Safety Culture Continuous Learning and Improvement

Task Order 4:

NRC Safety Culture Outreach Survey Supplement to Final Report

January 15, 2015

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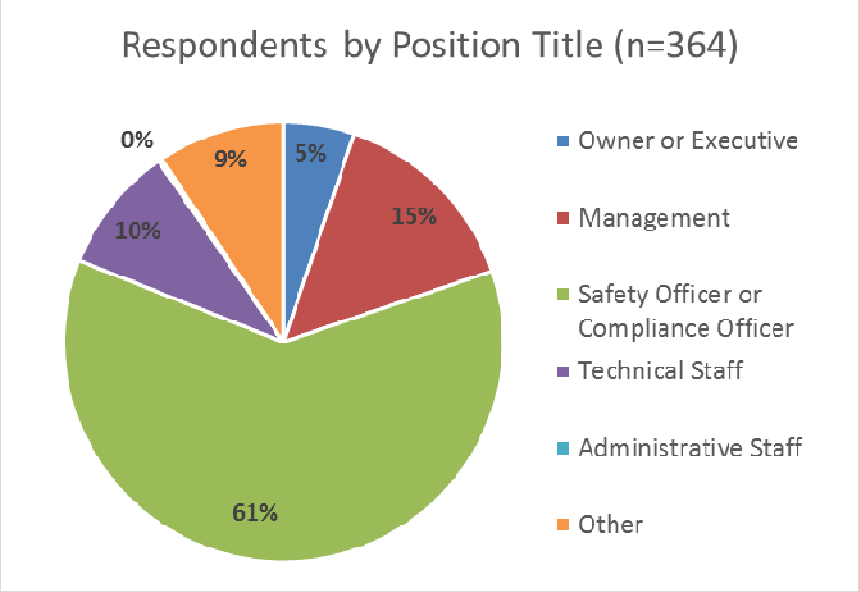
Appendix A: Data Analysis Findings – NRC Licensees

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze responses by subpopulation.

Figure 1: Respondents by Position Title



There were 364 total NRC licensee survey respondents. Out of 364 NRC licensees, over half of the survey respondents were Safety or Compliance Officers (61%) followed by Management (15%) and Technical Staff (10%). Those respondents who selected "Other" (9%) routinely identified their roles as some variation of Safety Officer or Management.

Table 1: Survey Respondents by License Type

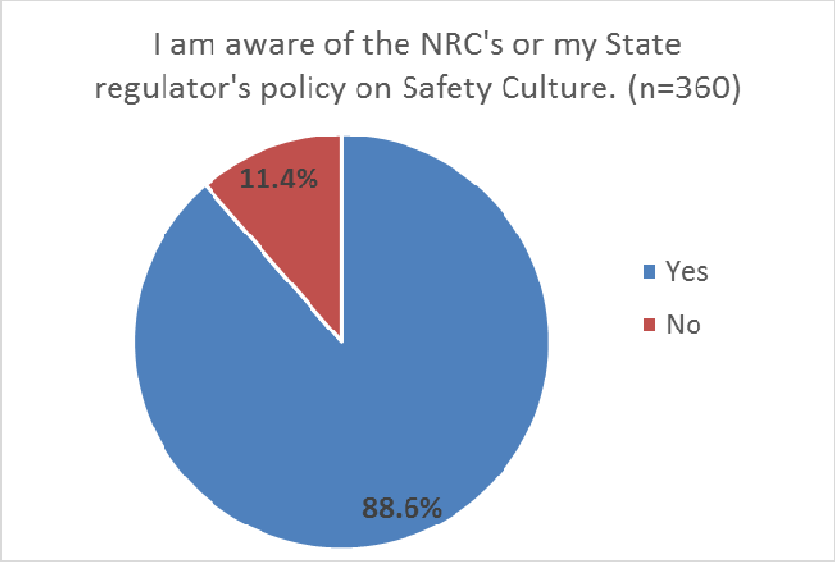
Subpopulation by License Type*	Number of Respondents
Portable Gauge Licensee	184
Fixed Gauge Licensee	79
Industrial Radiography/Logging Licensee	46
Irradiator Licensee	25
Master Materials Licensee	15
Medical Use Licensee	195
Broad Scope Licensee	82
R&D, Gas Chromatographs, and X-Ray Fluorescence Licensee	43
Exempt Distribution Licensee	10
Possession License for Manufacturing and Distribution	31
Commercial Radiopharmacy Licensee	12
Service Provider Licensee	23
License for Special Nuclear Material of Less Than Critical Mass	14
Spent Fuel Storage Licensee	8
Fuel Cycle Facility Licensee	5
Other	76

*(*As some licensees may hold multiple license types, above subpopulations are not mutually exclusive)*

Awareness of Safety Culture

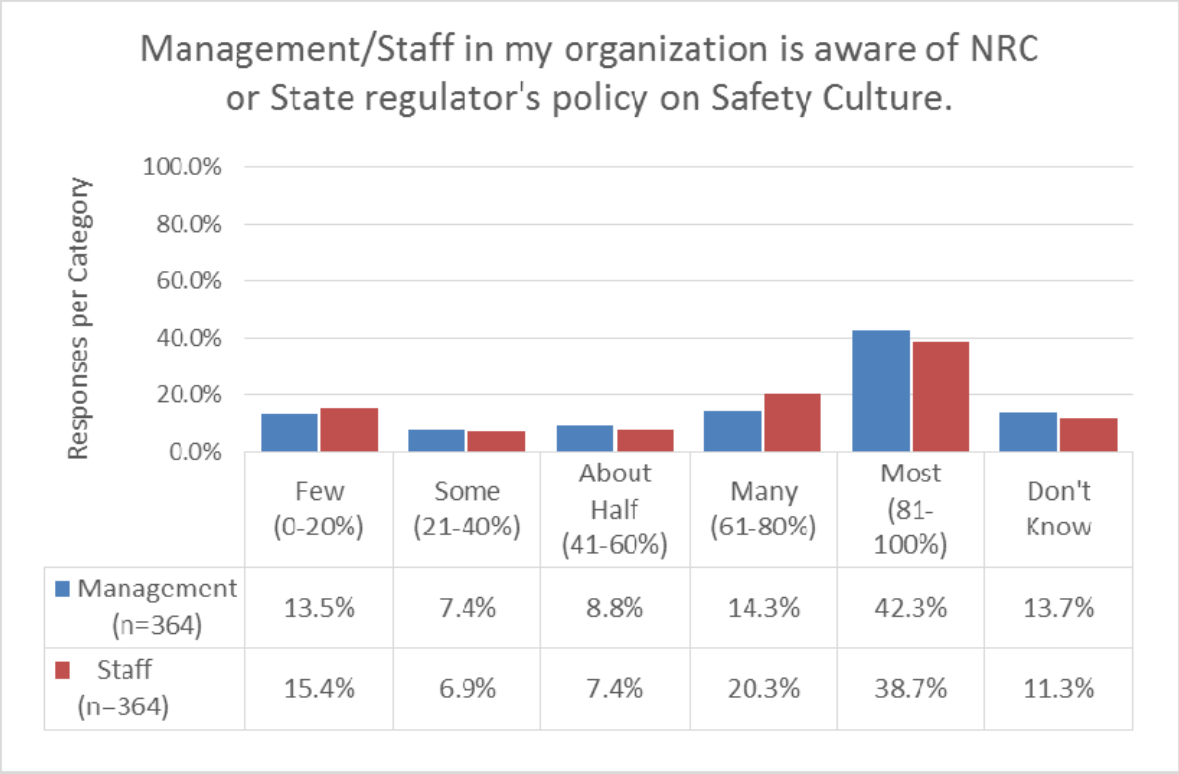
Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents understand where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the Safety Culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Figure 2: Respondent Awareness of Safety Culture Policy



A large majority of the respondents (88.6%) is aware of the NRC or their Agreement State's policy on Safety Culture. This presents positive feedback in that the population surveyed is receiving some type of communication concerning the NRC's or their State regulator's policy.

Figure 3: Management and Staff Awareness of Safety Culture Policy



	Few (0-20%)	Some (21-40%)	About Half (41-60%)	Many (61-80%)	Most (81-100%)	Don't Know
Management (n=364)	13.5%	7.4%	8.8%	14.3%	42.3%	13.7%
Staff (n=364)	15.4%	6.9%	7.4%	20.3%	38.7%	11.3%

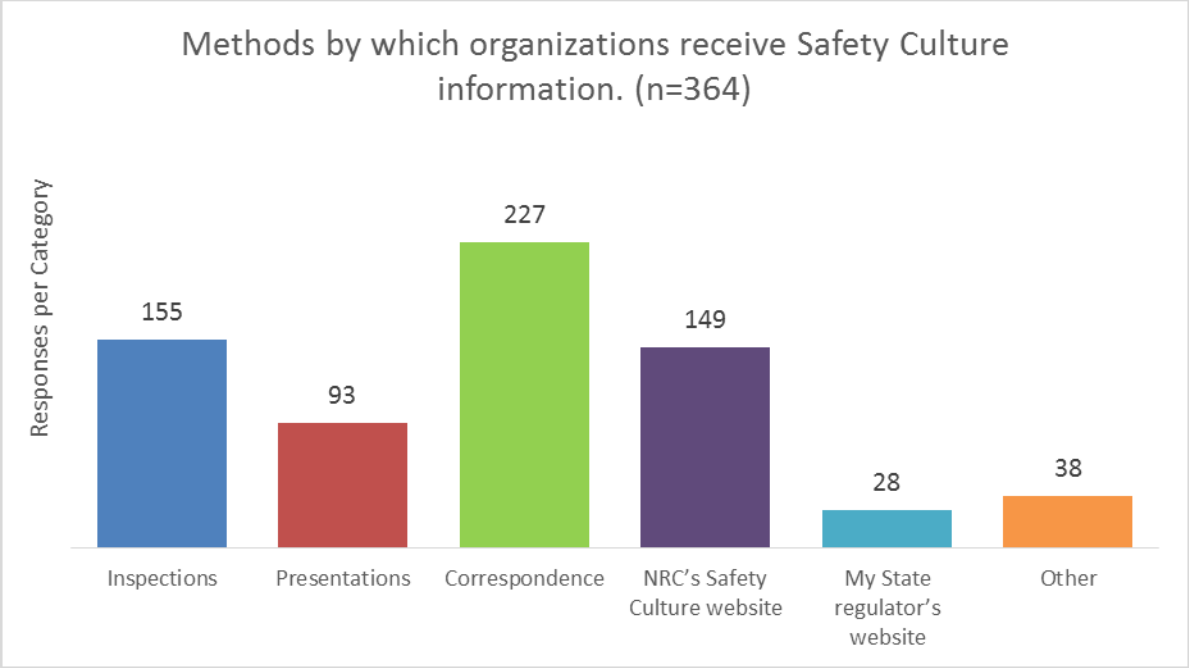
In general, respondents perceived management awareness and staff awareness at their organizations similarly. When questioned, 42.3% of respondents thought most management was aware as compared to 38.7% that believed most staff was aware. When combining the "many" and "most" categories, over half of the respondents felt the majority of management and staff at their organizations were aware. Although this is positive feedback, a significant percentage of respondents, over 20%, believed only a few or some management and staff in their organizations were aware of Safety Culture policy. This may pose some concern and indicates there is room to increase the awareness of NRC and Agreement State policy.

Respondents provided a lot of safety. One respondent stated that, "People need to be reminded that safety is there and everyone's responsibility." Another respondent said, "Reminders of specific safety issues is always useful. It brings certain issues into the forefront and refreshes everyone's commitment to safety."

Distribution of NRC Safety Culture Products

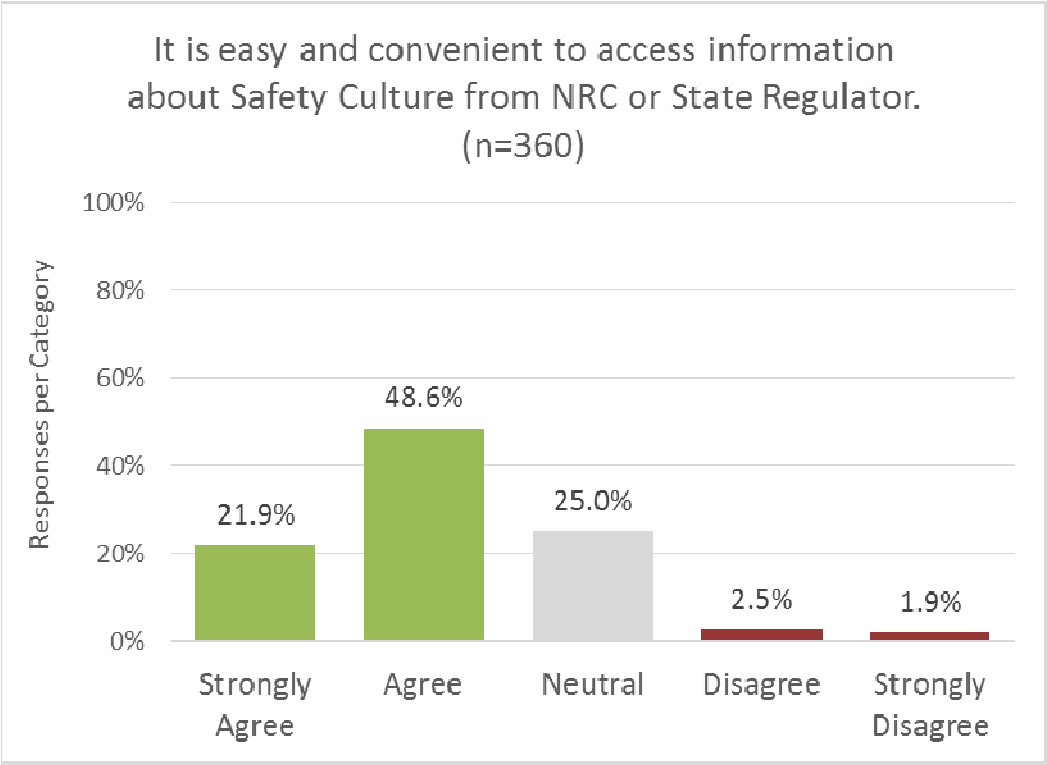
The distribution survey questions helped to understand how organizations access the NRC Safety Culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive Safety Culture information, determine how accessible Safety Culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 4: Methods by Which Organizations Received Safety Culture Information



Survey respondents noted most frequently that correspondence (such as emails and letters) was the method by which their organizations received Safety Culture information. Inspections was noted second most frequently. Several respondents stated they received further information and education from inspectors who visited their sites. One respondent said, "It is always helpful when an inspector or licensee staff guide you in Safety Culture in a positive manner."

Figure 5: Ease and Convenience of Accessing Safety Culture Information



Respondents provided their agreement level with the statement "It is easy and convenient to access information about Safety Culture from NRC or my State regulator." A large majority (70.5%) agreed or strongly agreed with this statement. Approximately 30% were either neutral or did not find it easy and convenient to access Safety Culture information. Although the majority of responses were favorable, unfavorable and neutral responses suggest further efforts are necessary to educate a wider audience on the availability of Safety Culture information. It is necessary that information be accessible whenever needed. Much information is currently available via both the NRC's and the State regulator's websites. Further education and communication may further help make this known.

Figure 6: Usefulness of Safety Culture Information Received

Respondents provided their agreement level with the following statement "The information my organization has

received about Safety Culture is useful." The majority (69.9%) agreed or strongly agreed the information was useful. Repeatedly, respondents stated the information was useful as an addition to training in place or as supplemental information for continual awareness. Despite this positive feedback, nearly a third of respondents were neutral or did not find the information useful. On specific occasions, respondents noted that the information was not useful because there was already a robust training or awareness program in place and, therefore, no additional or supplemental information was needed from NRC. One respondent provided the following explanation:

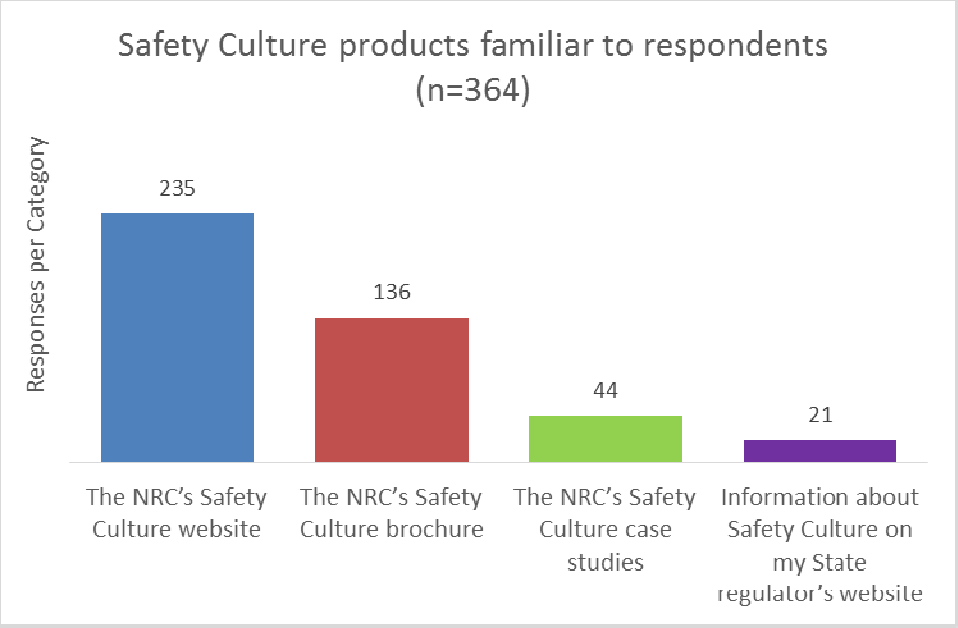
> *"The company itself has a very developed plan for the Safety Culture. We have been owned by this particular company for ten years and with it came our EHS program with commitment cards which state a lot of the responsibilities noted in [the NRC's] presentation. The Safety Culture is not new to me or my employees."*

Respondents provided positive feedback regarding the NRC materials. They stated materials were easily accessible and useful to educate people and supplement current training programs. Respondents considered the NRC website a good source of information and regarded Inspections as a reinforcement of the safety messages, policies, and procedures. However, some respondents reported they have not received any information or materials from NRC or their State regulator, including website updates, brochures, emails, or case studies.

Products for NRC Safety Culture Education and Outreach

These questions elicit an understanding respondents' familiarity with various NRC Safety Culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as Safety Culture information available on the State regulator's website.

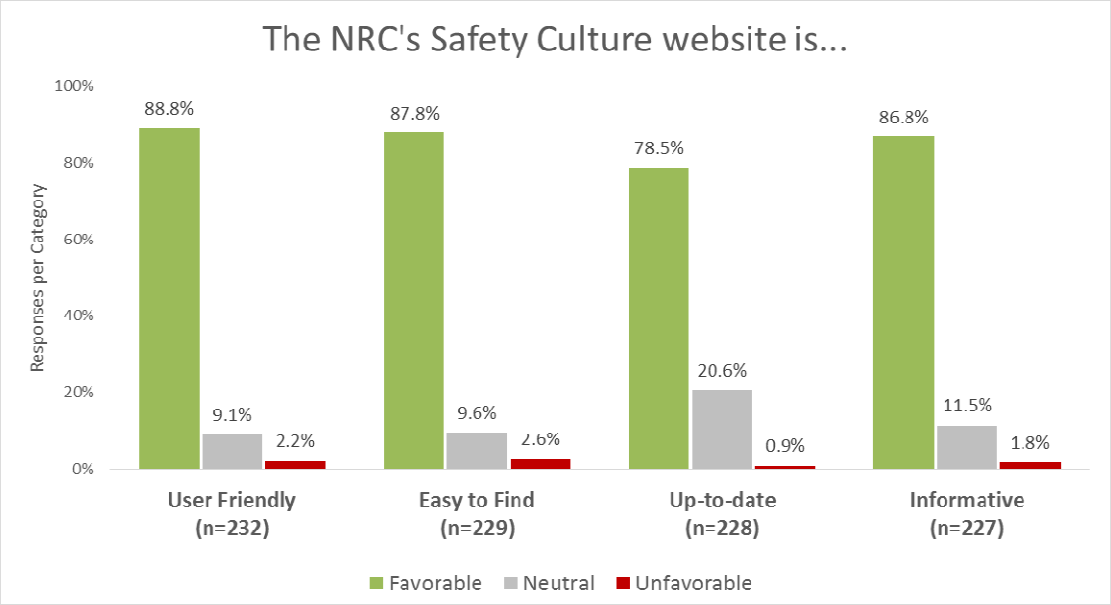
Figure 7: Safety Culture Products Familiar to Respondents



When asked what Safety Culture products they were familiar with, respondents noted the NRC Safety Culture website most frequently (235). This was followed by the NRC Safety Culture brochure (136). Respondents were least familiar with the NRC Safety Culture case studies (44) and the State regulator's website (21). Out of 364 total NRC license survey respondents, only 37% of respondents were familiar with the brochure and 12% familiar with the case studies. These figures indicate that communication within the NRC itself could be improved to educate personnel on the availability of products especially the brochure and the case studies. Several respondents stated that NRC materials were useful in educating their employees and supplementing their current training programs. Some respondents reported they had very mature and well developed Safety Culture programs in place so there was not much need for support from NRC. Some operations identified themselves as smaller and not warranting too much assistance. Some were unable to understand the highly technical information on brochures, case studies and websites.

NRC Safety Culture Website

Figure 8: NRC Safety Culture Website Summary



Of the 364 NRC licensees that participated in the survey, 232 answered questions relating to the NRC's Safety Culture website. The majority responded favorably when asked about the NRC website. Most respondents reported that the NRC website was very user friendly, easy to find, up-to-date, and informative. Additional comments revealed that respondents found the website fast loading, well-designed, and easy to access. Few respondents noted improvements that could enhance the existing site. They wanted more case studies, clickable squares, and automatic email notifications when new features or information is added to the website or content is updated.

