessor respondents rated remote headquarter/critical office assessments as moderately to completely successful, and 90% of assessors respondents rated remote witness assessments as moderately to completely successful in meeting the assessment goals.

Preference for Remotes

The IAF/ILAC/ISO survey asked, “Assume there are no longer any pandemic restrictions; what would you prefer?” The three options for respondents to choose were: (1) blended audit, where parts are done with physically onsite and parts and conducted remotely, (2) fully remote audit/assessment/evaluation with connection via digital tools, and (3) traditional onsite audits/assessment/evaluation with a physical presence onsite. Seventy-nine of the 4,350 respondents replied that they would prefer either a fully remote or blended audit, with only 21% replying that they prefer traditional onsites with a physical presence onsite. Of that 79%, 60% stated that they prefer blended audit, where parts are done with physically onsite and parts are conducted remotely, while 19% preferred fully remote audit/assessment/evaluations with connection via digital tools.

This question is similar to the fill-in-the blank question 9 in the ANAB CB survey, and question 13 in the ANAB Product assessor survey, which asked “What role do you envision for remote assessments in the future?” In analyzing and categorizing the written responses, 88% of CB respondents and Product assessors envision a future with remote assessments. Forty-six % of CBs responded that they would like all/most assessments as remotes, with 42% preferring remotes with conditions (such as for surveillance, headquarters, reassessment, etc.) or a mix of remotes and onsite assessments. For ANAB Product assessors, 24% showed a preference for all/most assessments as remote, and 64% responded preferring a mix of remotes and onsites and remotes under conditions.

Section C - Case Study: TCB Applicant A, A Case Study

Introduction

In early 2020, TCB Applicant A (TCB A) contacted ANAB requesting accreditation for the FCC and ISED certification schemes, respectively US and Canadian regulator. TCB A had been accredited to certify in accordance with these schemes for several years by another AB. ANAB was scheduling the initial onsite assessment as it routinely does and then the COVID-19 pandemic hit. The travel restrictions caused by the pandemic all but eliminated the ability for ANAB to conduct an onsite assessment. However, the FCC scheme requires that all initial assessments had to be conducted with an onsite assessment and they considered this to be an initial assessment for TCB A even though TCB A had been accredited as a CB for FCC and ISED requirements for many years.

Although ANAB approached the FCC on several occasions with request for relief regarding this initial onsite requirement, the FCC was not convinced that the public interest would be served by

allowing ANAB to conduct an initial assessment using remote instead of onsite techniques. While these discussions with the FCC were ongoing, ANAB planned and conducted a remote assessment in July of 2020. To fulfill the FCC's continuing requirement to conduct initial assessments via onsite techniques, ANAB followed up the remote assessment with an onsite assessment in September of 2020. The onsite was to validate the remote assessment findings and to satisfy the FCC's requirement that the "initial" assessment shall be conducted as an onsite assessment.

Initial Remote Assessment

The initial remote assessment was conducted between July 13 and 17 of 2020 and assessed TCB A to both ISO/IEC 17065 and ISO/IEC 17065. The TA identified three NCRs and one OFI. Two of the NCRs were relative to ISO/IEC 17025 with one NCR related to ISO/IEC 17065. The LA identified six NCRs and two OFIs. Three NCRs referenced only ISO/IEC 17065 while two referenced both ISO/IEC 17025 and ISO/IEC 17065. The remaining NCR referenced only ISO/IEC 17025. Both OFIs were related to ISO/IEC 17065.

As part of the initial assessment, the TA reviews the technical competence, including observing tests in a laboratory, of the appropriate employees. This is typically performed in a laboratory at the applicant's headquarters. However, since this initial assessment was conducted remotely, special arrangements were need for the TA to observe these tests. During the assessment, several employees were observed by the TA via remote techniques. The TA was satisfied that the applicant employed appropriately trained and competent personnel as required by the scheme owners.

Onsite Follow-up Assessment

The onsite was conducted between September 4 and 5 of 2020. The LA for the onsite was different than the LA for the Remote Assessment. The TA was the same for both assessments. The LA reviewed the NCRs and OFIs that had been identified in the Remote Assessment and in addition identified three additional NCRs. These new NCRs primarily referenced the NCRs identified during the initial assessment and updated the lack of adequate corrective actions as of the date of the onsite assessment.