NRC Safety Culture Brochure

Figure 9: NRC Safety Culture Brochure Summary Chart (1 of 2)

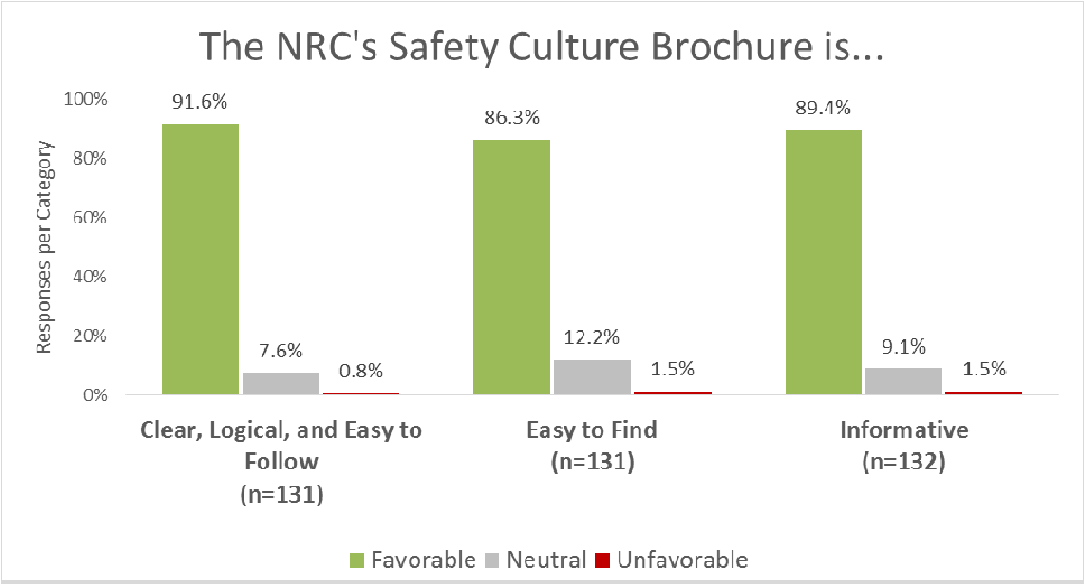
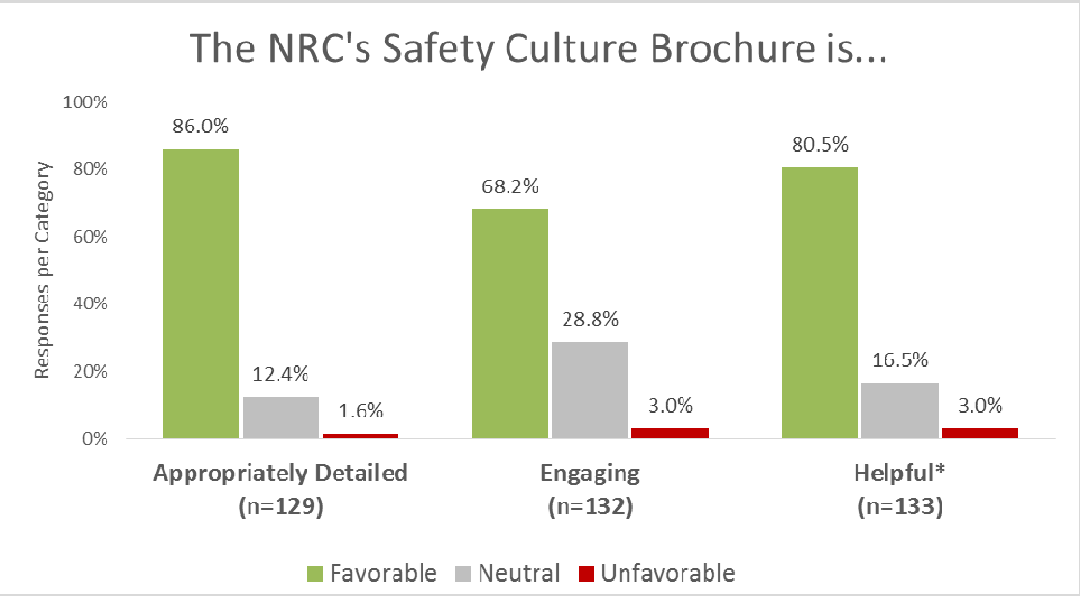


Figure 10: NRC Safety Culture Brochure Summary Chart (2 of 2)



Of the 364 total NRC licensee respondents, 133 answered questions pertaining to the NRC's Safety Culture Brochure. Most respondents reported that the NRC safety brochure was well-developed, appropriately detailed, informative, easy to find, and clear, logical, and easy to follow. Respondents consistently noted the brochure was utilized for various meetings and training purposes. The majority found the brochure to be clear, logical, and easy to follow (91.6%) and informative (89.4%). Despite this, feedback was reported the brochure needed more explanation and/or simplification. There was concern that the brochure language was rather technical in nature and could be simplified for people, other than the experts, to be able to use it for informational and educational purposes.

One survey question about the brochure yielded less positive feedback in comparison to the consistently positive feedback from other questions. When asked if the NRC Safety Culture brochure was engaging, only 68.2% responded favorably and 28.8% responded neutral. The percentage of favorable responses was much lower when compared to the results of all other brochure characteristics (informative, easy to find, etc.). This shows that even though respondents found the brochure easy to follow and appropriately detailed, improvement can be made to make the brochures more engaging.

NRC Safety Culture Case Studies

Figure 11: NRC Safety Culture Case Studies Summary Chart (1 of 2)

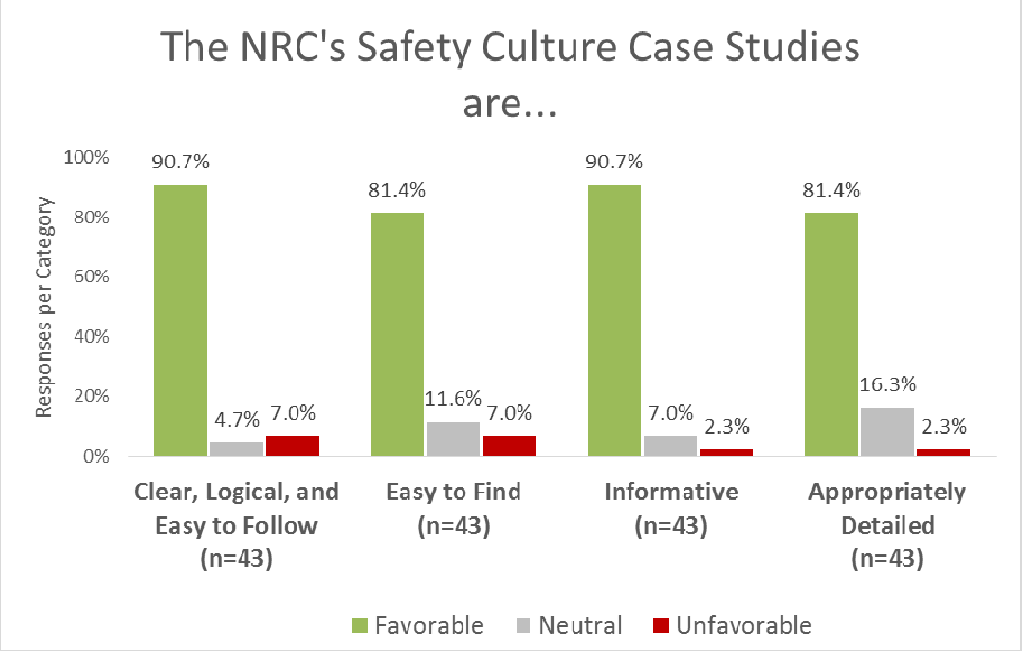
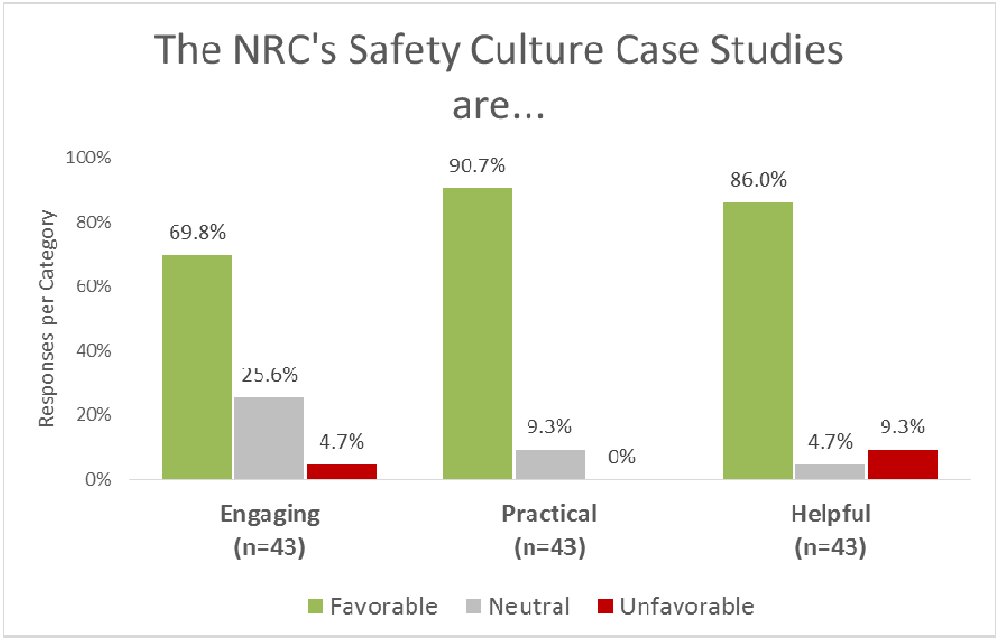


Figure 12: NRC Safety Culture Case Studies Summary Chart (2 of 2)



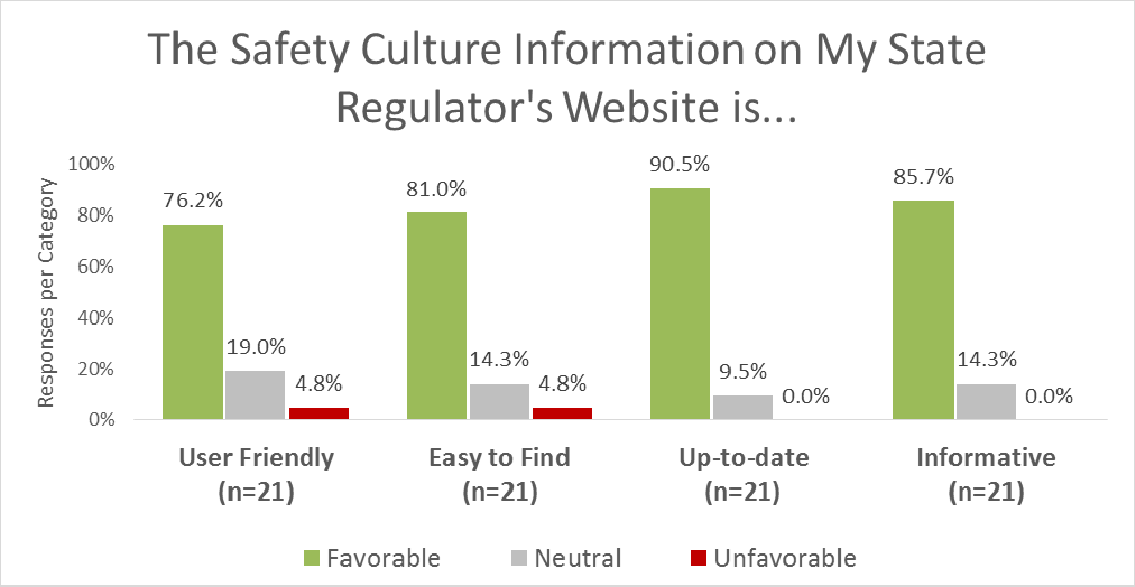
Of the 364 NRC licensees that participated in the survey, 43 responded to questions pertaining to the NRC's Safety Culture case studies. Most respondents appreciated the case studies and said they used them for training and informational purposes. Over 90% favorably found the case studies to be informative, practical, and clear, logical, and easy to follow. As was the case with the NRC's Safety Culture brochure feedback, a smaller percentage of respondents (69.8%) found the case studies engaging and a higher percentage (25.6%) replied neutral in comparison to the other case studies characteristics. This shows that even though respondents found the case studies easy to follow and informative, improvements can be made to make the brochures more engaging.

It is important to remember that significantly fewer survey respondents stated they were familiar with the case studies

in comparison to other Safety Culture products. Only 43 of 364 survey respondents answered questions pertaining to the case studies. Few respondents suggested more examples and more specific case studies (e.g. with specific radioactive cases) be developed because they did not find the current ones applicable to their daily work. This provides an opportunity to increase the awareness and utilization of case studies.

State regulator Website Safety Culture Information

Figure 13: State regulator's Website Feedback Summary



Of the 364 NRC licensee participants, only 21 answered questions pertaining to Safety Culture information on the State regulator's website. Majority of respondents found their State regulator's website to be user friendly, easy to find, up-to-date, and informative. Over 90% of felt the information on their State regulators' websites was up-to-date. The limited number of survey respondents for questions concerning Safety Culture information on the State regulator's website is likely due to this group being NRC license holders and therefore this question is less relevant or not applicable. In contrast, several respondents commented their State regulator websites were difficult to navigate and not user friendly.

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 14: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, nearly 66% of respondents replied favorably. When combining the neutral and unfavorable responses, 34% of respondents were not satisfied. This indicates room for improvement. Respondents would like to see more consistent communications and more readily available information concerning

However, there were some respondents who reported that they have not received any information from NRC or have not heard anything about Safety Culture. Several respondents stated that this survey was the first time they had been made aware there was even a Safety Culture policy. Some were unable to understand the technical nature of the communications. This brings an issue to the surface that communications are not reaching all intended parties.

Figure 15: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, over 68% responded favorably, 24% indicated neutral and nearly 8% responded unfavorably. Concerning quality of communications, room for improvement remains.

Summary of Qualitative Feedback:

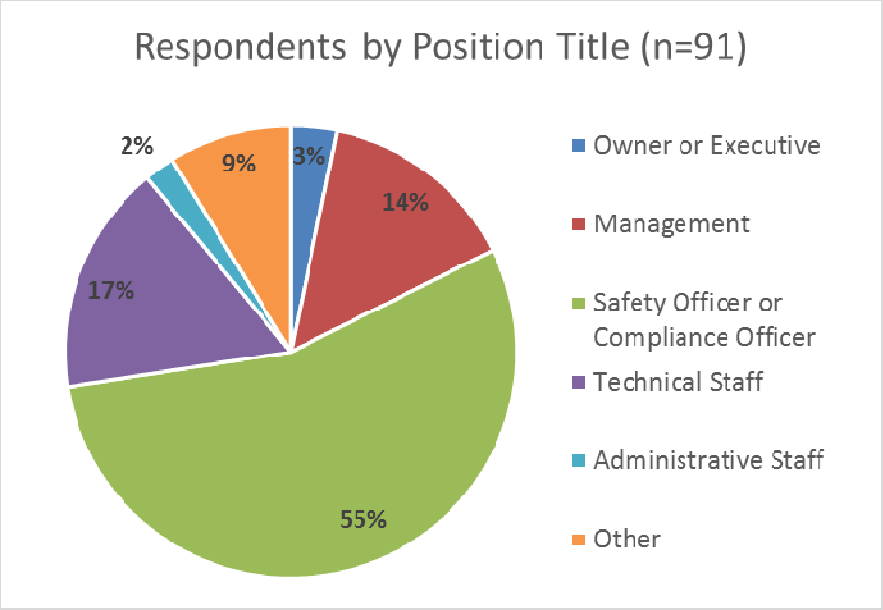
- Send regular updates (if any) to RSO
- Address safety culture in a positive manner
- Improve dissemination of data and information

Appendix B: Data Analysis Findings – Illinois

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze responses by subpopulation.

Figure 16: Respondents by Position Title



There were a total of 91 survey respondents who identified themselves as Illinois license holders. Over half identified themselves as Safety or Compliance Officers. Management, Technical Staff, and "Other" were the next most chosen positions. Over a third of respondents hold Medical Use Licenses.

Table 2: Survey Respondents by License Type

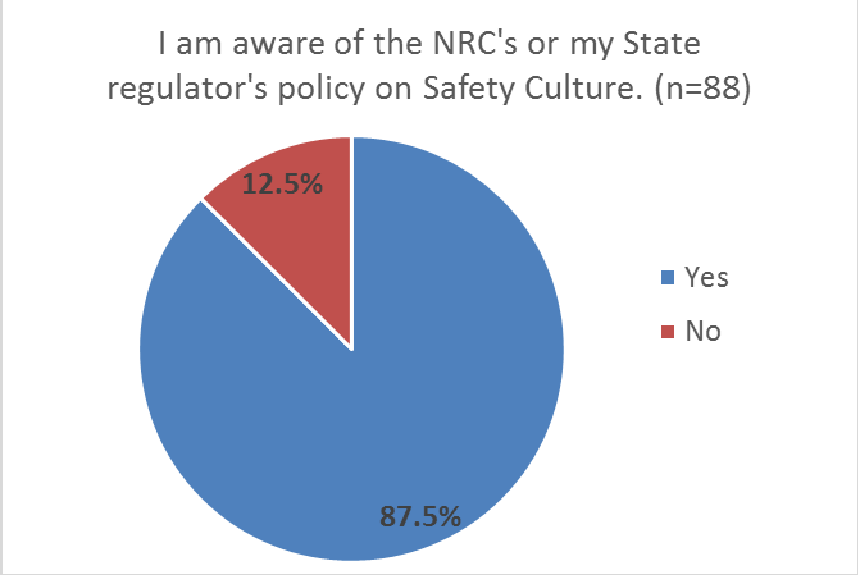
Subpopulation by License Type*	Number of Respondents
Portable Gauge Licensee	14
Fixed Gauge Licensee	5
Industrial Radiography/Logging Licensee	6
Irradiator Licensee	1
Master Materials Licensee	2
Medical Use Licensee	34
Broad Scope Licensee	8
Research and Development, Gas Chromatographs, and X-Ray Fluorescence Licensee	8
Exempt Distribution Licensee	0
Possession License for Manufacturing and Distribution	2
Commercial Radiopharmacy Licensee	3
Service Provider Licensee	4
License for Special Nuclear Material of Less Than Critical Mass	2
Spent Fuel Storage Licensee	1
Fuel Cycle Facility Licensee	0
Other	13

*(*As some licensees may hold multiple license types, above subpopulations are not mutually exclusive)*

Awareness of Safety Culture

Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents are educated on where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the Safety Culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Figure 17: Respondent Awareness of Safety Culture Policy



A large majority of the respondents (87.5%) is aware of the NRC or their Agreement State's policy on Safety Culture. Several respondents noted that this survey was the first they had heard of Safety Culture policy. This presents positive feedback overall in that the population surveyed is receiving some type of communication concerning the NRC's or their State regulator's policy.

Figure 18: Management Awareness of Safety Culture Policy

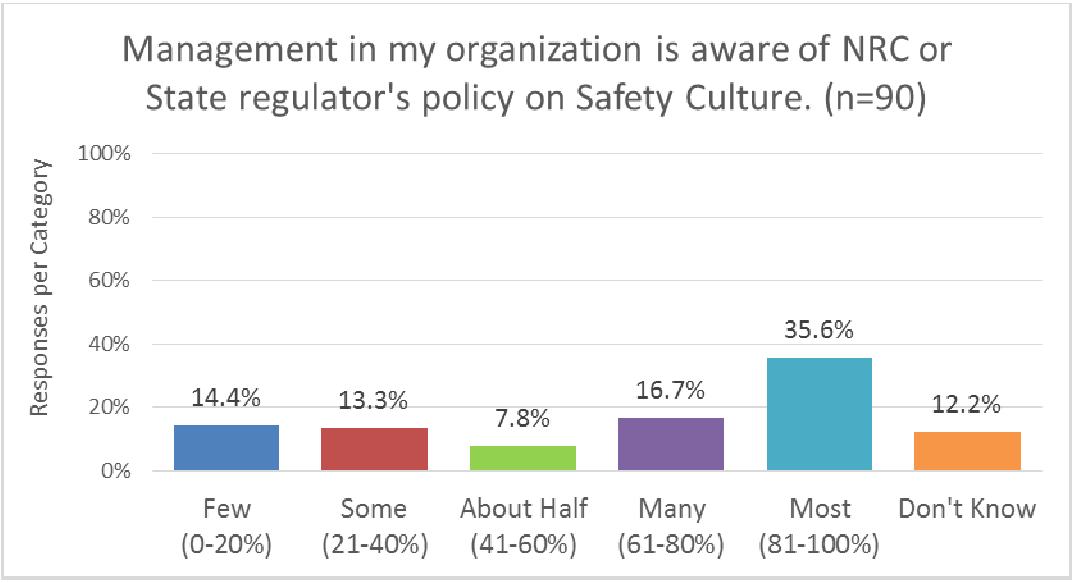
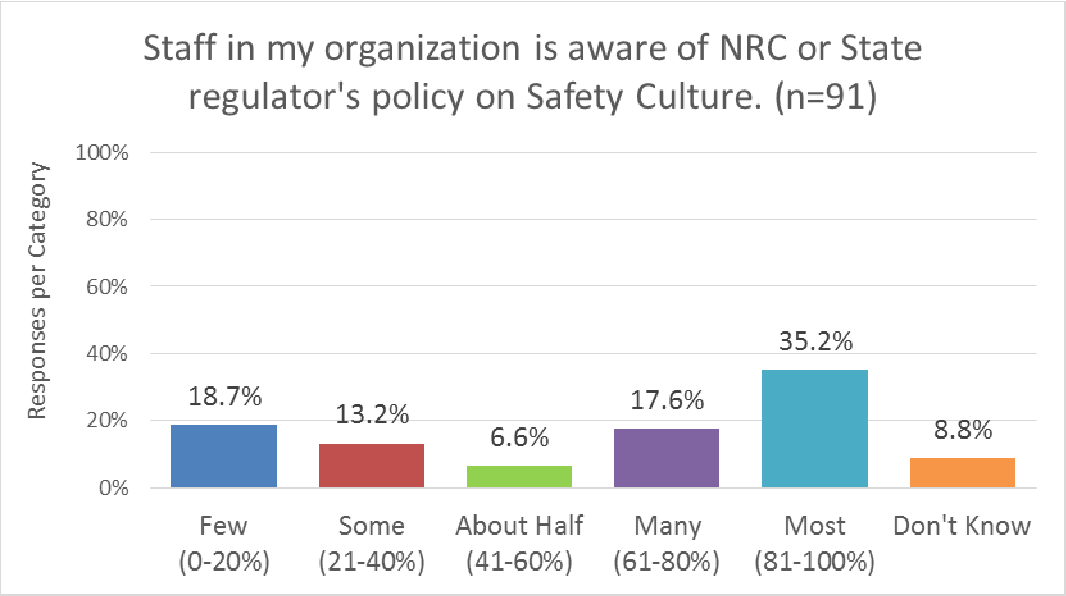


Figure 19: Staff Awareness of Safety Culture Policy W License Type

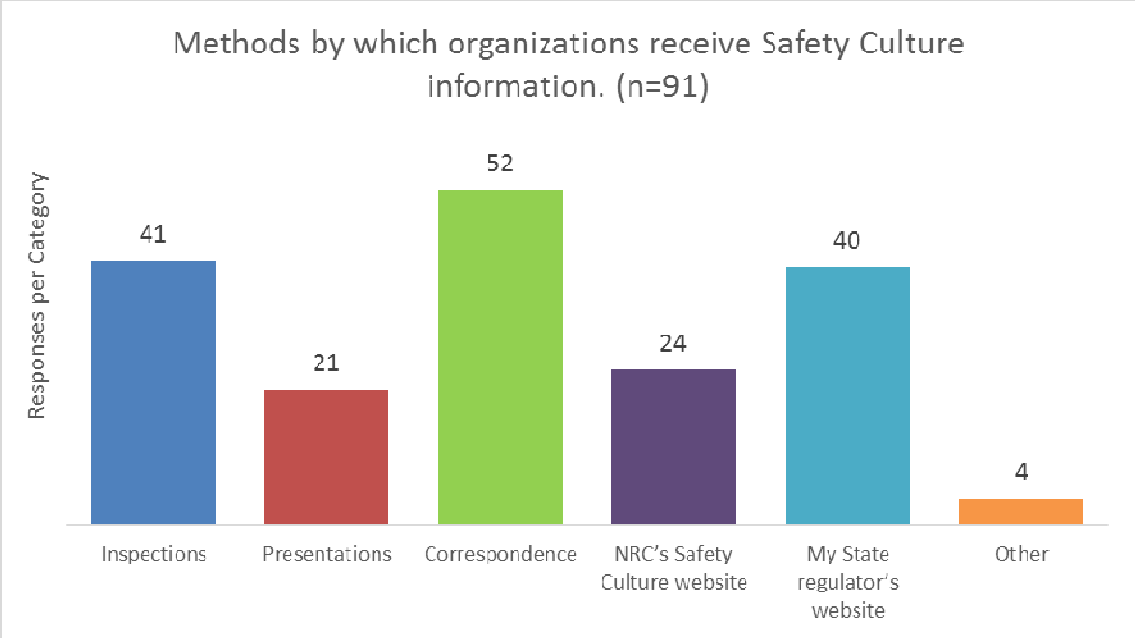


In general, respondents perceived management and staff awareness at their organizations similarly. When questioned, over half of the respondents felt many or most of the management and staff at their organizations were aware. This feedback is relatively positive but there is a rather large percentage of respondents (over one-third) who only perceive that few or some of the management and staff are aware of Safety Culture policy. This may pose some concern and indicates there is room to increase the awareness of NRC and Agreement State policy. This may indicate that Safety Culture awareness is not readily discussed and therefore respondents assume others are unaware as a result.

Distribution of NRC Safety Culture Products

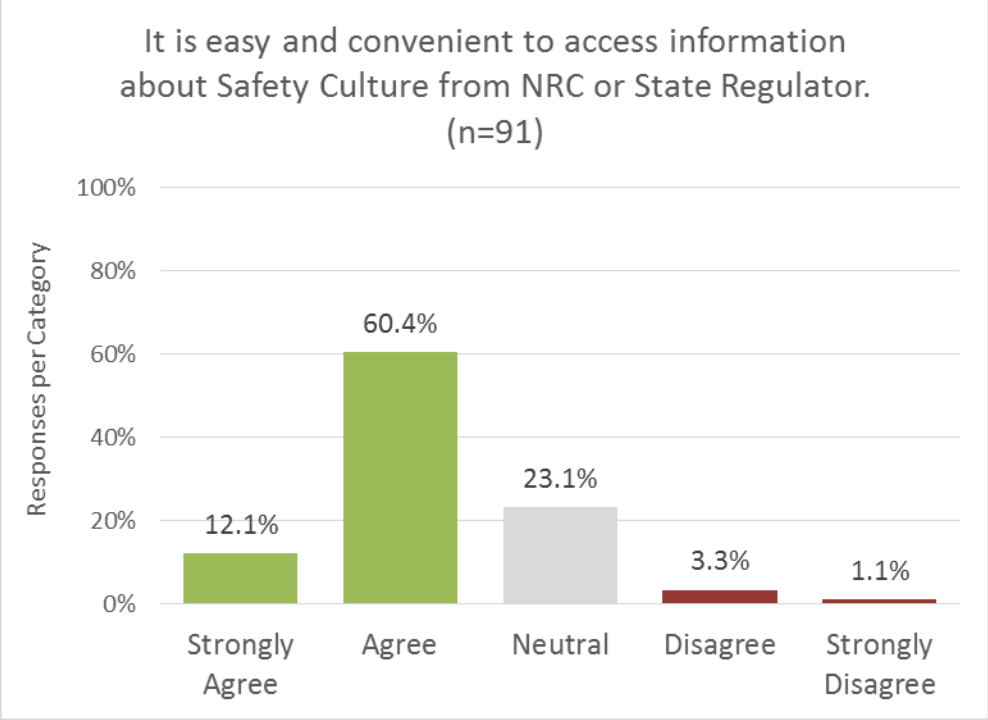
The distribution survey questions helped to understand how organizations access the NRC Safety Culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive Safety Culture information, determine how accessible Safety Culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 20: Methods by Which Organizations Received Safety Culture Information



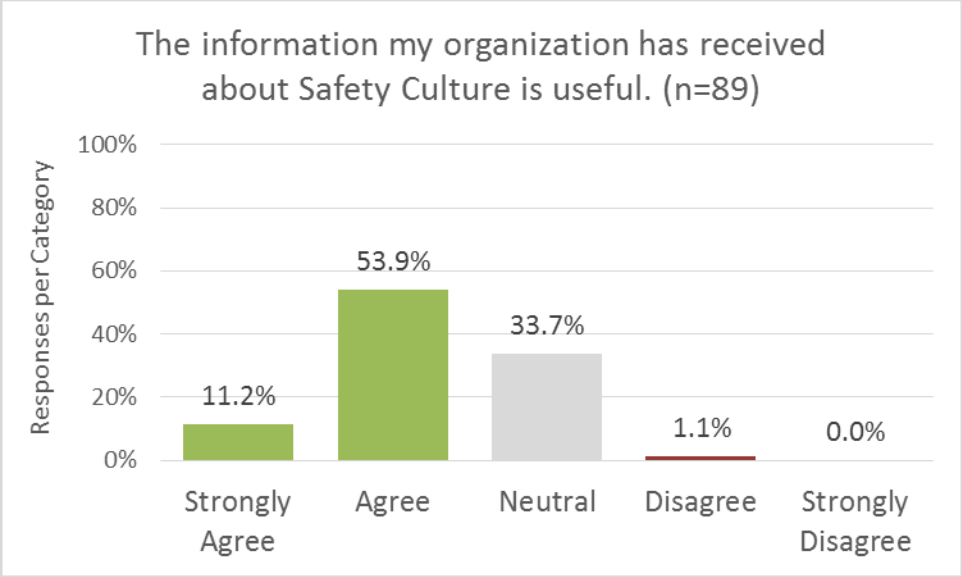
Survey respondents noted most frequently that correspondence (such as emails and letters), inspections, and the State regulator's website were the methods by which their organizations received Safety Culture information.

Figure 21: Ease and Convenience of Accessing Safety Culture Information



Respondents provided their agreement level with the statement "It is easy and convenient to access information about Safety Culture from NRC or my State regulator." A large majority (72.5%) of respondents agreed or strongly agreed with this statement. Approximately one-quarter of respondents were either neutral or did not find it easy and convenient to access Safety Culture information. Several respondents felt the State regulator's website it was "difficult to find information" and "unfriendly." One respondent stated "at times it's hard to reach the local NRC office because our contact only works part time." Conversely, one respondent said the "State regulatory agency does a good job of managing and organiz[ing] safety information." Although the majority of responses were favorable, unfavorable and neutral responses suggest further efforts are necessary to educate a wider audience on the availability of Safety Culture information.

Figure 22: Usefulness of Safety Culture Information Received

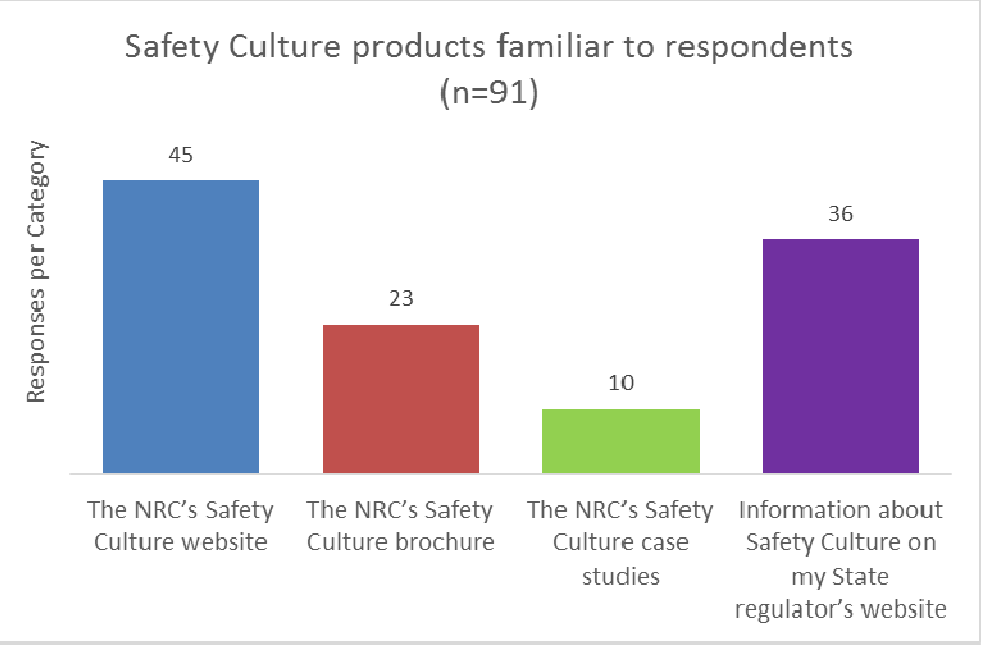


Respondents provided their agreement level with the following statement "The information my organization has received about Safety Culture is useful." The majority (over 65%) agreed or strongly agreed the information was useful. Repeatedly, respondents stated the information was useful as an addition to an existing training program or as supplemental information for continual awareness. One respondent said his organization put new processes in place, including checklists, because of Safety Culture awareness. One respondent stated, "It was suggested by the NRC that we embrace Safety Culture. We hired a well-experienced consultant…We have found Safety Culture very useful, most employees now know about it." Despite this positive feedback, over a third of respondents were neutral or did not find the information useful. On specific occasions, respondents noted that the information was not useful because there was already a robust training or awareness program in place and, therefore, no additional or supplemental information was needed from NRC.

Products for NRC Safety Culture Education and Outreach

These questions focus on understanding respondents' familiarity with various NRC Safety Culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as Safety Culture information available on the State regulator's website.

Figure 23: Safety Culture Products Familiar to Respondents



When asked what Safety Culture products they were familiar with, respondents noted the NRC's Safety Culture website most frequently followed by their State regulator's website.

NRC Safety Culture Website

Figure 24: NRC Safety Culture Website Is User Friendly

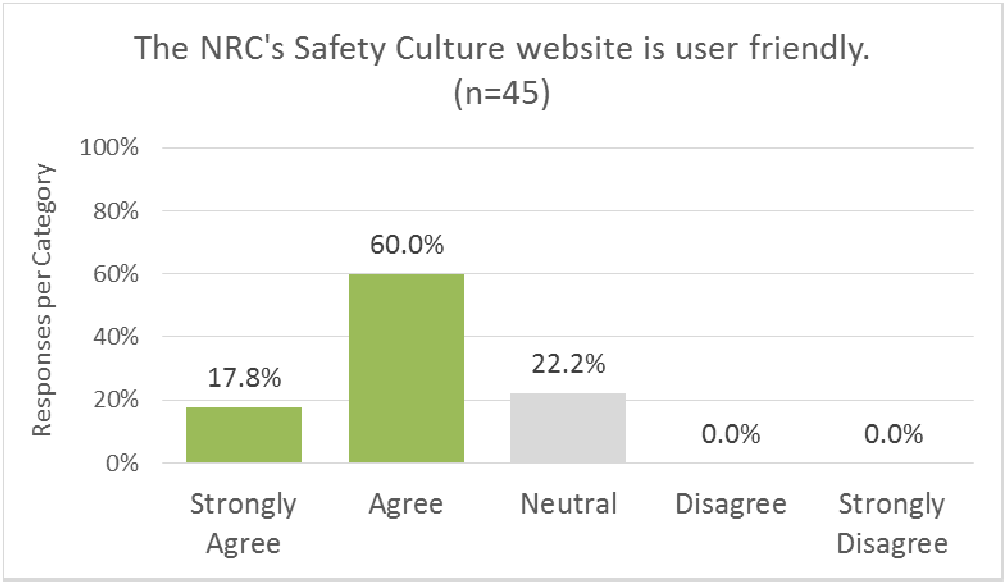


Figure 25: NRC Safety Culture Website Is Easy to Find

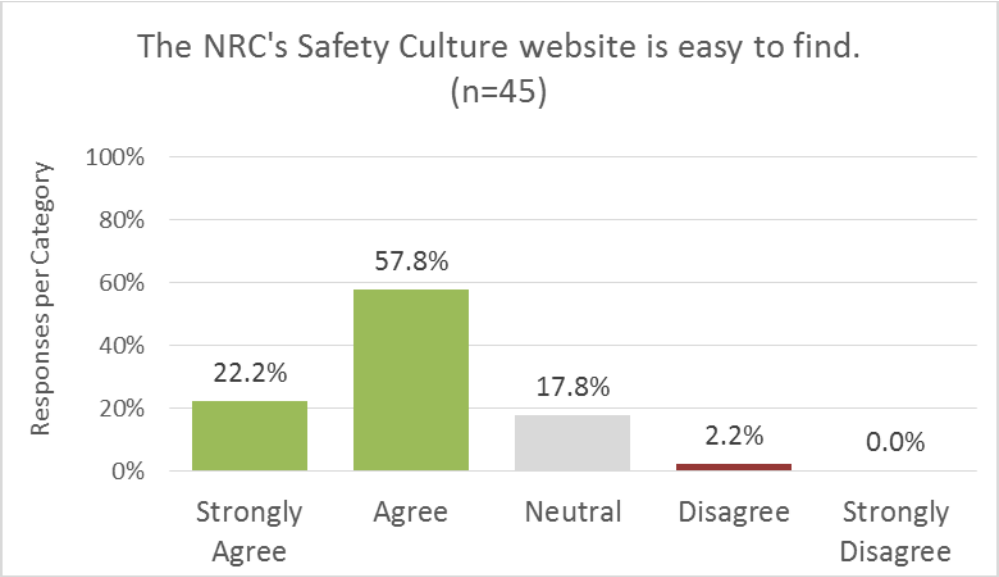


Figure 26: NRC Safety Culture Website Is Up-to-Date

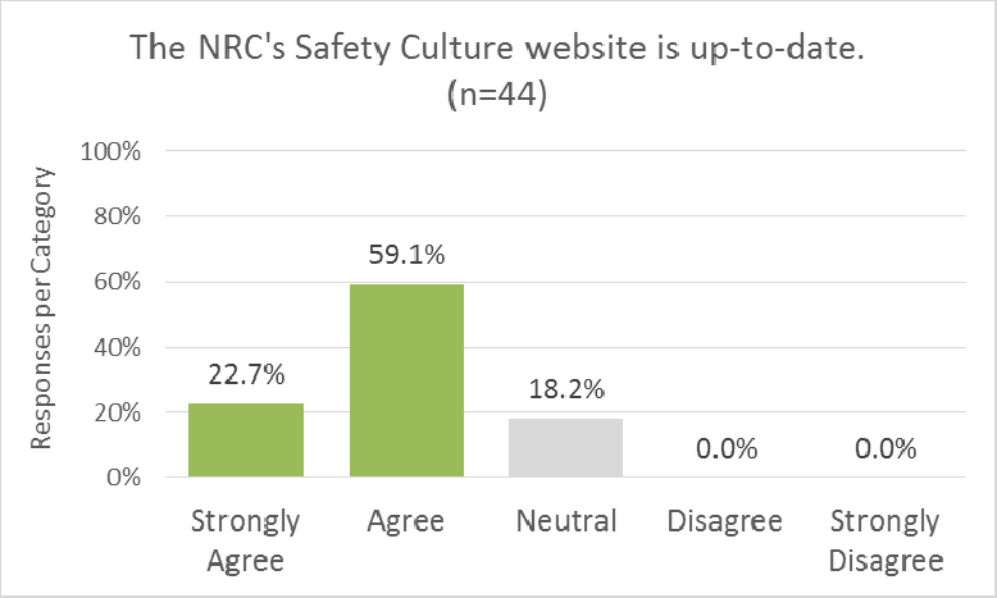
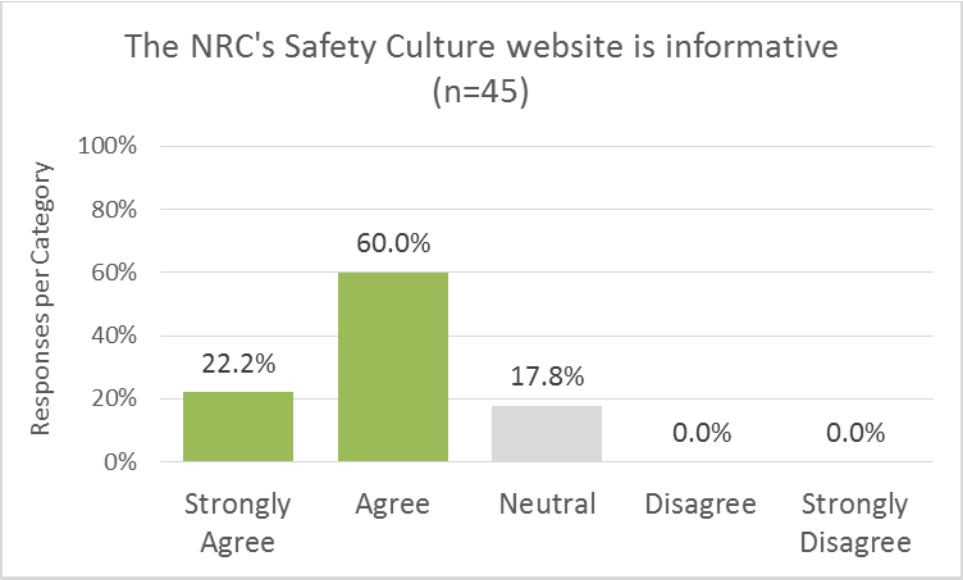


Figure 27: NRC Safety Culture Website Is Informative



Of the 91 Illinois licensee survey participants, 45 answered questions regarding the NRC's Safety Culture website. Overall, majority of the respondents found the NRC website to be user friendly, easy to find, up-to-date, and informative. One respondent stated "We have used it several times and intend to continue using it. We like the Trait Talks." There was a noticeable percentage of respondents who felt neutral when asked about NRC Safety Culture website characteristics.

NRC Safety Culture Brochure

Figure 28: NRC Safety Culture Brochure Is Clear, Logical, and Easy to Follow

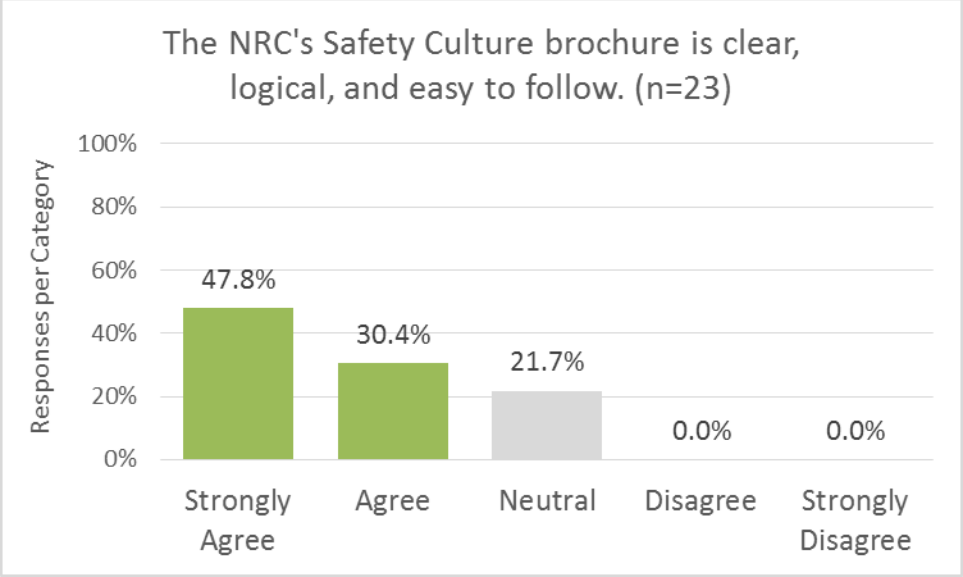


Figure 29: NRC Safety Culture Brochure Is Easy to Find

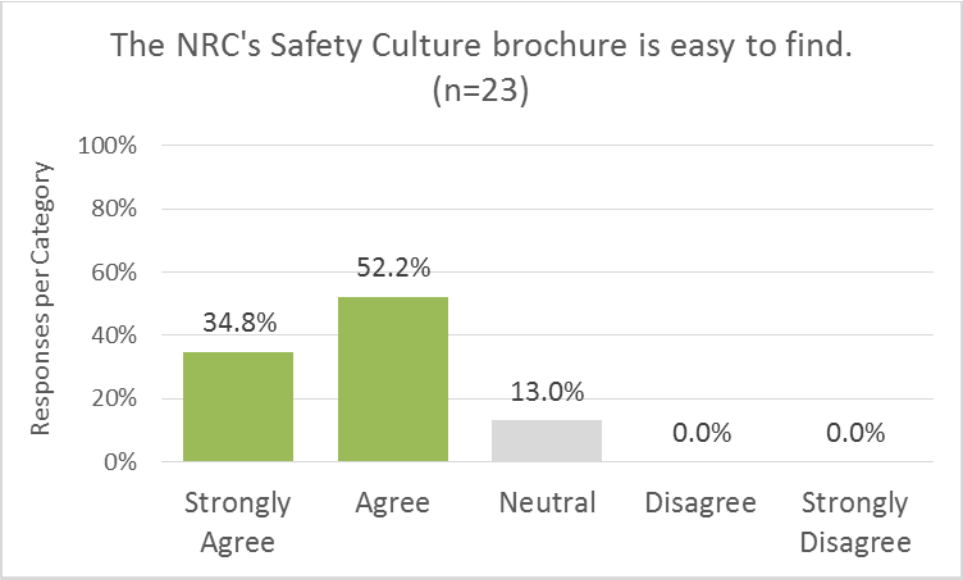


Figure 30: NRC Safety Culture Brochure Is Informative

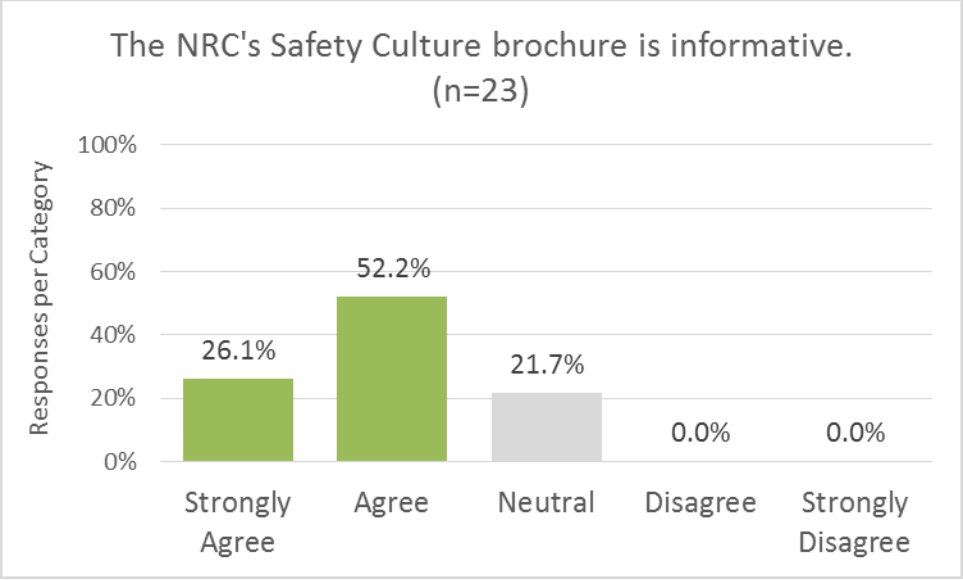


Figure 31: NRC Safety Culture Brochure Is Appropriately Detailed

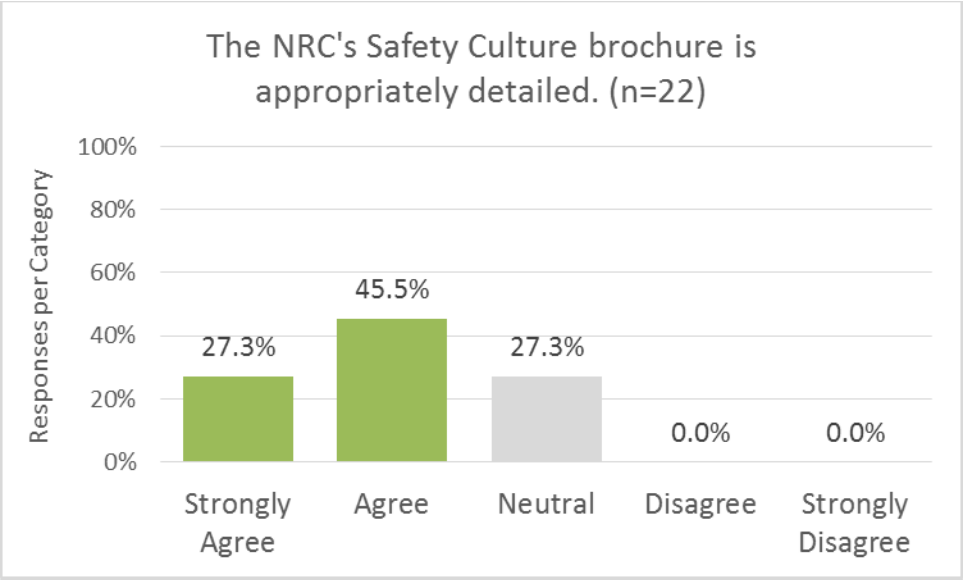


Figure 32: NRC Safety Culture Brochure Is Engaging

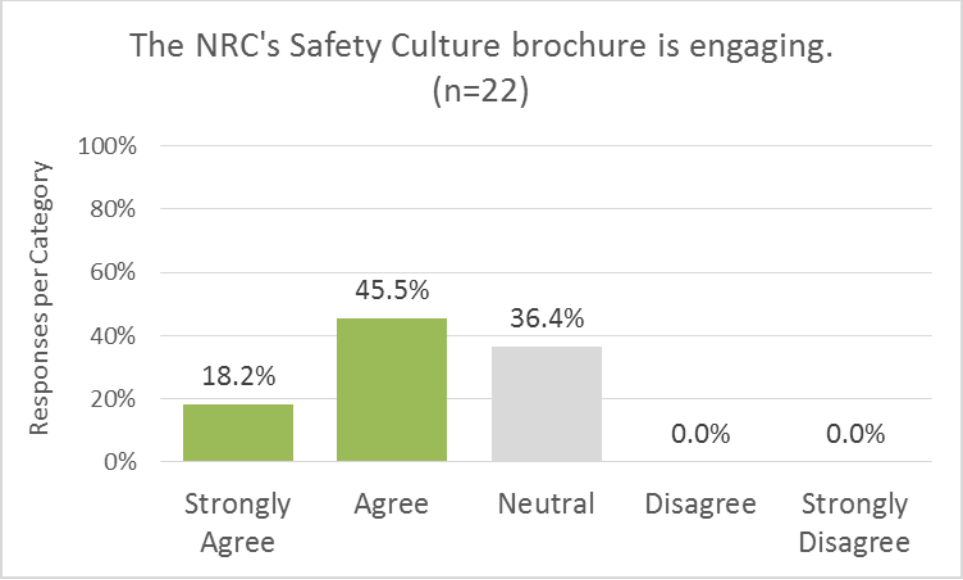
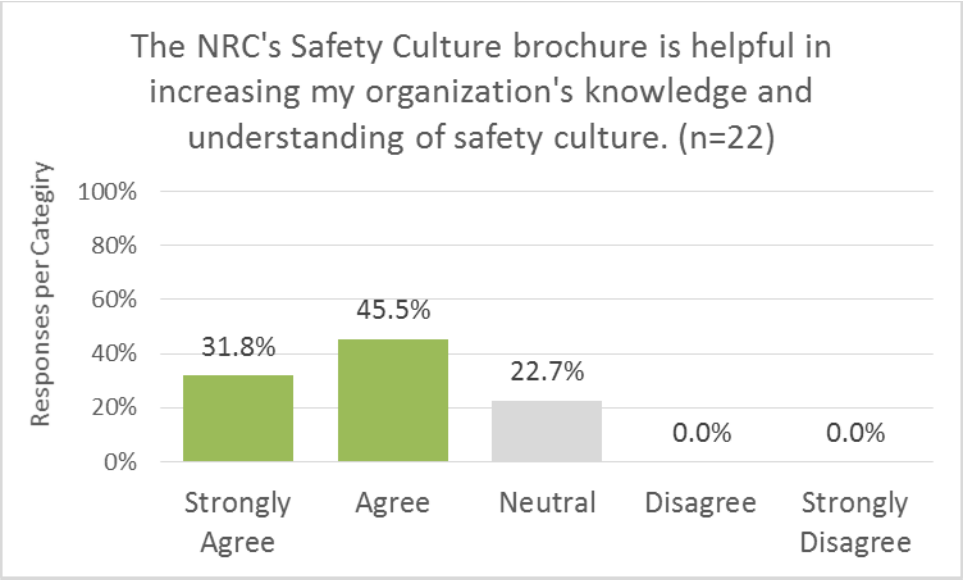


Figure 33: NRC Safety Culture Brochure Is Helpful



Of the 91 Illinois licensee participants, 23 answered questions pertaining to the NRC's Safety Culture brochure. Most respondents reported that the NRC safety brochure was helpful, appropriately detailed, informative, easy to find, and clear, logical, and easy to follow. Respondents consistently noted the brochure was utilized for various meetings and training purposes. One respondent stated "As written, [the brochure] is complete and easy to understand…[It] can be used during the rad safety training sessions…" The overwhelming majority (87%) found the brochure easy to find. Despite this, a few respondents reported the brochure needed more explanation and/or simplification. One respondent suggested being more specific to type of use and activities involved.