The TA reviewed the NCRs and OFIs that were identified during the initial remote assessment and did not identify any new NCRs or OFIs. The TA also observed testing by the appropriate applicant employees and was again satisfied that the applicant employed appropriately trained and competent personnel as required by the scheme owners.

Summary

The combination of conducting a remote and then shortly thereafter to conduct an onsite of the same CB allowed ANAB a unique opportunity to compare the merits of these two assessment techniques.

In this case study, the LA was different in these two assessments with the onsite LA identifying three additional findings and verified the findings identified during the remote assessment. The TA was the same for both assessment and did not identify any new finding during the onsite assessment. The TA verified the findings identified during the remote assessment and reviewed TCB A's corrective actions associated with those findings. All NCRs were addressed by TCB A and TCB A was granted accreditation by ANAB.

The TA assessed the competence of appropriate applicant employees both remotely and onsite. In both cases the TA was able to confirm that the applicant employed appropriately trained and competent personnel.

Conclusion

Our review of this case gives us a degree of confidence that remote assessments can provide an effective alternative or complement to onsite assessments.

Overall Study Conclusions:

In this study, we sought to investigate if moving to a primary remote assessment model in 2020 affected the ability of ANAB's assessment process to deliver quality assurance and assessment in the accreditation process. This research project looked to evaluate the use of remote assessments by (1) statistically analyzing the issuance of findings from all Product ISO/IEC 17065 assessments in 2019 and 2020 (Quantitative Analysis), (2) developing, synthesizing, and analyzing results of surveys sent to all Product CBs, active Product assessors, and ACC members on how remote assessments were received and to better understand the positives and negatives of them (Qualitative Analysis), and (3) reviewing the results of TCB compliance testing completed by both onsite and remote assessments (Case Study). The study also looked to understand stakeholders opinions on the future of remote assessments and how they could be improved.

Quantitative Analysis Conclusions

For this study, data on all non-conformities (NCRs) and opportunities for improvement (OFIs) cited to ISO/IEC 17065 for all assessments performed in the ANAB Product group in 2019 and 2020 were obtained from the ANAB IT department. Data was separated by year, and citation type (NCR, OFI, and both NCRs & OFIs combined). The total number of citations by type category and year were summed and then used to statistically analyze whether differences in the total number of citations in the two years were significantly different, using an analysis of variance (ANOVA) statistical test. The ANOVA statistical results for only NCRs, only OFIs, and both NCRs & OFIs all indicated that the groups of 2019 and 2020 citations were not statistically different. Therefore, this study found that there was no statistically significant difference between the number of findings for ISO/IEC 17065 assessments issued during a primarily onsite assessment period (2019) and a primarily remote assessment period (2020).

Qualitative Analysis Conclusions

For this study, surveys were developed to understand ANAB Product CBs, ANAB Product assessors, and ANAB Accreditation Committee for Product Certifiers (ACC) members exposure, experience, opinions, and confidence in remote assessments, along with getting insights on their opinions on how remotes can be improved and what role should remote assessments play in the future. Surveys were administered using Survey Monkey, with email invites to all ANAB Product CBs, active ANAB Product assessors, and ACC members on October 1, 2021. The survey was open for 3 weeks. Seventy-one surveys were completed by CBs (75% completion rate, 48% response rate), 29 surveys were completed by Product assessors (94% completion rate, 76% response rate), and 4 surveys were completed by ACC members (57% completion rate, 33% response rate).

CBs, assessors, and ACC members have had an overwhelmingly positive experience with remote assessments (96 to 100% positive experience). Over 90% of both CBs & assessors rate both headquarters/critical office remote assessments and remote witness assessments as moderately (3) to completely successful (5) in meeting the assessment goals, with a higher percentage of CBs rating the remote assessments as entirely successful (5). Eighty-eight % of both CBs and assessors want remotes to continue after the COVID-19 pandemic, with CBs most frequently suggesting that all or most assessments should be remote, and assessors most frequently suggesting that remotes assessments be held when meet certain conditions.

When asked how remote assessments can be improved, comments from CBs and assessors commonly fit in the following categories: (1) Better Preparation, Planning, Forms, Communication; (2) Standard File Sharing System or ICT Software; (3) CB or Assessor Choice for Remotes or Onsite, (4) Additional Technology Options for Witnesses, and (5) Time Zone Differences.