One survey question about the brochure yielded less positive feedback in comparison to the consistently positive feedback from other questions. When asked if the NRC Safety Culture brochure was engaging, only 63.7% responded favorably. This figure is much lower when compared to the favorable results of all other brochure characteristics (The next lowest was 72.3% who responded favorably to the brochure being appropriately detailed.) This shows that even though respondents found the brochure easy to follow and helpful, and informative, improvement can be made to make the brochures more engaging.

NRC Safety Culture Case Studies

Figure 34: NRC Safety Culture Case Studies Are Clear, Logical, and Easy to Follow

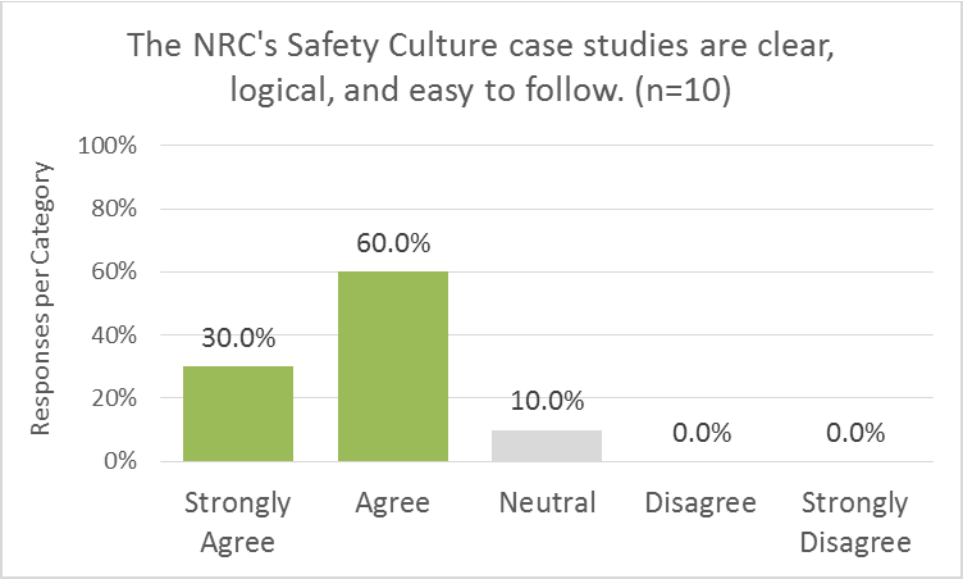


Figure 35: NRC Safety Culture Case Studies Are Easy to Find

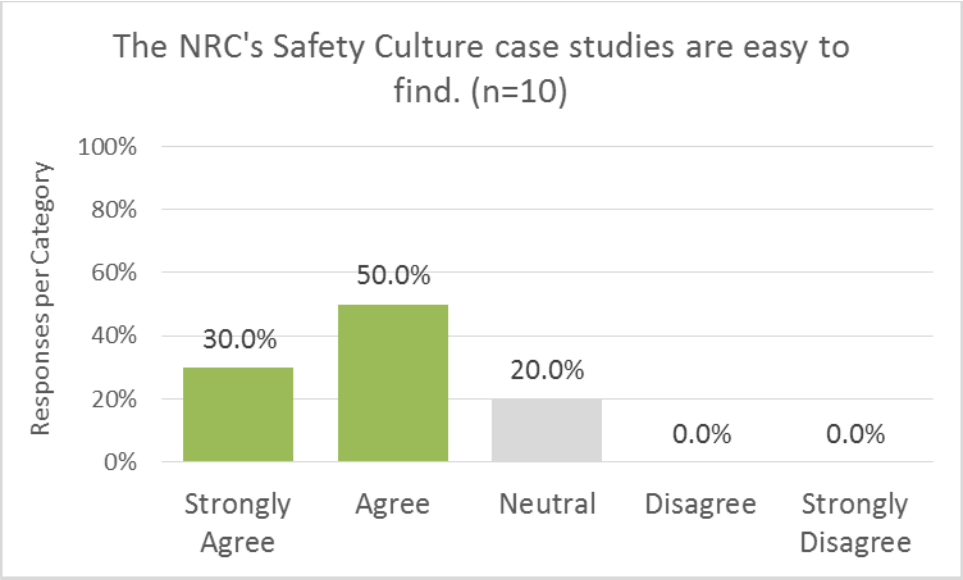


Figure 36: NRC Safety Culture Case Studies Are Informative

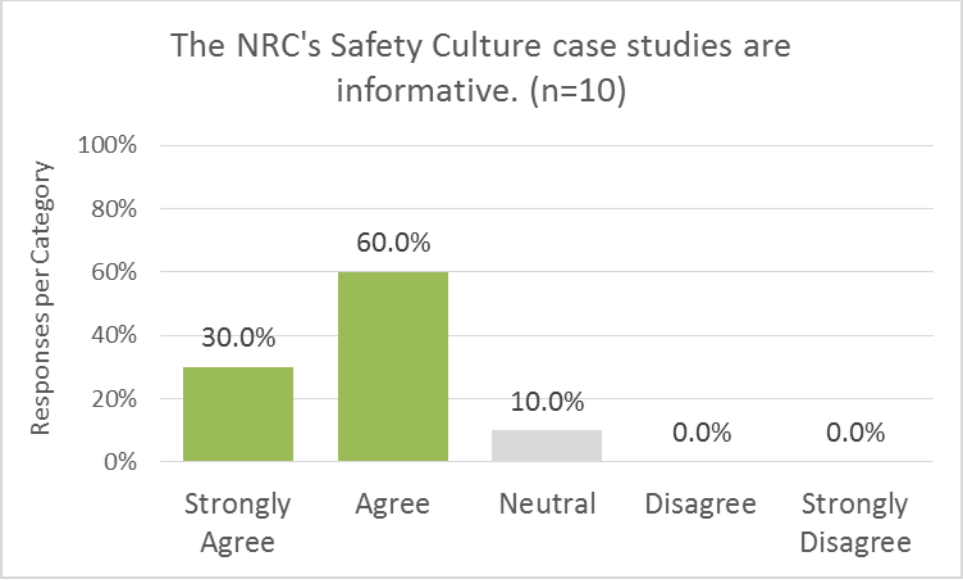


Figure 37: NRC Safety Culture Case Studies Are Appropriately Detailed

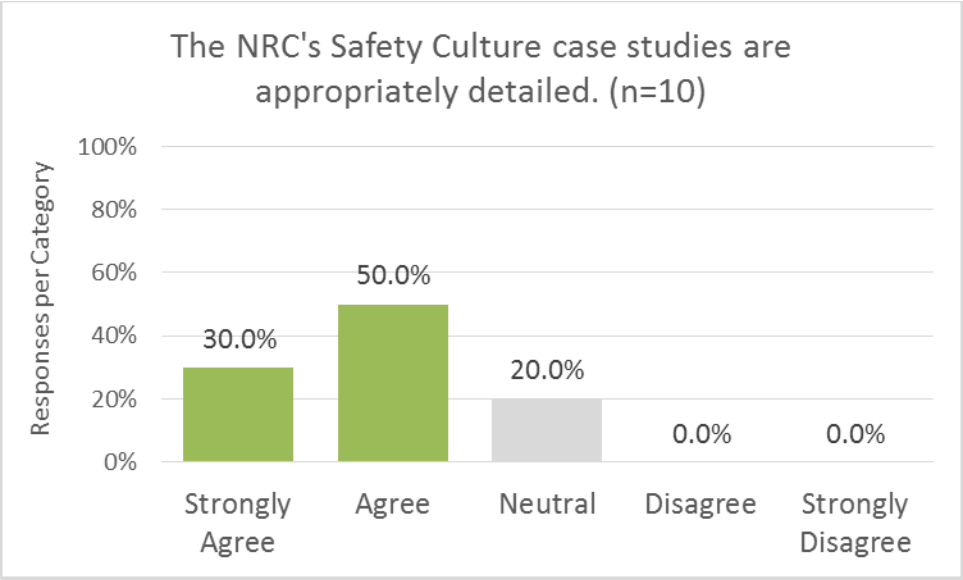


Figure 38: NRC Safety Culture Case Studies Are Engaging

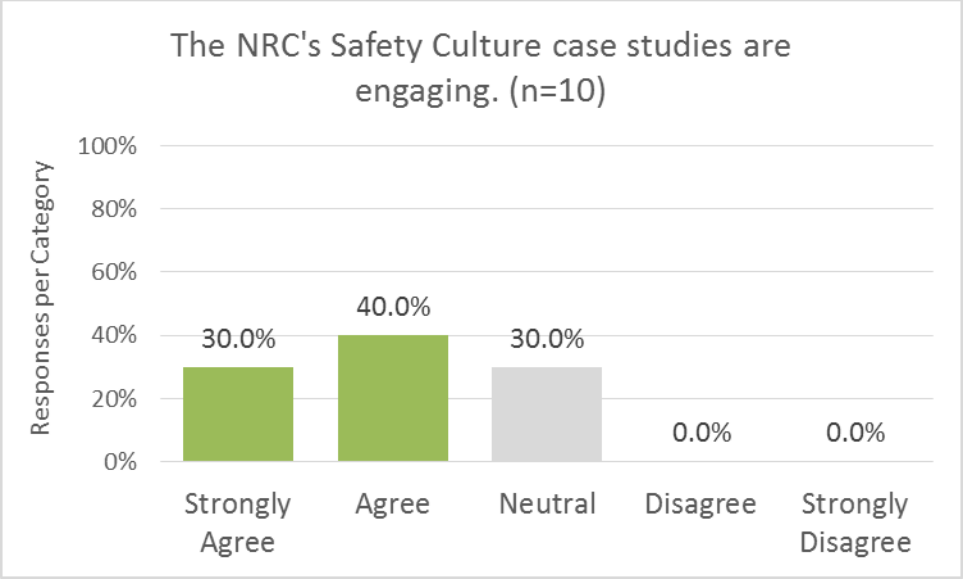


Figure 39: NRC Safety Culture Case Studies Are Practical

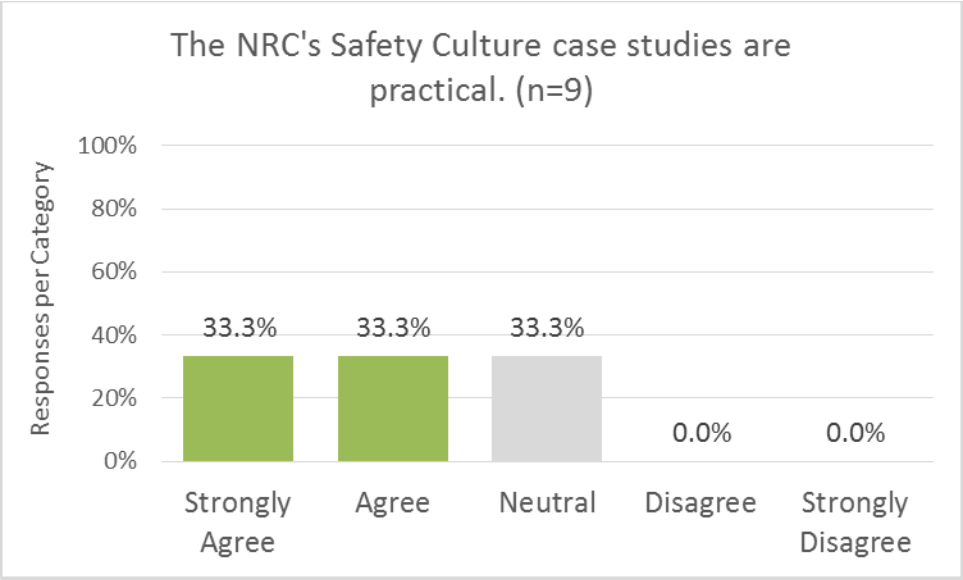
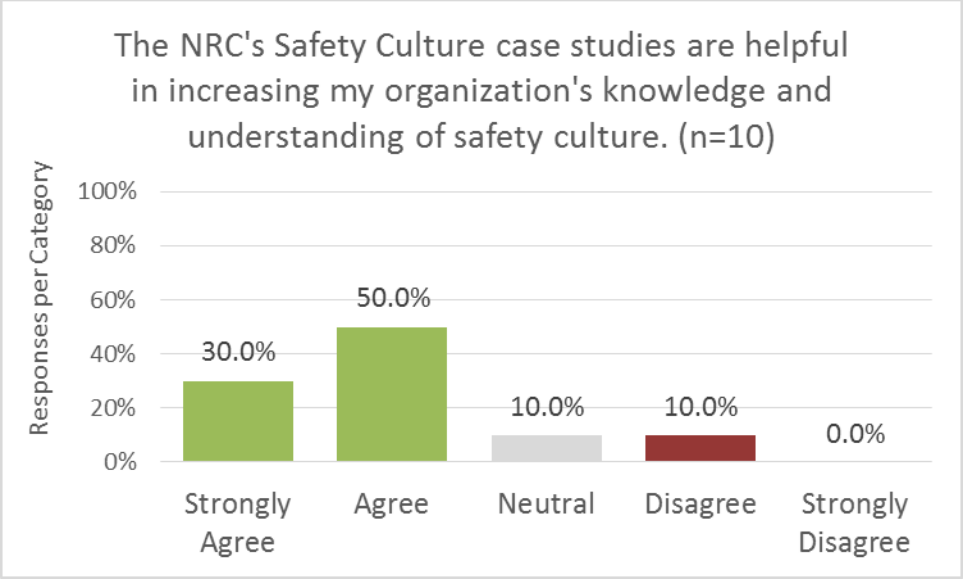


Figure 40: NRC Safety Culture Case Studies Are Helpful



Of the 91 Illinois licensees, only ten responded to questions concerning the NRC Safety Culture case studies. For most questions, favorably responses were at 80-90% as the respondents found the case studies easy to find, informative, helpful, appropriately detailed, and clear, logical, and easy to follow. One respondent said further details and follow up would be helpful. There were two exceptions where respondents were responding slightly less favorable, concerning the case studies being engaging and practical. One respondent said he was:

> "*Not sure about 'Safety Culture' case studies. We have found useful the correspondence about recent incidents and action taken. We have used these to reference at our yearly safety meetings. When we felt that the information was particularly appropriate to our own program, we made copies to distribute to our gauge users and management.*"

State Regulator Website Safety Culture Information

Figure 41: State Regulator's Website Is User Friendly

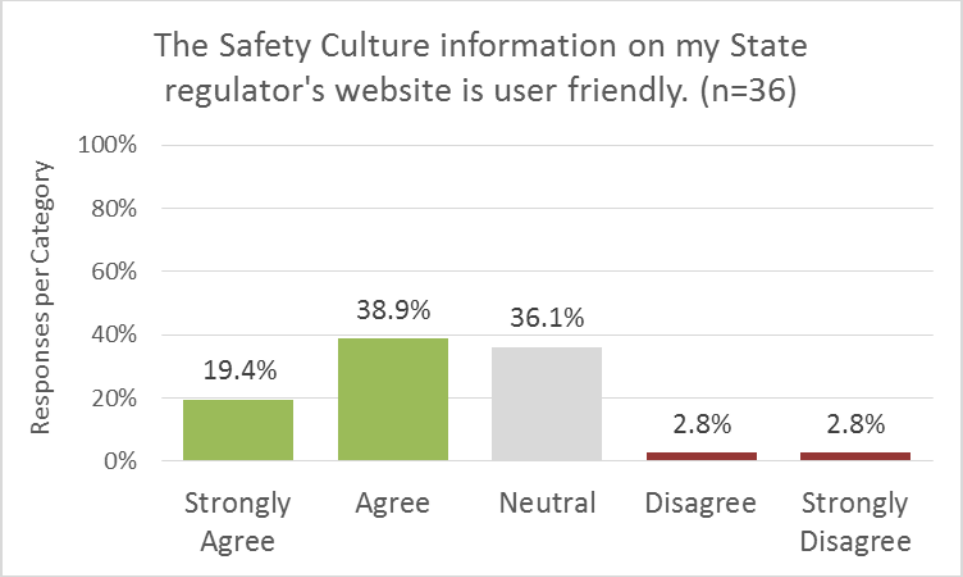


Figure 42: State Regulator's Website Is Easy to Find

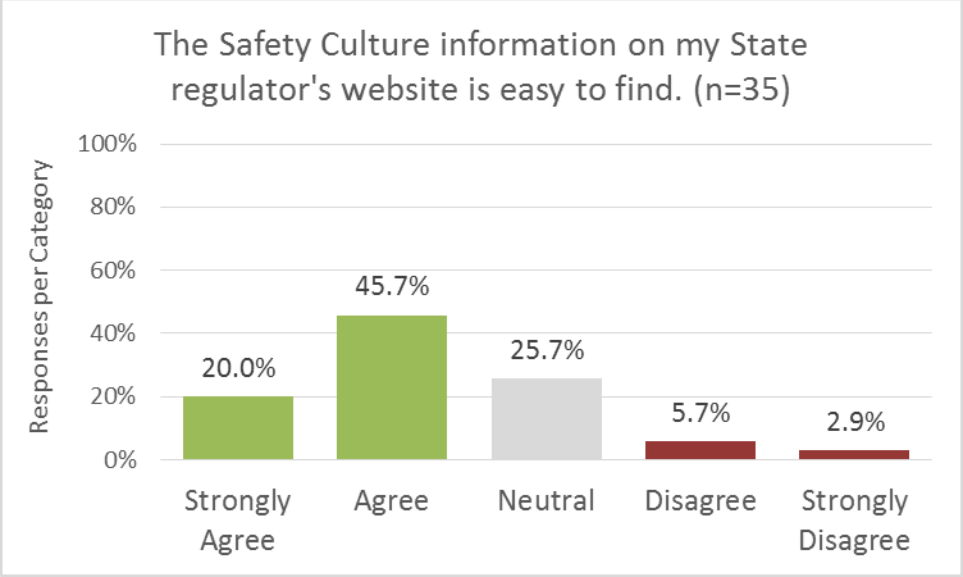


Figure 43: State Regulator's Website Is Up-to-Date

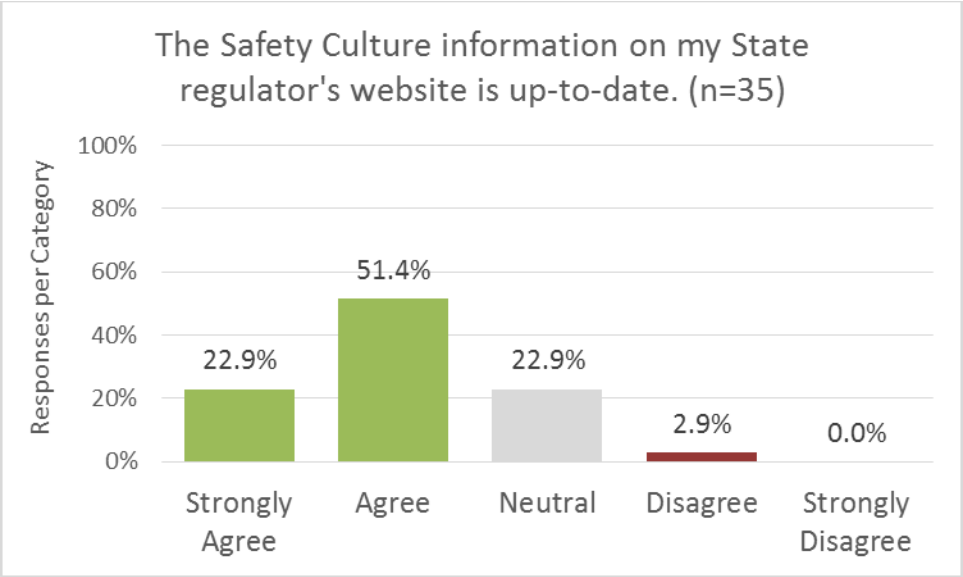
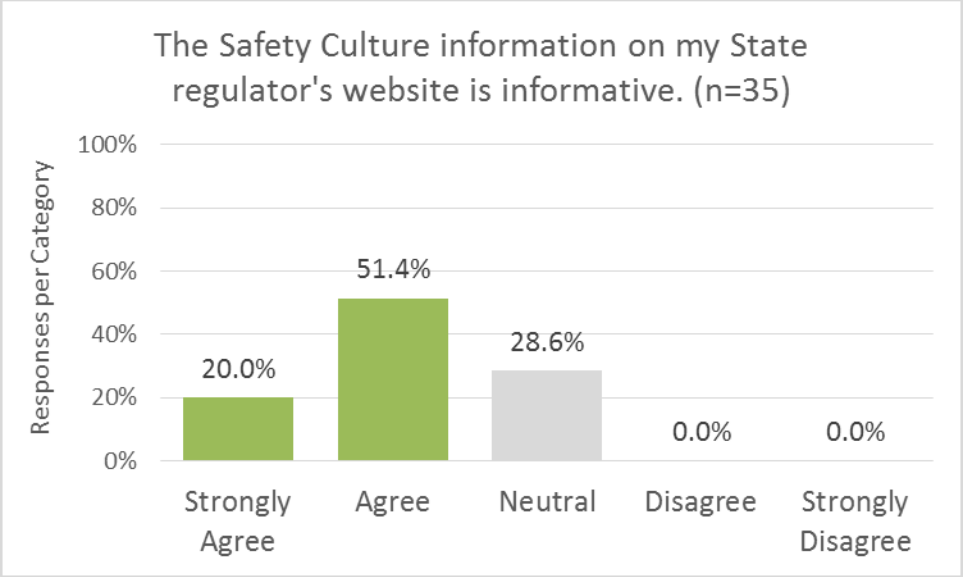


Figure 44: State Regulator's Website Is Informative



Of the 91 total Illinois respondents, 35 answered questions pertaining to the State regulator's website. Majority of respondents, over 70%, found their State regulator's website to be up-to-date and informative. A noticeable portion of respondents (23-36%) felt neutral when asked about the State regulator's website. One participant who responded neutral to all questions pertaining to the State regulator's website, said "I have noticed the Safety Culture info but only looked at it briefly and did not take much notice other than to determine it was in close alignment with our existing internal policies." Several respondents noted that the website was "very unfriendly" and others stated it was difficult to find information on the website.

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 45: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, over 64% of respondents replied favorably. When combining the neutral and unfavorable responses, over 45% of respondents were indifferent or not satisfied. This indicates room for improvement. Few respondents remarked "This survey is the first we have heard of it." One respondent suggested "periodic reminders and updates, signup for the notification of Safety Culture and Policy changes."

"This survey is a good idea. But the agencies need to be careful to balance the messages coming out so licensees don't get distracted from other priorities including those the agencies are stressing via other forums."

Figure 46: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, nearly 60% responded favorably, 31% indicated neutral and nearly 9% responded unfavorably. Concerning quality of communications, there is some room for improvement.

Summary of Qualitative Feedback:

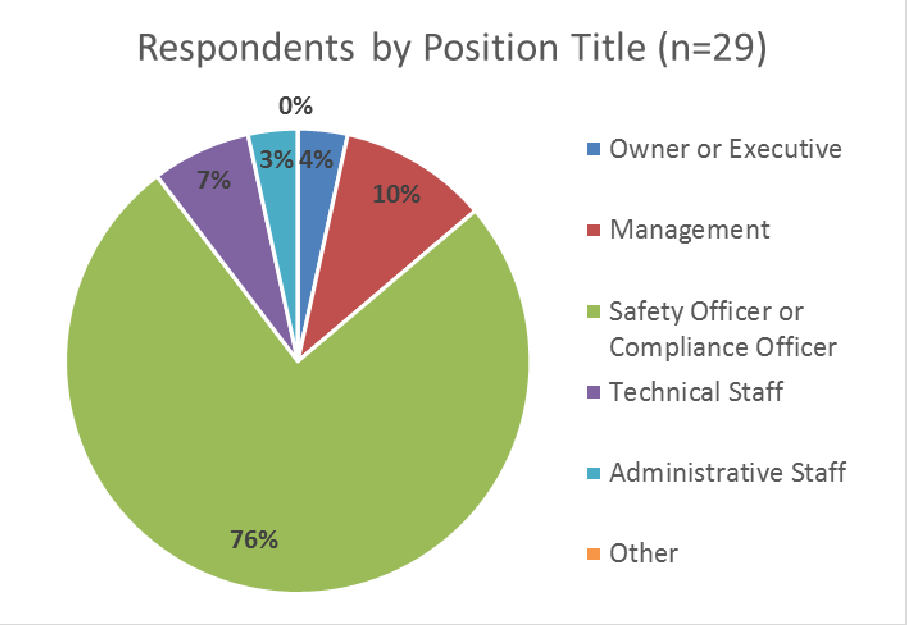
- Difficult to find information on the website, website is "very unfriendly"
- Increase awareness of safety, serve as positive reinforcement to our safety program
- Reminders for safety issues are useful, "It brings certain issues into the forefront and refreshes everyone's commitment to safety", "nuclear Safety Culture as the core of values and behaviors setting goals to ensure protection of people and the environment", was very helpful in development of Radiation Accidents Policy/Procedure
- "State regulatory agency does a good job of managing and organization of safety information"
- "Our CEO has worked energetically over several years to institute an organization wide Safety Culture." We have our own safety program, strong internal mechanism for all types of laboratory safety, "Safety Culture statement and philosophy was in agreement with our own"
- Received different emails concerning Safety Council
- Added "check list" to our work process to ensure that all necessary checks are made every time a procedure is carried out
- "Working on become accredited through the Joint Commission and seek information often. Our culture at FHN is centered-around patient safety…"
- Good general basic information which goes well with patient care and serves as good reminders
- "Learnt a lot about safety from this survey"
- "I'm the compliance and regulatory administrator. I research and present safety information to our team at our monthly safety meetings"
- "It was suggested by the NRC that we embrace Safety Culture. We hired a well-experienced consultant… We have found Safety Culture very useful, most employees now know about it"
- Received brochures, handouts, posters displayed them on employee boards, reinforce our own training, "vigilant in our participation and application of training program"
- Few respondents reported that they did not know about the Safety Culture

Appendix C: Data Analysis Findings – Minnesota

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze responses by subpopulation.

Figure 47: Respondents by Position Title



There were a total of 29 survey respondents who identified themselves as Minnesota license holders. Over 75% identified themselves as Safety or Compliance Officers and 10% were Management. Among the 29 respondents, nine held Medical Use Licenses and nine held Portable Gauge licenses.

Table 3: Survey Respondents by License Type

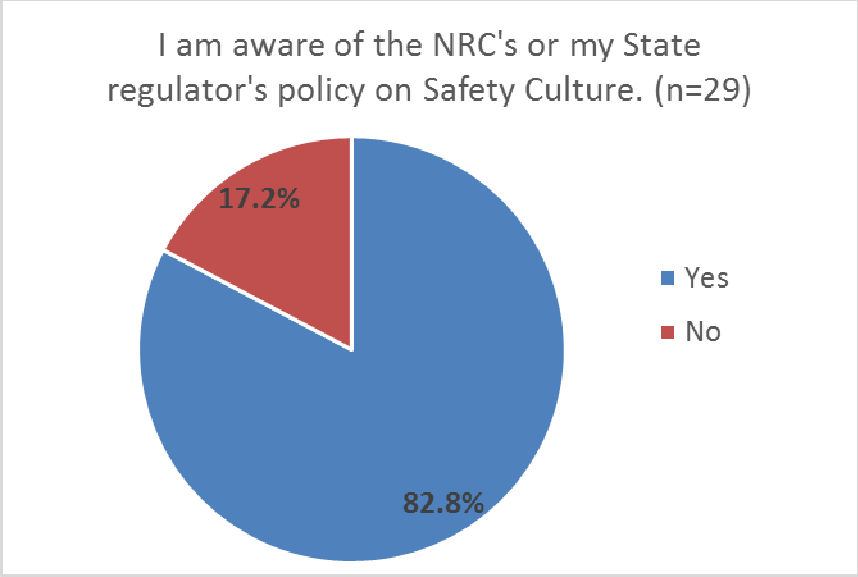
Subpopulation by License Type*	Number of Respondents
Portable Gauge Licensee	9
Fixed Gauge Licensee	3
Industrial Radiography/Logging Licensee	2
Irradiator Licensee	0
Master Materials Licensee	0
Medical Use Licensee	9
Broad Scope Licensee	2
Research and Development, Gas Chromatographs, and X-Ray Fluorescence Licensee	0
Exempt Distribution Licensee	0
Possession License for Manufacturing and Distribution	0
Commercial Radiopharmacy Licensee	1
Service Provider Licensee	0
License for Special Nuclear Material of Less Than Critical Mass	1
Spent Fuel Storage Licensee	0
Fuel Cycle Facility Licensee	0
Other	3

*(*As some licensees may hold multiple license types, above subpopulations are not mutually exclusive)*

Awareness of Safety Culture

Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents understand where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the safety culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Figure 48: Respondent Awareness of Safety Culture Policy



A large majority of the respondents (82.8%) replied they were aware of the NRC or their Agreement State's policy on Safety Culture.

Figure 49: Management Awareness of Safety Culture Policy

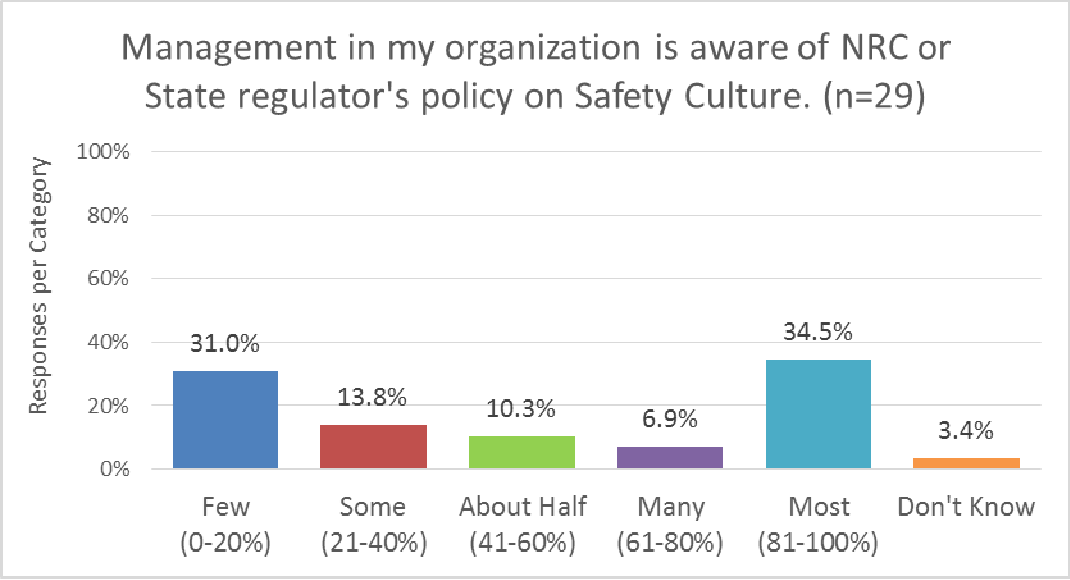
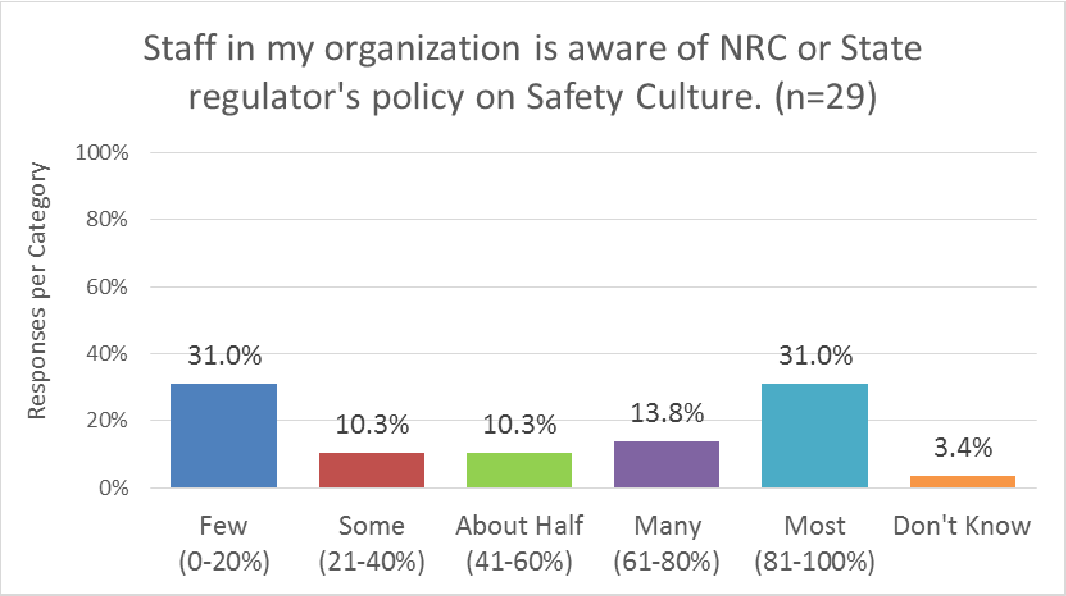


Figure 50: Staff Awareness of Safety Culture Policy W License Type

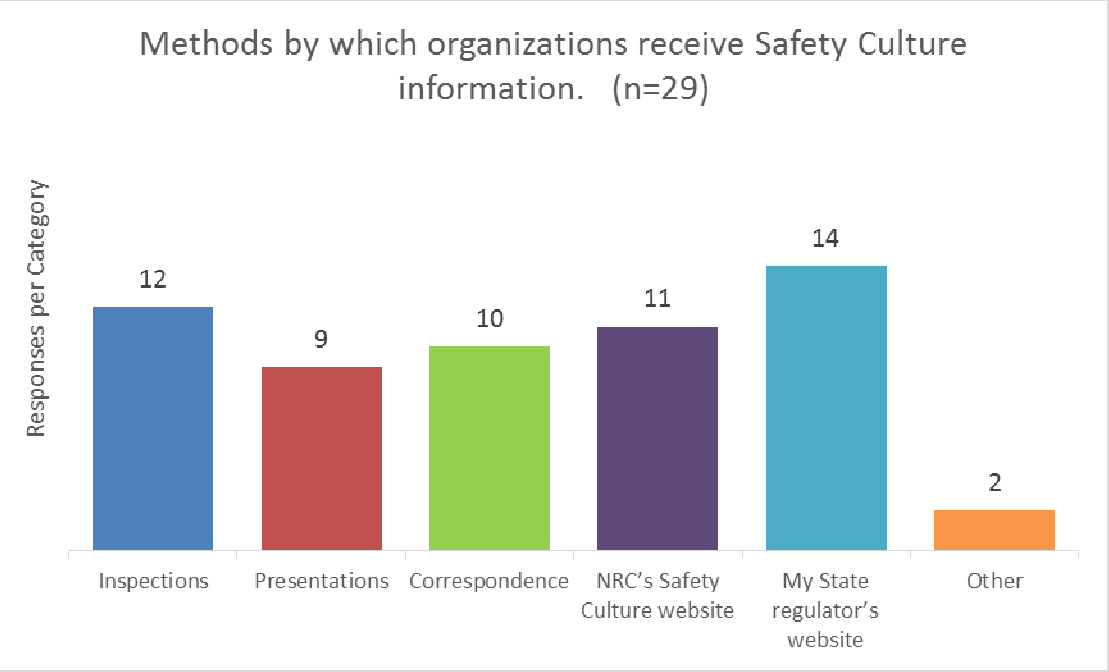


In general, respondents perceived management and staff awareness at their organizations similarly. Respondents were relatively split when asked their perception about staff and management awareness. Approximately 41% of respondents thought many or most management was aware while nearly 45% thought only few or some. The same was true for perceived staff awareness. There is also a large discrepancy when comparing what the survey respondents stated their own awareness was in comparison to their perception of the staff and management awareness. This may indicate that safety culture awareness is not readily discussed and therefore respondents assume others are unaware as a result.

Distribution of NRC Safety Culture Products

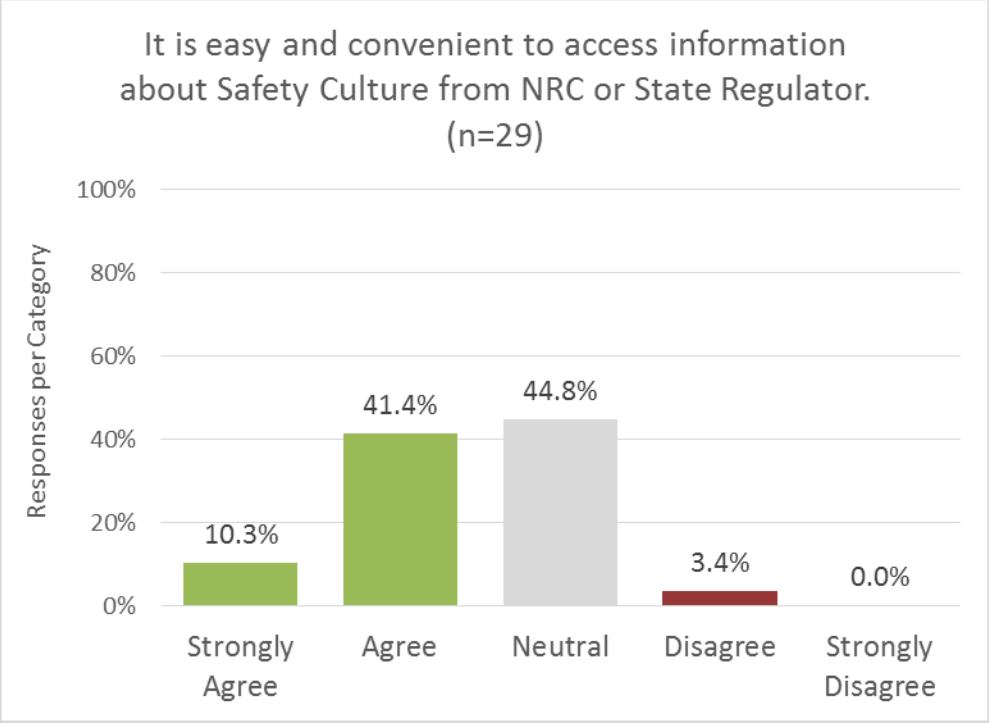
The distribution survey questions helped to understand how organizations access the NRC safety culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive safety culture information, determine how accessible safety culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 51: Methods by Which Organizations Received Safety Culture Information



Survey respondents noted most frequently that their State regulator's website, inspections and the NRC's Safety Culture website were methods by which their organizations received safety culture information.

Figure 52: Ease and Convenience of Accessing Safety Culture Information



Respondents provided their agreement level with the statement "It is easy and convenient to access information about Safety Culture from NRC or my State regulator." More than half of the respondents agreed or strongly agreed with this statement. Although that is positive, nearly 45% of respondents were neutral. This suggests further efforts are necessary to educate a wider audience on the availability of safety culture information.

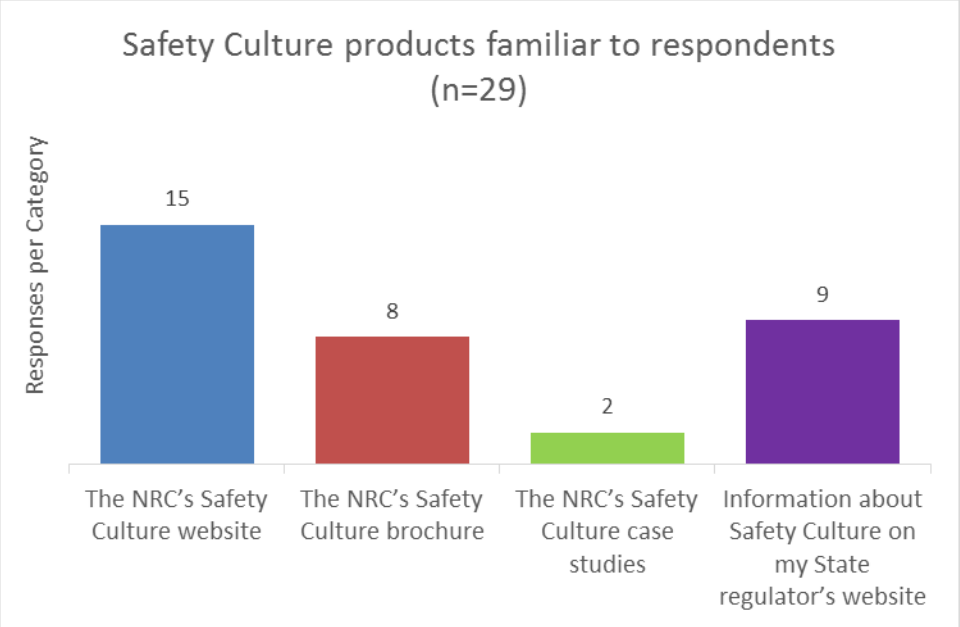
Figure 53: Usefulness of Safety Culture Information Received

Respondents provided their agreement level with the following statement "The information my organization has received about Safety Culture is useful." The majority (nearly 60%) agreed or strongly agreed the information was useful. Respondents stated the information was useful as it was supplemental to training in place. One respondent said his organization put new processes in place, including checklists, because of safety culture awareness. Despite this positive feedback, over 40% of respondents were neutral or strongly disagreed the information useful. A couple respondents noted they were unaware there was any Safety Culture information until completing this survey.

Products for NRC Safety Culture Education and Outreach

These questions help elicit an understanding respondents' familiarity with various NRC safety culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as safety culture information available on the State regulator's website.

Figure 54: Safety Culture Products Familiar to Respondents



When asked what safety culture products they were familiar with, respondents noted the NRC's Safety Culture website, the State regulator's website, and the NRC's Safety Culture brochure most frequently.