When asked if assessors have encountered challenges while conducting remote assessments, and if so, to describe, assessors comments most frequently cited (1) Internet/WIFI/Cell Connection Strength, (2) General Technology Problems, and Limited Video View/Technical Video Challenges.

Results of a much larger IAF/ILAC/ISO Survey to international stakeholders in August 2021 indicated quite similar trends to the ANAB Product surveys in satisfaction with remote assessments, confidence in remote assessments, and future preferences for remote assessments.

Case Study Conclusions

In early 2020, a CB contacted ANAB requesting accreditation that includes several certification schemes including the Federal Communications Commission (FCC)'s Telecommunications Certification Body (TCB) program. Although the CB had been accredited to these schemes for several years by another AB, it was considered an initial accreditation by ANAB. The FCC scheme requires all initial assessment to be conducted onsite. However, when scheduling the onsite, the

COVID-19 pandemic began, and with travel restrictions imposed at the time, traveling onsite became unworkable. In solution, ANAB conducted a remote assessment in July 2020, and then conducted an onsite assessment in September 2020. The onsite was to validate the remote assessment findings and to satisfy the FCC's requirement that the initial assessment shall be conducted onsite. The combination of conducting a remote assessment and then shortly thereafter an onsite assessment of the same CV allowed ANAB a unique opportunity to compare the merits of the two assessment methods.

In this case study, the LA was different in these two assessments with the onsite LA identifying three additional findings and verified the findings identified during the remote assessment. The TA was the same for both assessments and did not identify any new finding during the onsite assessment. The TA verified the findings identified during the remote assessment and reviewed TCB A's corrective actions associated with those findings. The TA assessed the competence of appropriate applicant employees both remotely and onsite. In both cases the TA was able to confirm that the applicant employed appropriately trained and competent personnel. All NCRs were addressed by TCB A and TCB A was granted accreditation by ANAB. Our review of this case gives us a degree of confidence that remote assessments can provide an effective alternative or complement to onsite assessments.

The Future of Remote Assessments

In March of 2021 when this study was initiated, it was easier to imagine scenarios when the COVID-19 pandemic would be over, and life would be back to normal. In December 2021, there now appears to be a new COVID-19 strain moving around the globe, causing nations to rapidly close borders and impose new travel restrictions. It is harder now to know or imagine when unfettered international travel will be allowed, and when it will be advisable again. It appears that all the lessons and practices learned in performing remote assessments will be in use for some time longer. Luckily, this paper helps provide insights on the consistency of results in using remote methods, and review of survey results indicating the broad acceptance of remote methods by CBs, assessors, ACC members, and even the international IAF/ILAC/ISO stakeholder community.

Appendix to Analysis of Remote Assessment Paper

Section B – Quantitative Analysis: Survey Results and Review

B-1: CB Survey on Remote Assessments:

CB Survey on Remote Assessments

ANAB would like to know your organization’s experience and opinions on remote assessments, so ANAB can improve its processes and plan for the future. This is also a part of a project to analyze the effects of remote assessments on ANAB’s Product group’s operations during the COVID-19 pandemic. Your comments and feedback will be kept anonymous. Thank you very much for your time.

1. Has your organization been assessed by ANAB remotely within the last year? Y or N
2. Has your organization’s headquarter(s) or critical office(s) been assessed by ANAB remotely? Y or N
3. Has your organization’s inspection(s) or audit(s) been evaluated remotely by ANAB via a remote witness assessment? Y or N
4. Overall, does your organization have a positive or negative impression on ANAB remote assessment? Positive Negative
5. On a scale of 1 to 5, did an ANAB remote assessment(s) of the headquarter(s) or critical office(s) successfully meet the assessment goals?

1 – Not successful	2 – Somewhat successful	3 – Moderately Successful	4 –
Very Successful	5 – Entirely successful		
6. On a scale of 1 to 5, did an ANAB remote witness assessment(s) of your organization’s inspection(s) or audit(s) successfully meet the assessment goals?