NRC Safety Culture Website

Figure 55: NRC Safety Culture Website Is User Friendly

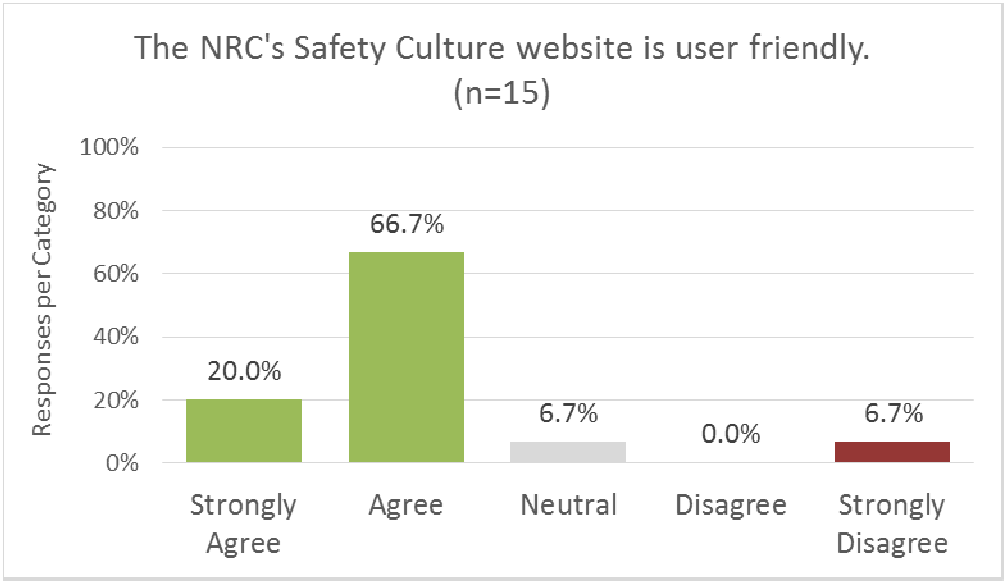


Figure 56: NRC Safety Culture Website Is Easy to Find

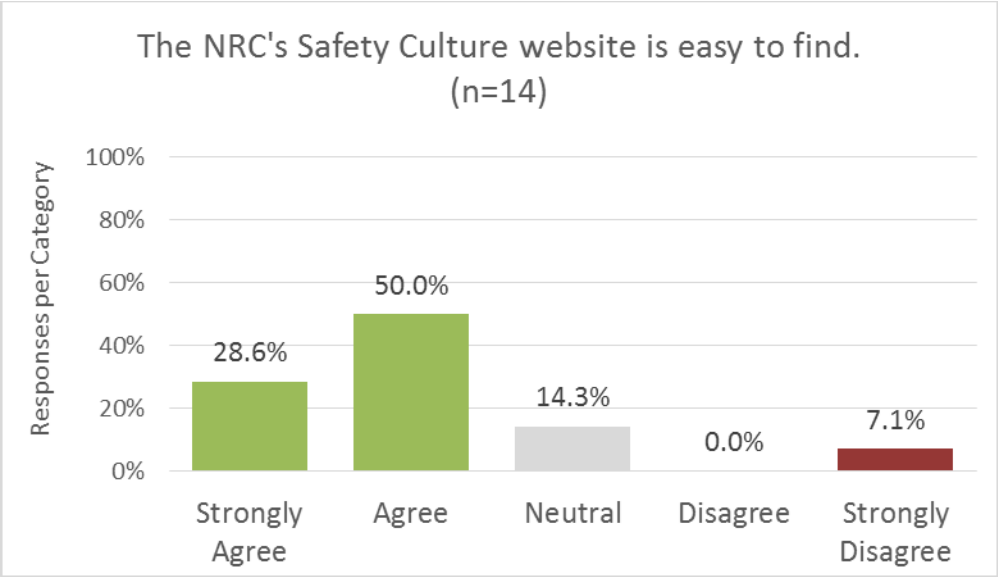


Figure 57: NRC Safety Culture Website Is Up-to-Date

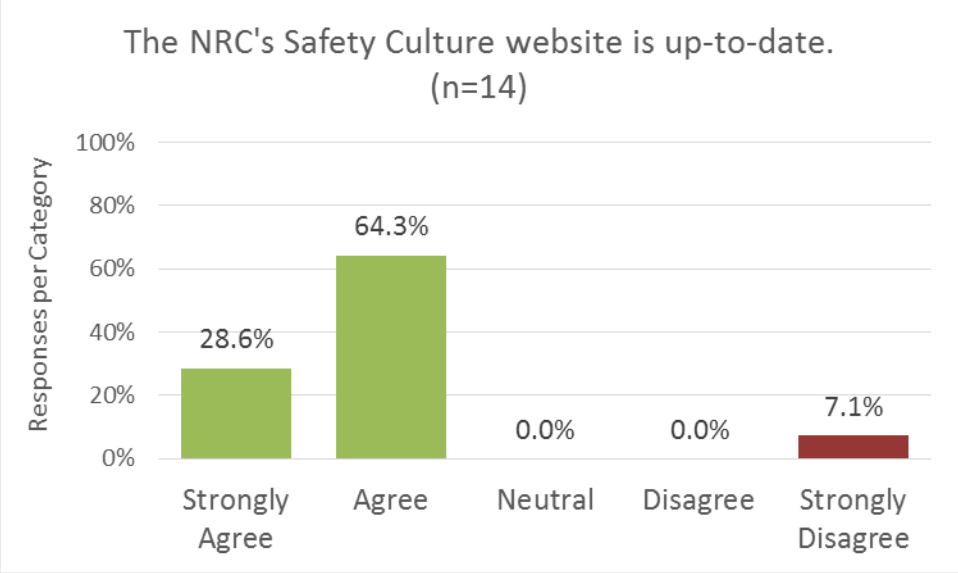
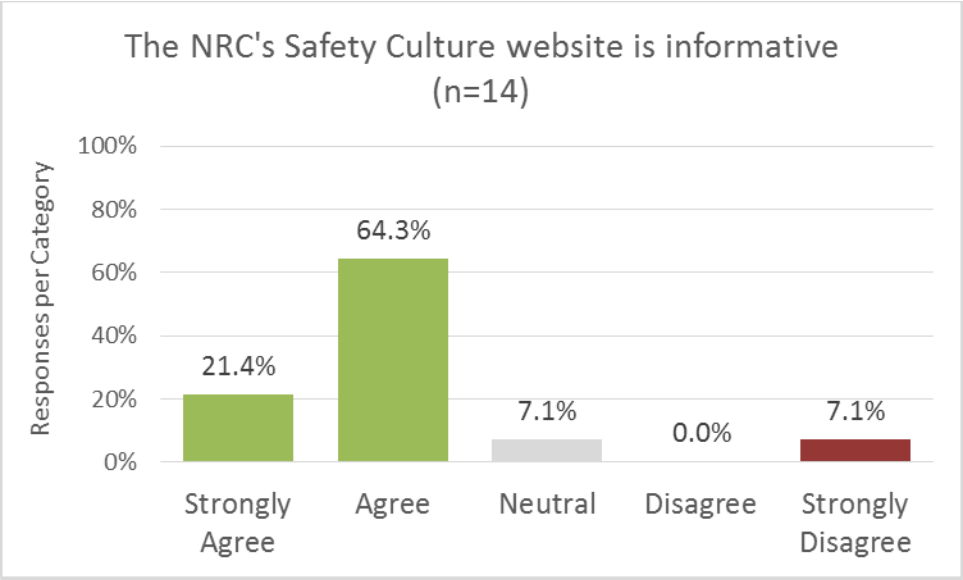


Figure 58: NRC Safety Culture Website Is Informative



Of the 29 Minnesota licensee respondents, 15 answered questions pertaining to the NRC's Safety Culture website. Majority of the respondents found the NRC website to be user friendly, easy to find, up-to-date, and informative.

NRC Safety Culture Brochure

Figure 59: NRC Safety Culture Brochure Is Clear, Logical, and Easy to Follow

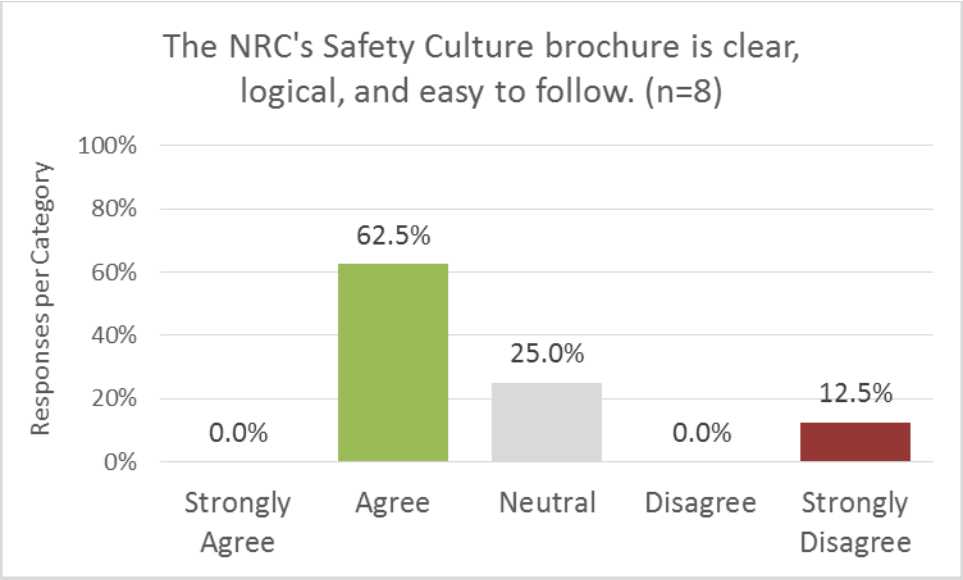


Figure 60: NRC Safety Culture Brochure Is Easy to Find

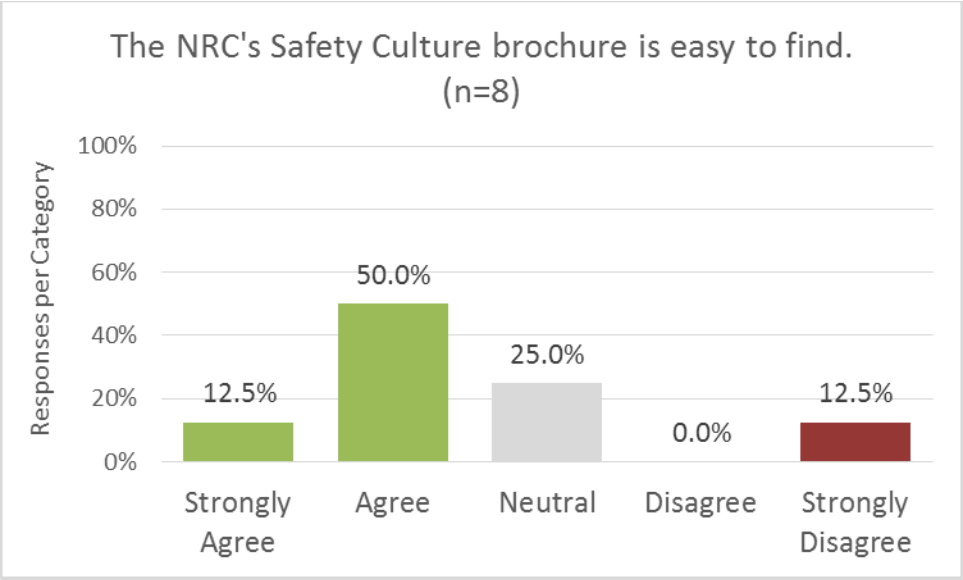


Figure 61: NRC Safety Culture Brochure Is Informative

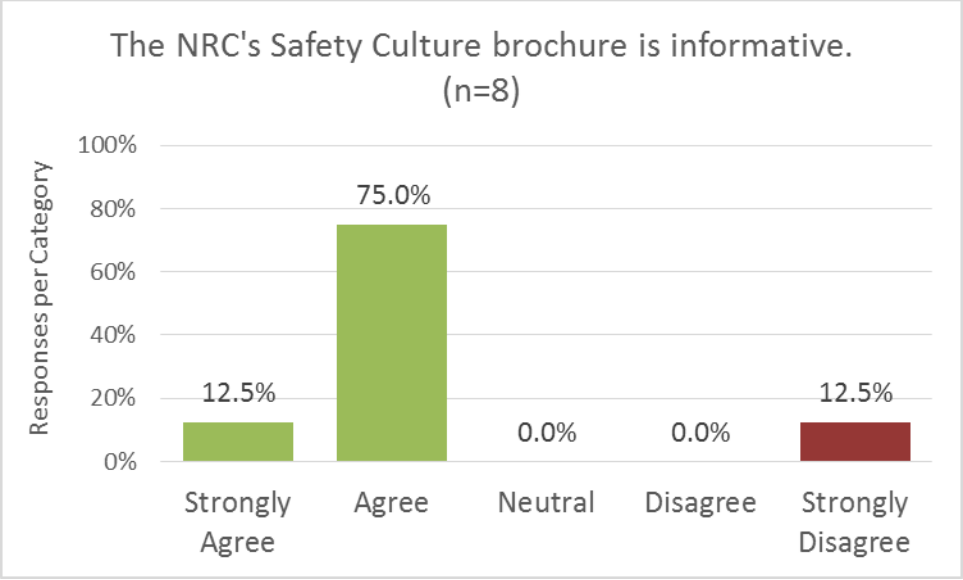


Figure 62: NRC Safety Culture Brochure Is Appropriately Detailed

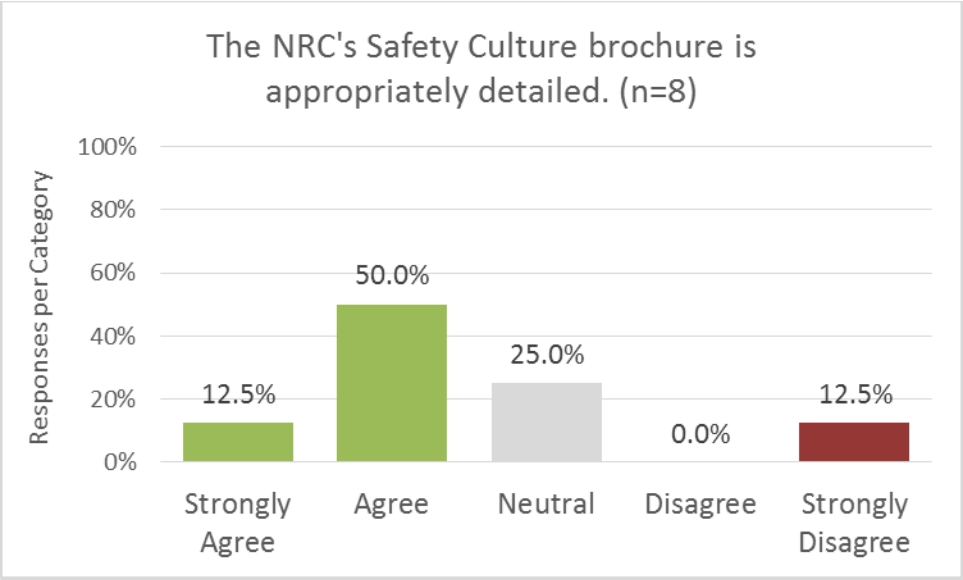


Figure 63: NRC Safety Culture Brochure Is Engaging

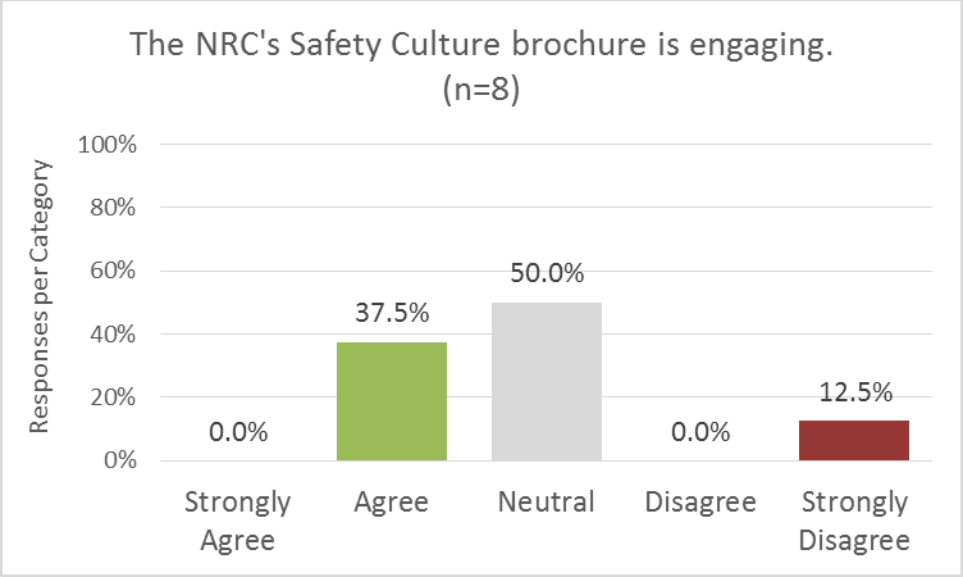
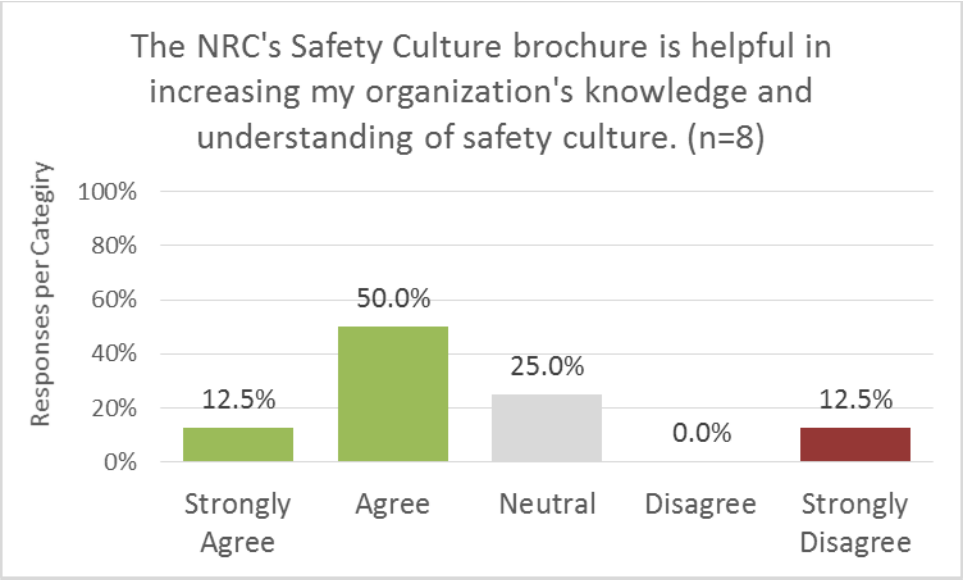


Figure 64: NRC Safety Culture Brochure Is Helpful



Of the 29 Minnesota licensee respondents, eight answered questions related to the NRC's Safety Culture brochure. Nearly 90% of respondents agreed or strongly agreed the brochure was informative. Over 60% of respondents reported that the NRC safety brochure was helpful, appropriately detailed, informative, easy to find, and clear, logical, and easy to follow. 12.5% of respondents strongly disagreed with all the aforementioned brochure characteristics.

One survey question about the brochure yielded less positive feedback in comparison to the consistently positive feedback from other questions. When asked if the NRC Safety Culture brochure was engaging, only 37.5% of respondents replied favorably.

NRC Safety Culture Case Studies

Figure 65: NRC Safety Culture Case Studies Are Clear, Logical, and Easy to Follow

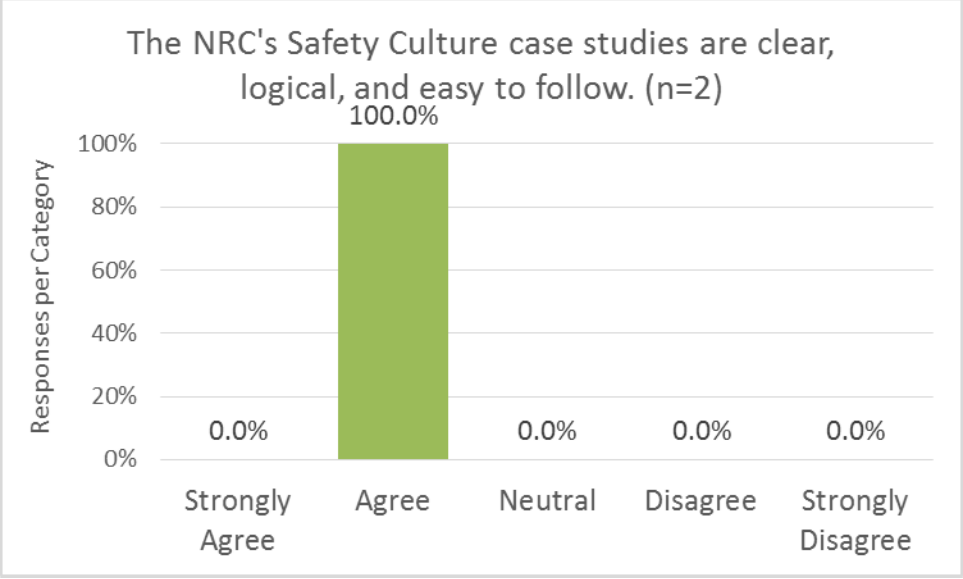


Figure 66: NRC Safety Culture Case Studies Are Easy to Find

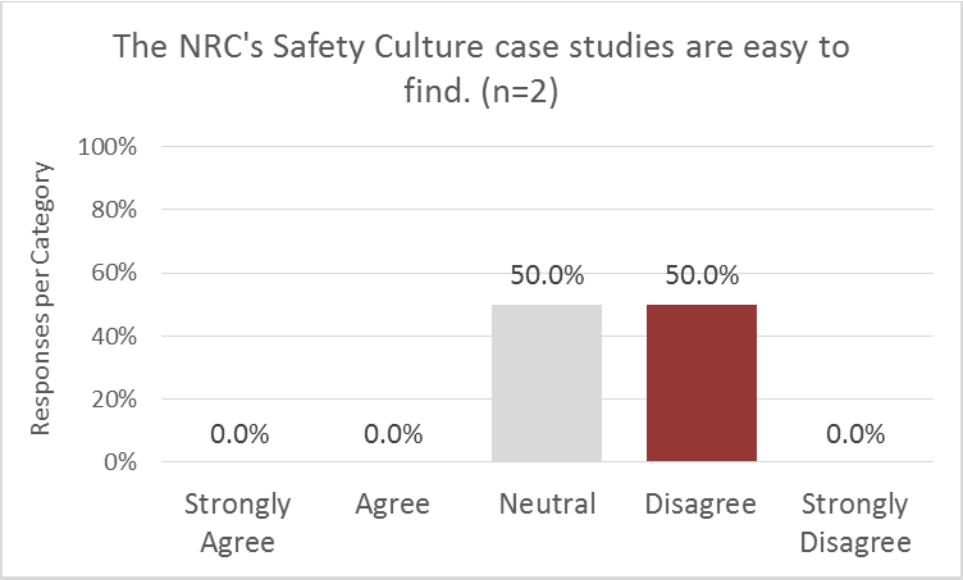


Figure 67: NRC Safety Culture Case Studies Are Informative

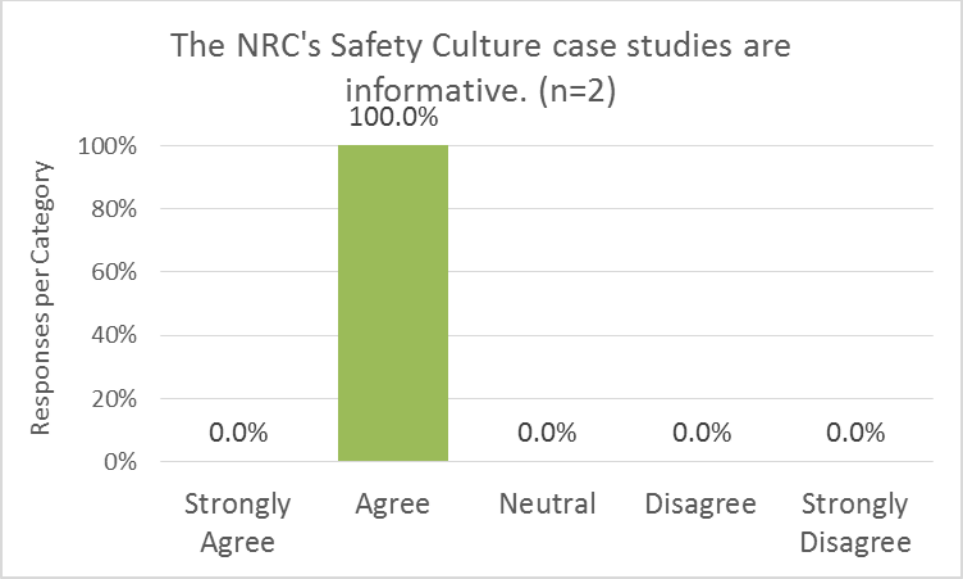


Figure 68: NRC Safety Culture Case Studies Are Appropriately Detailed

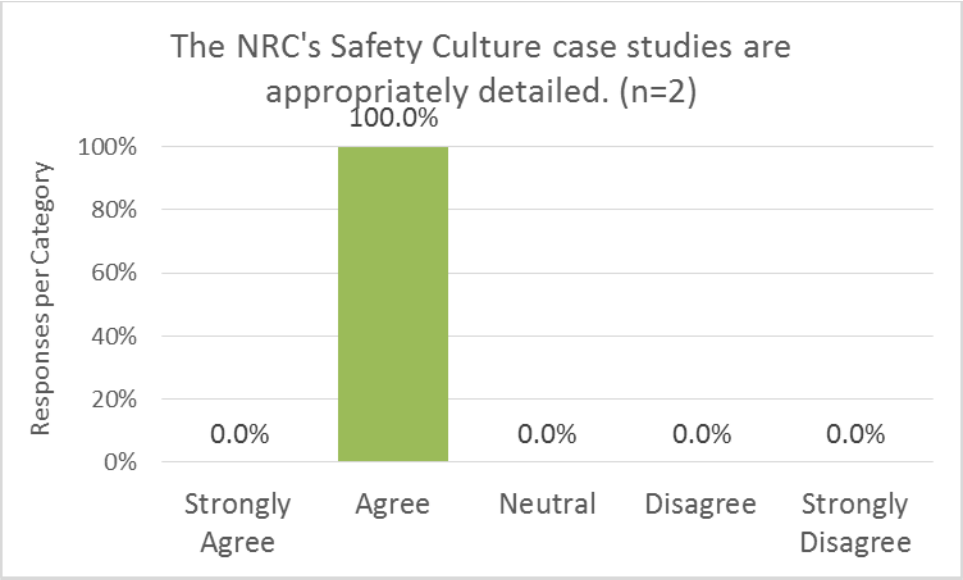


Figure 69: NRC Safety Culture Case Studies Are Engaging

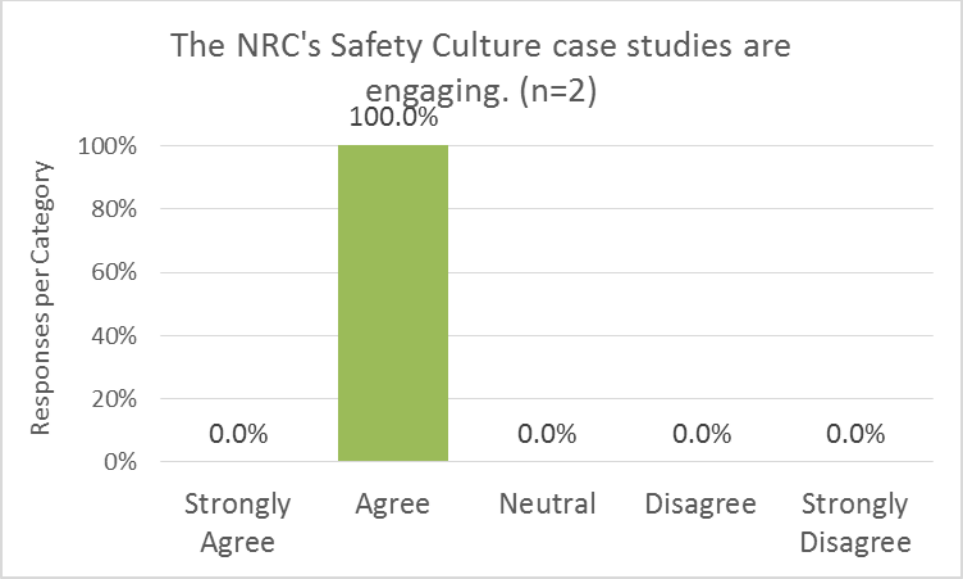


Figure 70: NRC Safety Culture Case Studies Are Practical

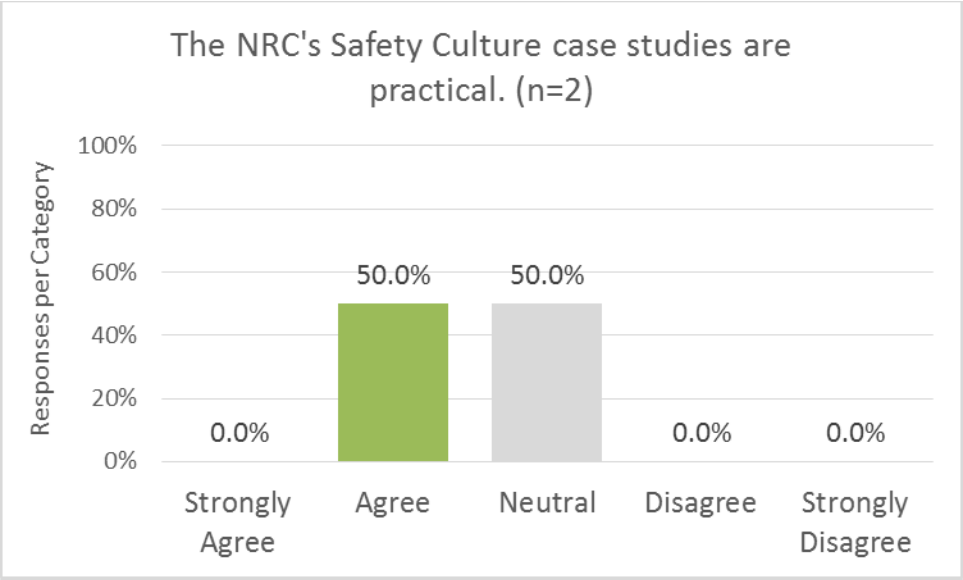
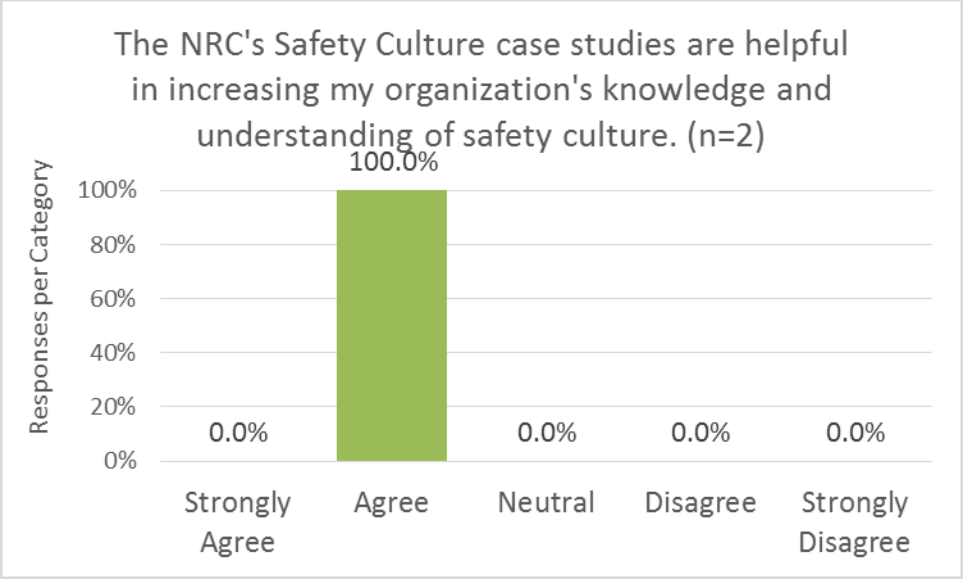


Figure 71: NRC Safety Culture Case Studies Are Helpful



Of the 29 Minnesota licensees, only two responded to questions concerning the NRC Safety Culture case studies. For most questions, both respondents agreed the case studies were helpful, engaging, appropriately detailed, informative, and clear, logical, and easy to follow. The respondents did not feel the case studies were easy to find.

State Regulator Website Safety Culture Information

Figure 72: State Regulator's Website Is User Friendly

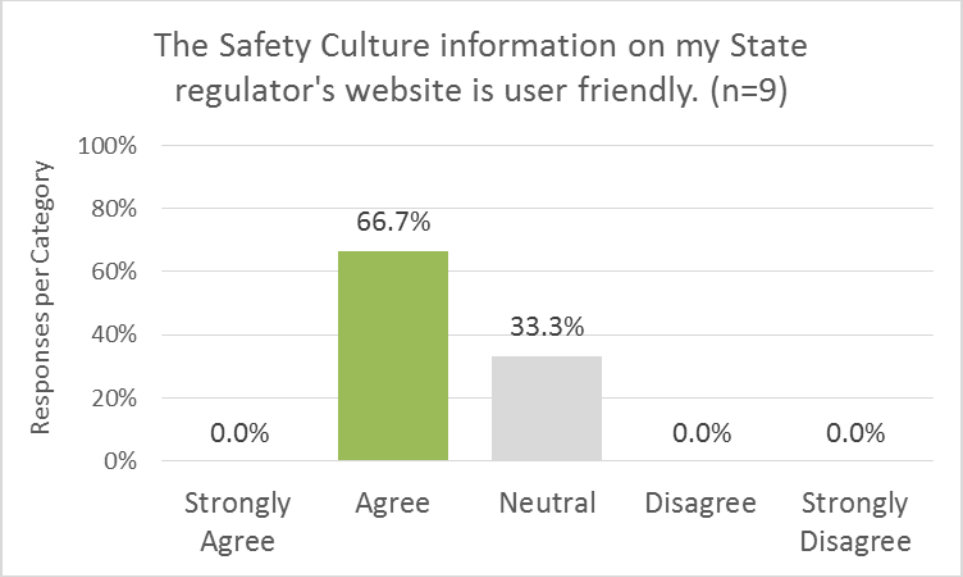


Figure 73: State Regulator's Website Is Easy to Find

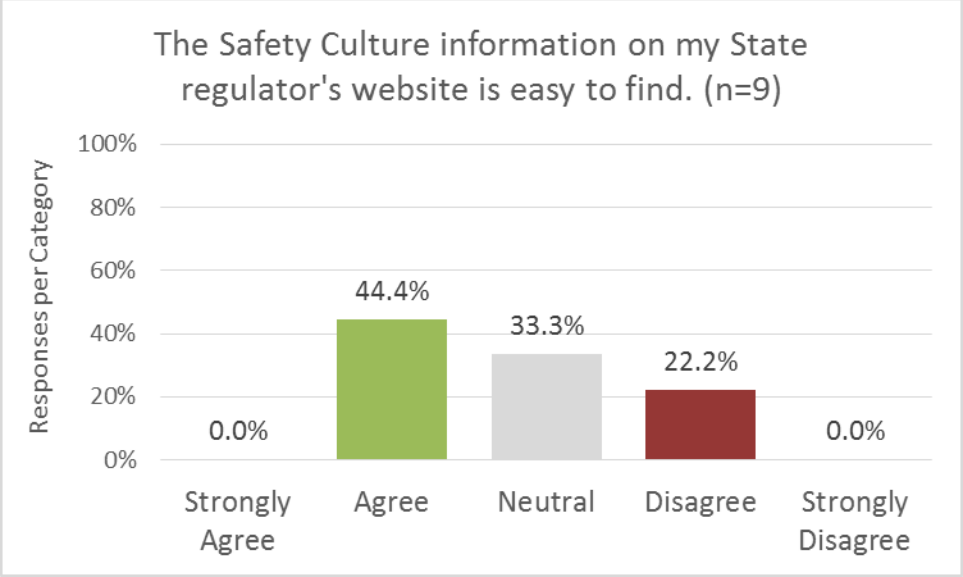


Figure 74: State Regulator's Website Is Up-to-Date

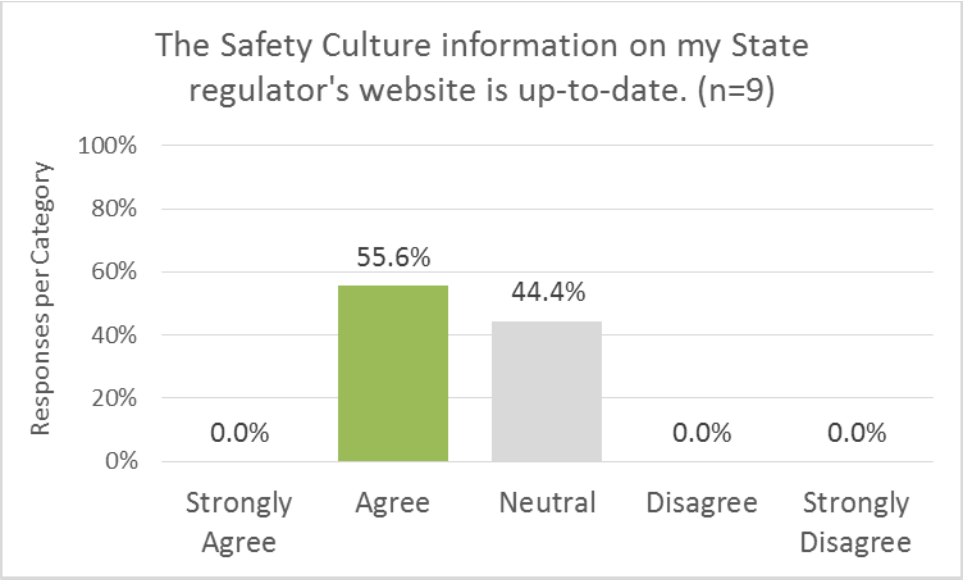
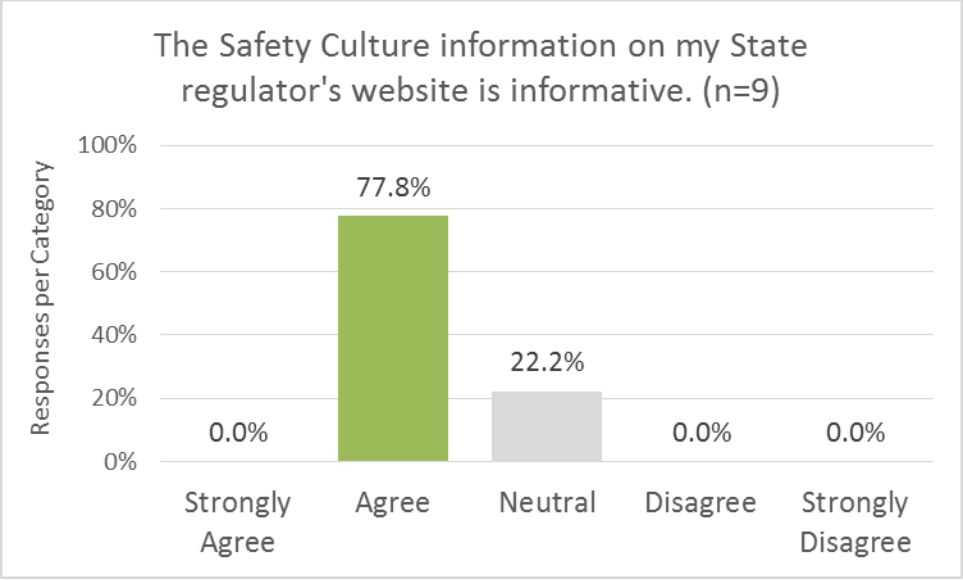


Figure 75: State Regulator's Website Is Informative



Of the 29 Minnesota licensee respondents, nine answered questions pertaining to the State regulator's website. Majority of respondents, found their State regulator's website to be user friendly and informative. Over half the respondents found the State regulator's website to be up-to-date while nearly 45% were neutral. Only 44% of respondents agreed the website was easy to find while over 22% disagreed.

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 76: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, over half responded favorably.

Figure 77: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, 48%

responded favorably, nearly 41% indicated neutral and over 11% responded unfavorably. Concerning quality of communications, there is some significant room for improvement.

Summary of Qualitative Feedback:

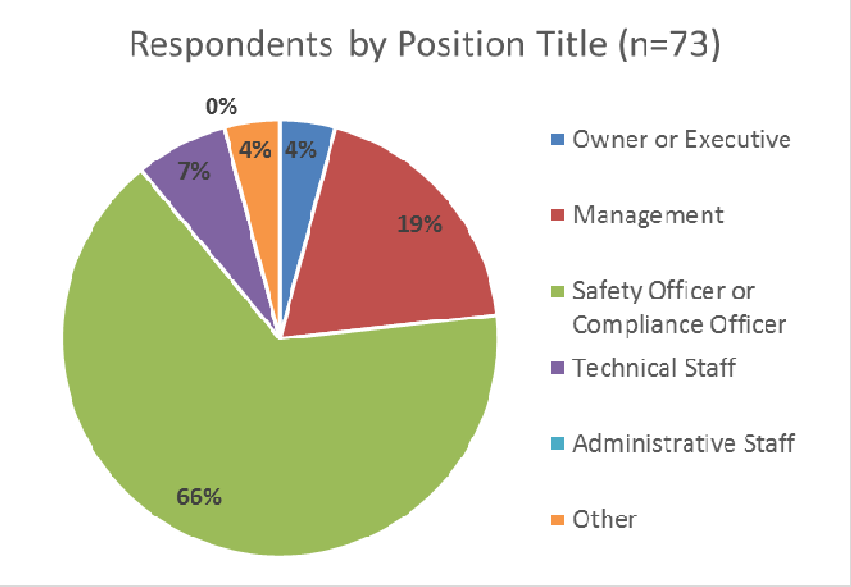
- Some respondents reported that they had no prior knowledge of policy implementation, not received any information and they tried in vain to locate it on the Minnesota website
- "Use information with staff in annual refresher training to work safely with radioactive material"
- "Do not use radioactive materials Safety Culture info we do take care in fostering appropriate Safety Culture for a heavy industrial setting…"
- "It is always helpful when an inspector or license staff guide you in Safety Culture in a positive manner", "the officials have always kept us up to date on safety issues and the changes that are coming", "the information keeps us aware and up to date"
- "Have not received anything from Minnesota Dept. of Health regarding this", "once I heard about it, I was able to find all of the info. I just feel it took a long time for Agreement States to get the word out"
- "Continue what you're doing". "I have found it to be useful". It is concise and well stated, it reinforces common practices and guidelines for reducing radiation exposure to staff and public and safekeeping of radioactive material"
- "Send correspondences via email, update, pamphlets, etc."
- "Send regular updates to RSO"
- "We hired a consultant that had previous experience with NRC and the Safety Culture and he provided information. We have found Safety Culture to be very useful in our organization..."

Appendix D: Data Analysis Findings – North Carolina

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze responses by subpopulation.

Figure 78: Respondents by Position Title



There were a total of 73 North Carolina licensees that participated in the survey. Of the 73, 66% identified themselves as Safety or Compliance Officers and 19% as Management. Among the 73 respondents, eleven held Industrial Radiography licenses, 17 held Medical Use licenses and 12 held Broad Scope licenses.

Table 4: Survey Respondents by License Type

Subpopulation by License Type*	Number of Respondents
Portable Gauge Licensee	10
Fixed Gauge Licensee	7
Industrial Radiography/Logging Licensee	11
Irradiator Licensee	6
Master Materials Licensee	0
Medical Use Licensee	17
Broad Scope Licensee	12
Research and Development, Gas Chromatographs, and X-Ray Fluorescence Licensee	6
Exempt Distribution Licensee	1
Possession License for Manufacturing and Distribution	5
Commercial Radiopharmacy Licensee	2
Service Provider Licensee	5
License for Special Nuclear Material of Less Than Critical Mass	1
Spent Fuel Storage Licensee	0
Fuel Cycle Facility Licensee	0
Other	11

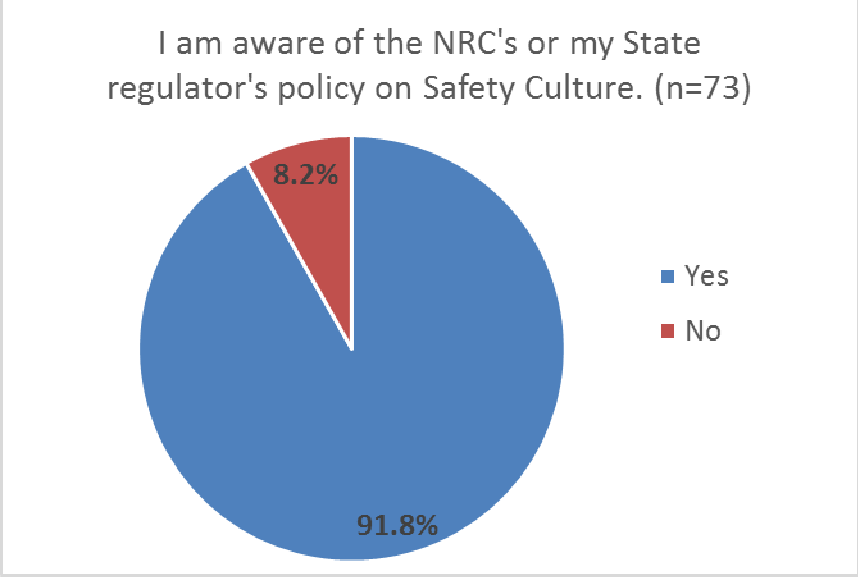
*(*As some licensees may hold multiple license types, above subpopulations are not mutually exclusive)*

Awareness of Safety Culture

Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC

Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents understand where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the Safety Culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Figure 79: Respondent Awareness of Safety Culture Policy



Over 91% of the North Carolina licensee respondents said they were aware of the NRC or their Agreement State's policy on Safety Culture. Several respondents noted that this survey was the first they had heard of Safety Culture policy. This presents positive feedback overall in that the population surveyed is receiving some type of communication concerning the NRC's or their State regulator's policy.

Figure 80: Management Awareness of Safety Culture Policy

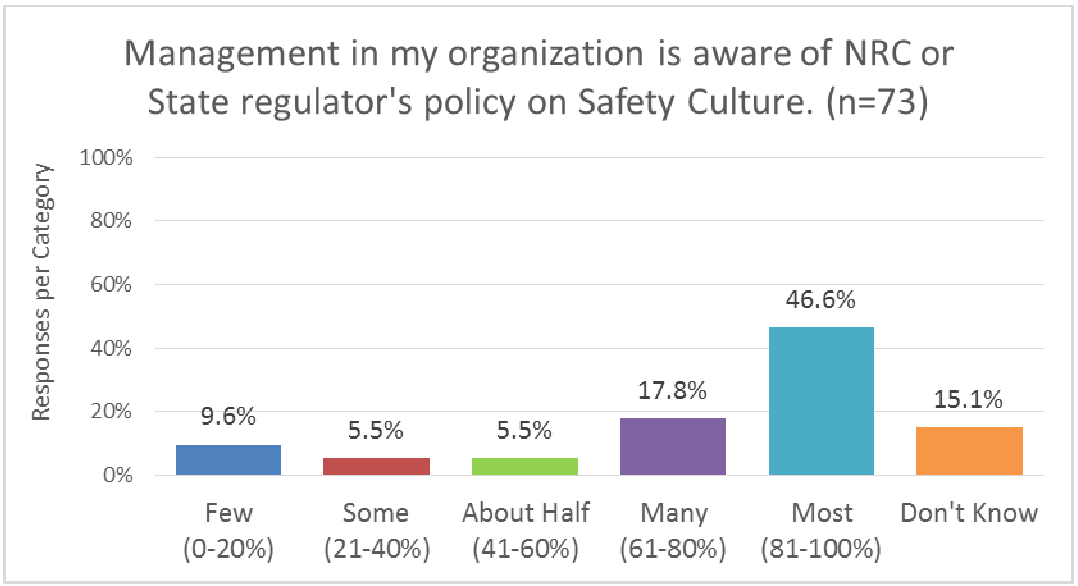
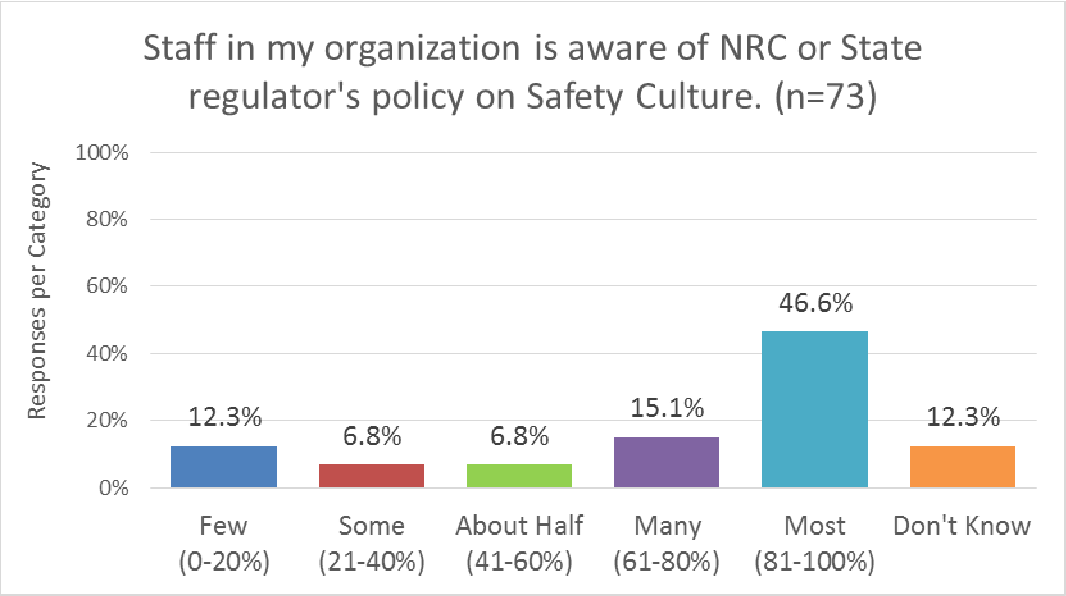


Figure 81: Staff Awareness of Safety Culture Policy W License Type

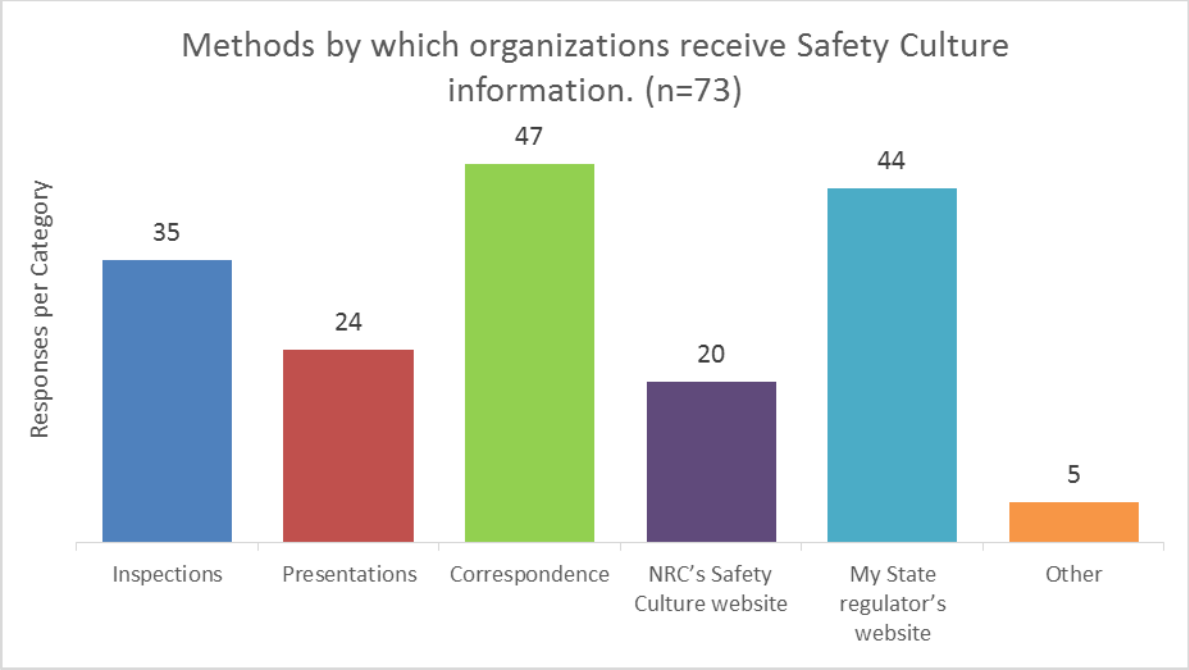


Respondents perceived management and staff awareness at their organizations similarly. When questioned, over 60% of respondents felt many or most of the management and staff at their organizations were aware of Safety Culture policy. Under 20% of respondents perceived that only a few or some of the staff and management at their organization to be aware. There is a large discrepancy when we compare what the survey respondents state their own awareness to be to their perception of the population's awareness at their organization. This may indicate that Safety Culture awareness is not readily discussed and therefore respondents assume others are unaware as a result.