1 – Not successful	2 – Somewhat successful	3 – Moderately Successful	4 –
Very Successful	5 – Entirely successful		
7. Do you want ANAB to continue to offer remote assessments after the COVID-19 pandemic? Y or N
8. Do you want ANAB to continue to offer remote witness assessments of your organization’s inspection(s) or audit(s) after the COVID-19 pandemic? Y or N

9. What role do you envision for remote assessments in the future? Fill in the blank

10. How can ANAB remote assessments be improved? Fill in the blank

B-2: ANAB Assessor Survey on Remote Assessments

ANAB Assessor Survey on Remote Assessments

ANAB would like to know your personal experience and opinions on remote assessments, so ANAB can improve its processes and plan for the future. This is also a part of a project to analyze the effects of remote assessments on ANAB’s Product group’s operations during the COVID-19 pandemic. Your comments and feedback will be kept anonymous. Thank you very much for your time.

1. Have you conducted a remote assessment(s) within the last year? Y or N

2. Approximately, how many remote assessments have you done since working with ANAB?

 1 – one to ten remote assessments 2 – ten to 25 remote assessments 3 – 25 to 50 remote assessments 4 – over 50 remote assessments

3. Have you assessed a CB’s headquarter(s) or critical office(s) remotely? Y or N

4. Have you performed a remote witness assessment? Y or N

5. Overall, have you had a positive or negative experience with ANAB remote assessment(s)? Positive Negative

6. On a scale of 1 to 5, in your experience, did performing a remote assessment(s) on a CB’s headquarter(s) or critical office(s) successfully meet the assessment goals?

 1 – Not successful 2 – Somewhat successful 3 – Moderately Successful 4 – Very Successful 5 – Entirely successful

7. On a scale of 1 to 5, in your experience, did performing a remote witness assessment(s) successfully meet the assessment goals?

 1 – Not successful 2 – Somewhat successful 3 – Moderately Successful 4 – Very Successful 5 – Entirely successful

8. Do you want ANAB to continue to offer remote assessments after the COVID-19 pandemic? Y or N
9. Do you want ANAB to continue to offer remote witness assessments after the COVID-19 pandemic? Y or N
10. How confident are you that remote assessment(s) of CB headquarter(s) or critical office(s) get the same results as onsite assessment(s)?

1 – Not Confident at all 2- Somewhat confident 3 – Moderately Confident
4-Very Confident 5 – Entirely Confident
11. How confident are you that remote witness assessment(s) get the same results as onsite witness assessment(s)?

1 – Not Confident at all 2- Somewhat confident 3 – Moderately Confident
4-Very Confident 5 – Entirely Confident
12. Have you encountered challenges while conducting remote assessments? If so, please describe.
13. What role do you envision for remote assessments in the future? Fill in the blank
14. How can ANAB remote assessments be improved? Fill in the blank
15. What software, tool, training, or policies would you recommend to improve the remote assessment experience? Fill in the blank
16. If given the choice, would you opt to perform assessment remotely in the future? Y or N

B-3: ACC Member Survey on Remote Assessments

ACC Member Survey on Remote Assessments

ANAB would like to know your experience and opinions on remote assessments as a participant of an Accreditation Committee on Product Certification, so ANAB can improve its processes and plan for the future. This is also a part of a project to analyze the effects of remote assessments on ANAB’s Product group’s operations during the COVID-19 pandemic. Your comments and feedback will be kept anonymous. Thank you very much for your time.

1. Have you reviewed assessments performed remotely within the last year? Y or N

2. Approximately, how many remote assessments deliverables have you reviewed as part of your participation on an ACC?

1 – one to ten remote assessments deliverables 2 – ten to 25 remote assessments deliverables 3 – 25 to 50 remote assessments deliverables 4 – over 50 remote assessments deliverables

3. Overall, have you had a positive or negative impression of ANAB remote assessment(s)?
Positive Negative

4. On a scale of 1 to 5, in your reviews, did performing a remote assessment(s) on a CB's headquarter(s) or critical office(s) successfully meet the assessment goals and accreditation requirements?

1 – Not successful 2 – Somewhat successful 3 – Moderately Successful 4 – Very Successful 5 – Entirely successful

5. On a scale of 1 to 5, in your reviews, did performing a remote witness assessment(s) successfully meet the assessment goals and accreditation requirements?

1 – Not successful 2 – Somewhat successful 3 – Moderately Successful 4 – Very Successful 5 – Entirely successful

6. How can ANAB remote assessments be improved? Fill in the blank