Distribution of NRC Safety Culture Products

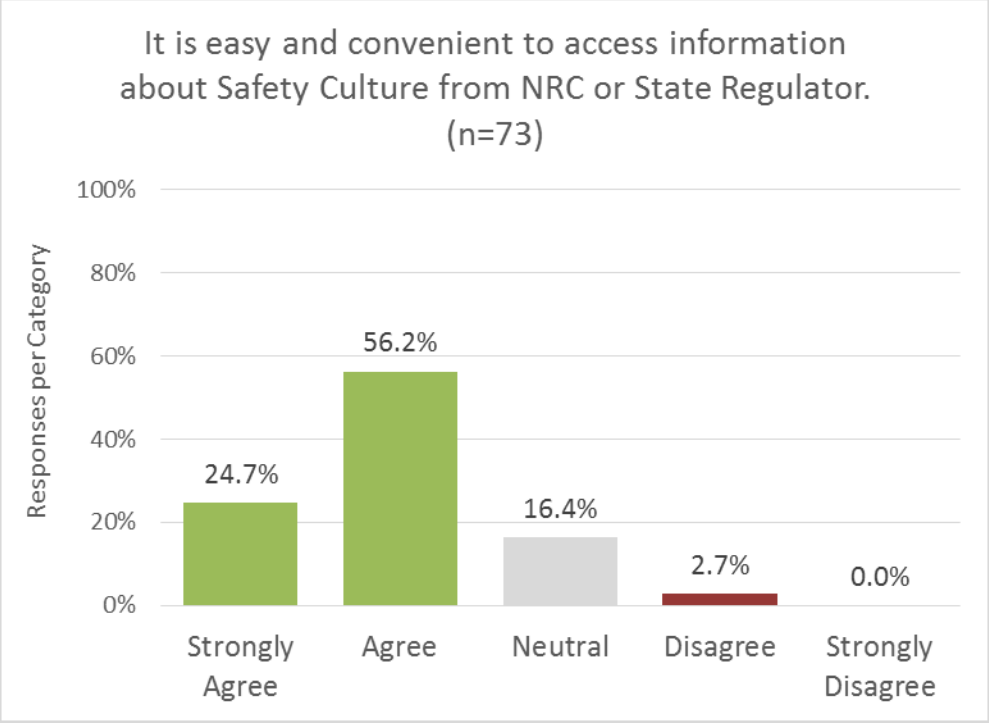
The distribution survey questions helped to understand how organizations access the NRC Safety Culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive Safety Culture information, determine how accessible Safety Culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 82: Methods by Which Organizations Received Safety Culture Information



Survey respondents noted most frequently that correspondence (such as emails and letters), inspections, and the State regulator's website were the methods by which their organizations received Safety Culture information. Respondents gave positive feedback concerning the inspectors, one stated "It is always helpful when an inspector or licensing staff guide you in Safety Culture in a positive manner."

Figure 83: Ease and Convenience of Accessing Safety Culture Information



Respondents provided their agreement level with the statement "It is easy and convenient to access information about Safety Culture from NRC or my State regulator." Over 80% of respondents agreed or strongly agreed with this statement. Less than 20% respondents were either neutral or did not find it easy and convenient to access Safety Culture information. Although the majority of responses were favorable, unfavorable and neutral responses suggest further efforts are necessary to educate a wider audience on the availability of Safety Culture information.

Figure 84: Usefulness of Safety Culture Information Received

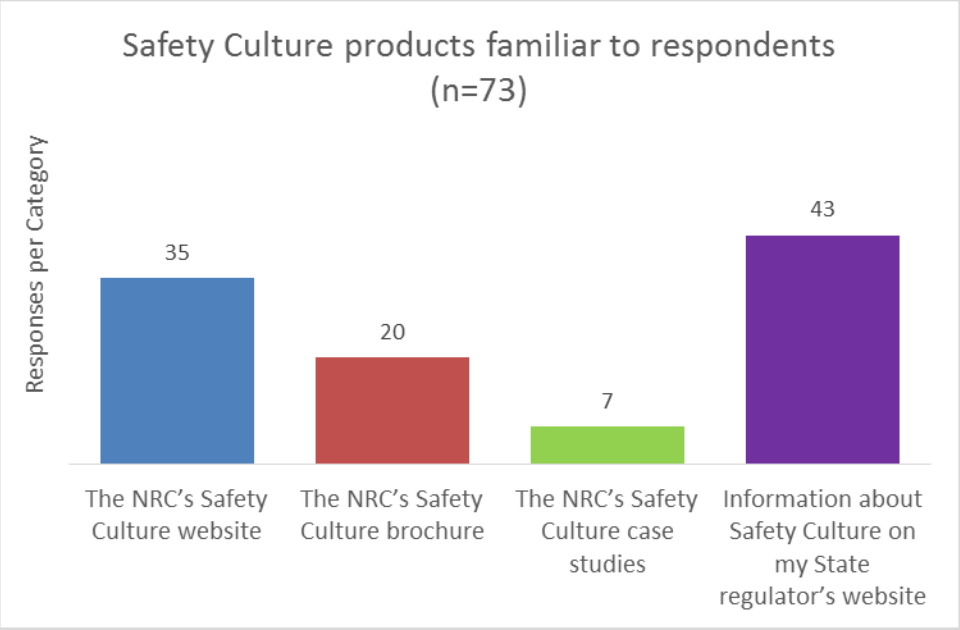
Respondents provided their agreement level with the following statement "The information my organization has received about Safety Culture is useful." The majority of respondents (over 80%) agreed or strongly agreed the information was useful. Repeatedly, respondents stated the information was useful as an addition to training in place or as supplemental information for continual awareness. One respondent said his organization put new processes in place, including checklists, because of Safety Culture awareness. One respondent stated "It was suggested by the NRC that we embrace Safety Culture. We hired a well-experienced consultant…We have found Safety Culture very useful, most employees now know about it." Despite this positive feedback, over one fourth of respondents were neutral or did not

find the information useful. On specific occasions, respondents noted that the information was not useful because there was already a robust training or awareness program in place and, therefore, no additional or supplemental information was needed from NRC. Several respondents noted they had not received information concerning Safety Culture until this survey.

Products for NRC Safety Culture Education and Outreach

These questions elicit an understanding respondents' familiarity with various NRC Safety Culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as Safety Culture information available on the State regulator's website.

Figure 85: Safety Culture Products Familiar to Respondents



When asked what Safety Culture products they were familiar with, respondents noted Safety Culture information on their State regulator's website most frequently then followed by NRC's Safety Culture website.

NRC Safety Culture Website

Figure 86: NRC Safety Culture Website Is User Friendly

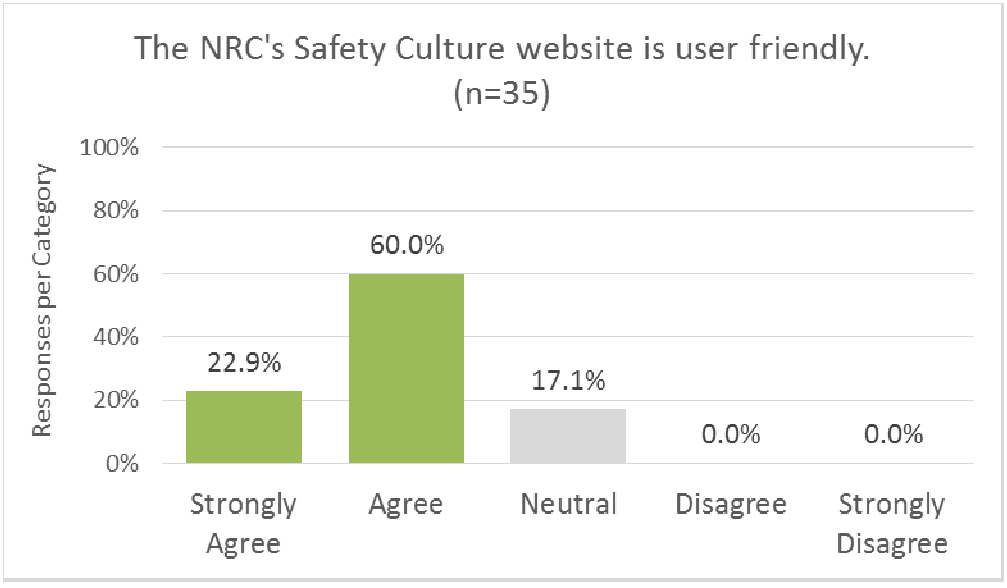


Figure 87: NRC Safety Culture Website Is Easy to Find

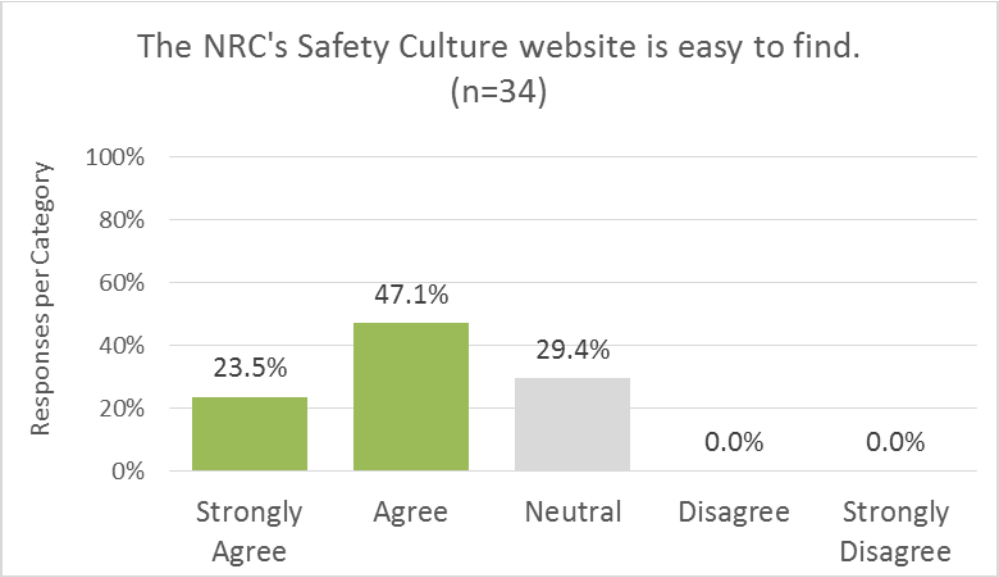


Figure 88: NRC Safety Culture Website Is Up-to-Date

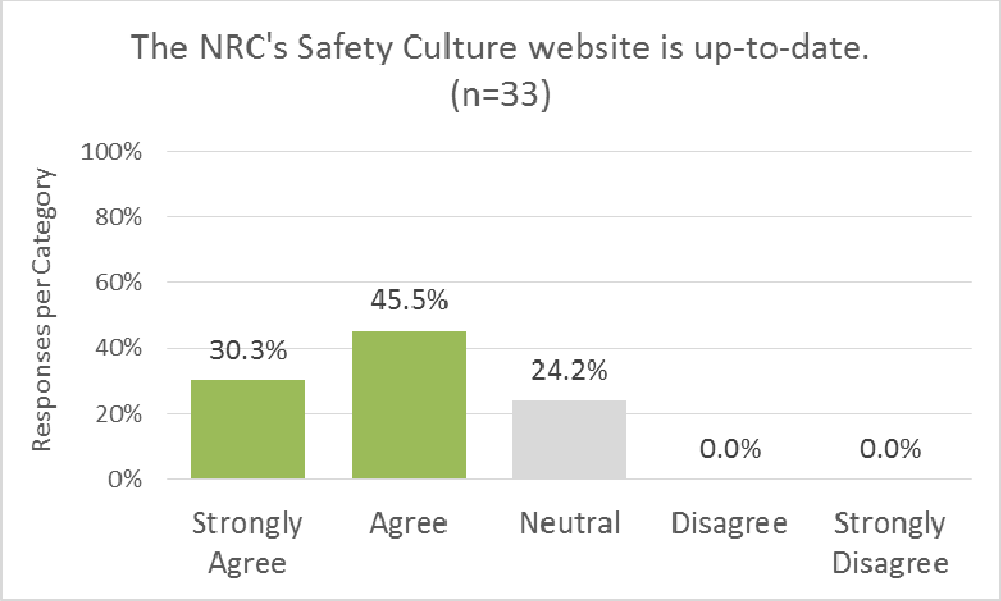
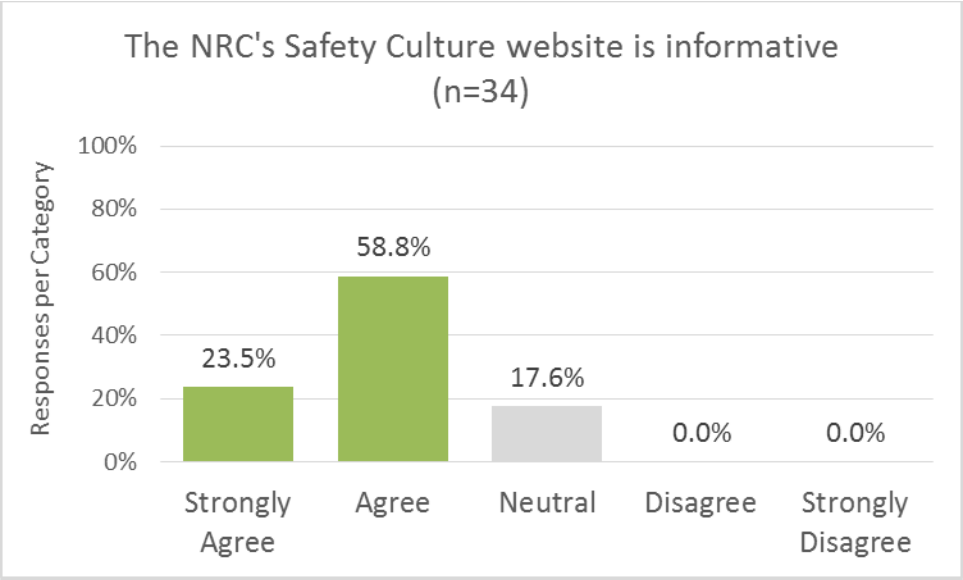


Figure 89: NRC Safety Culture Website Is Informative



Of the 73 North Carolina licensee survey respondents, 35 responded to questions pertaining to the NRC's Safety Culture website. The majority of respondents found the NRC website to be user friendly, easy to find, up-to-date, and informative. One respondent stated "We have used it several times and intend to continue using it. We like the Trait Talks." There was a noticeable percentage of respondents who felt neutral when asked about NRC Safety Culture website characteristics. One respondent noted that the website was not easy to find. Conversely, another respondent said it was "good to see a link to the Safety Culture information on the main website front page."

NRC Safety Culture Brochure

Figure 90: NRC Safety Culture Brochure Is Clear, Logical, and Easy to Follow

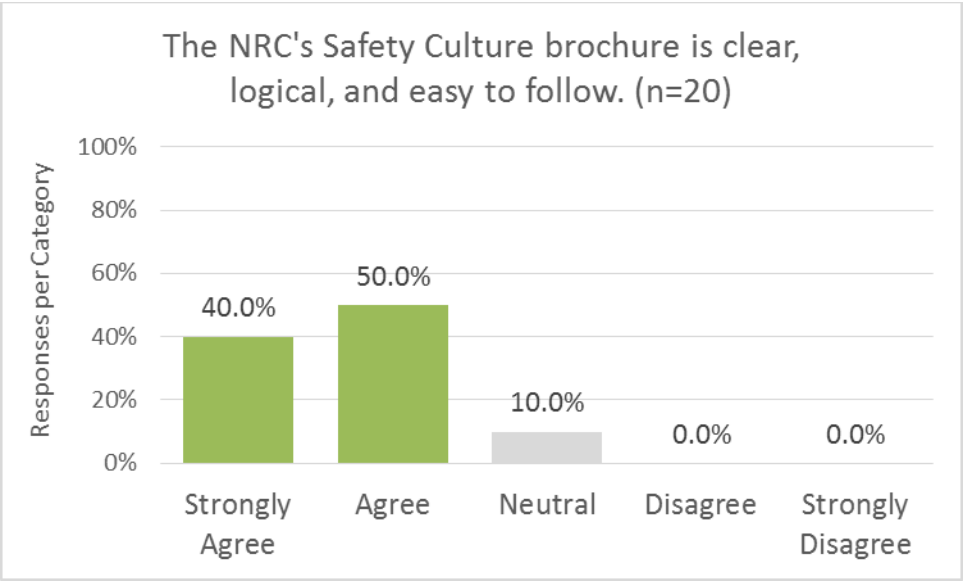


Figure 91: NRC Safety Culture Brochure Is Easy to Find

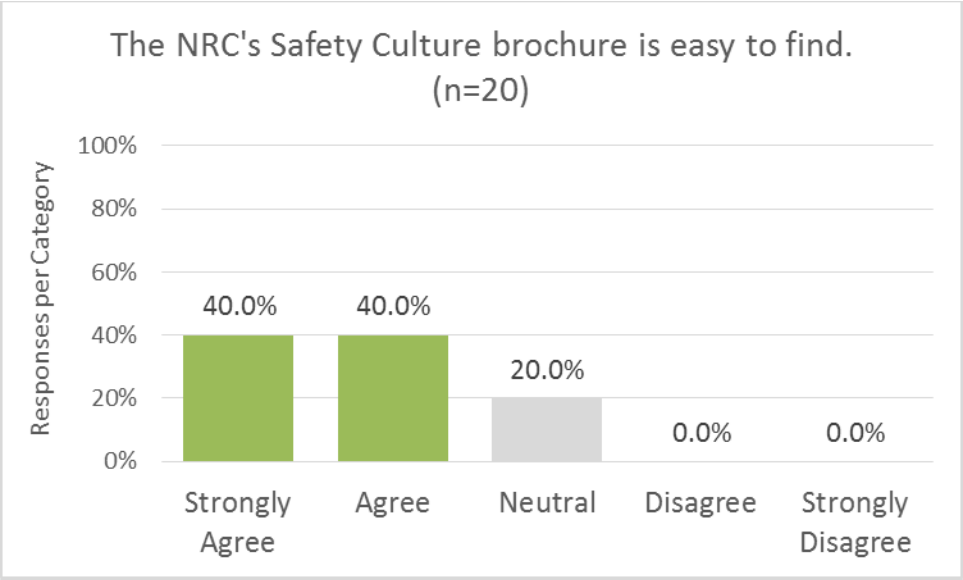


Figure 92: NRC Safety Culture Brochure Is Informative

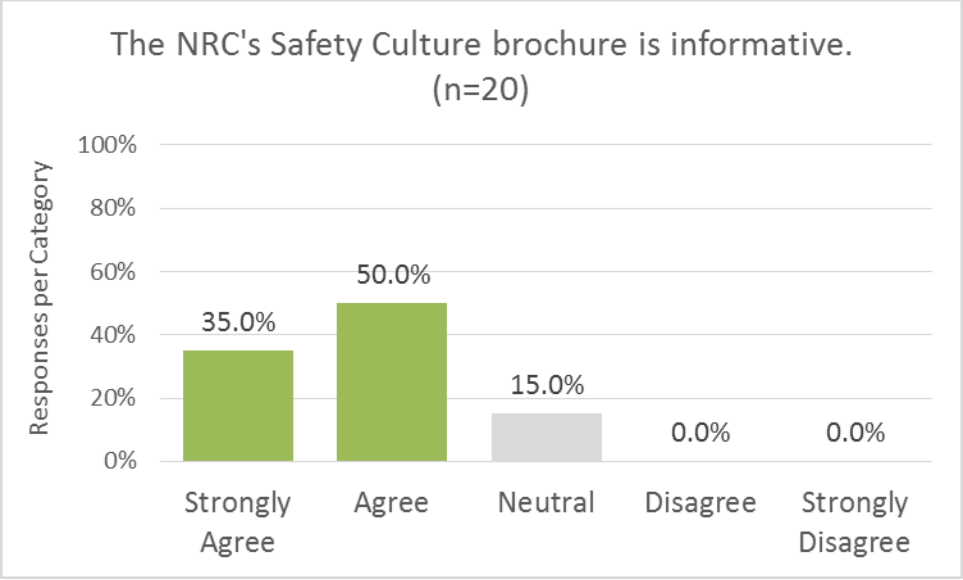


Figure 93: NRC Safety Culture Brochure Is Appropriately Detailed

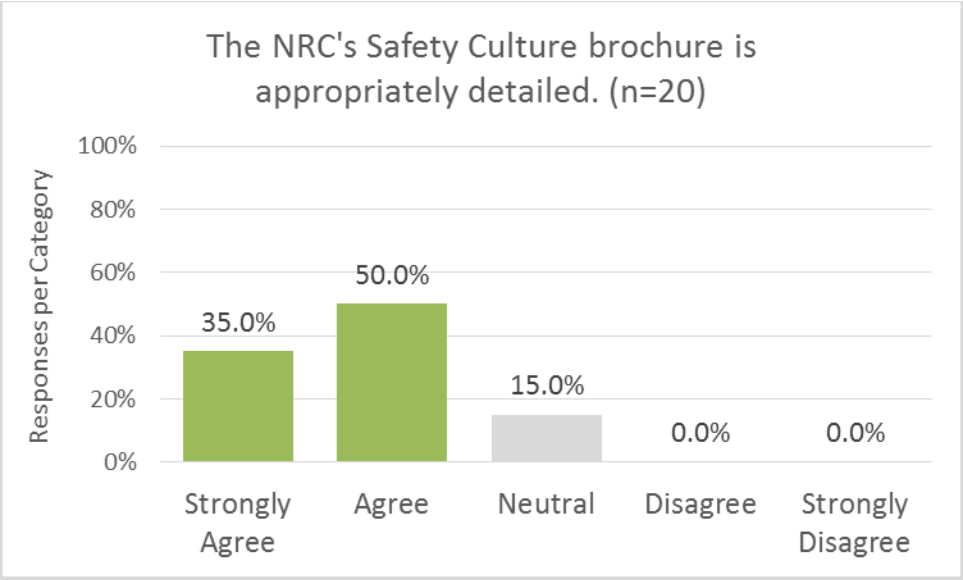


Figure 94: NRC Safety Culture Brochure Is Engaging

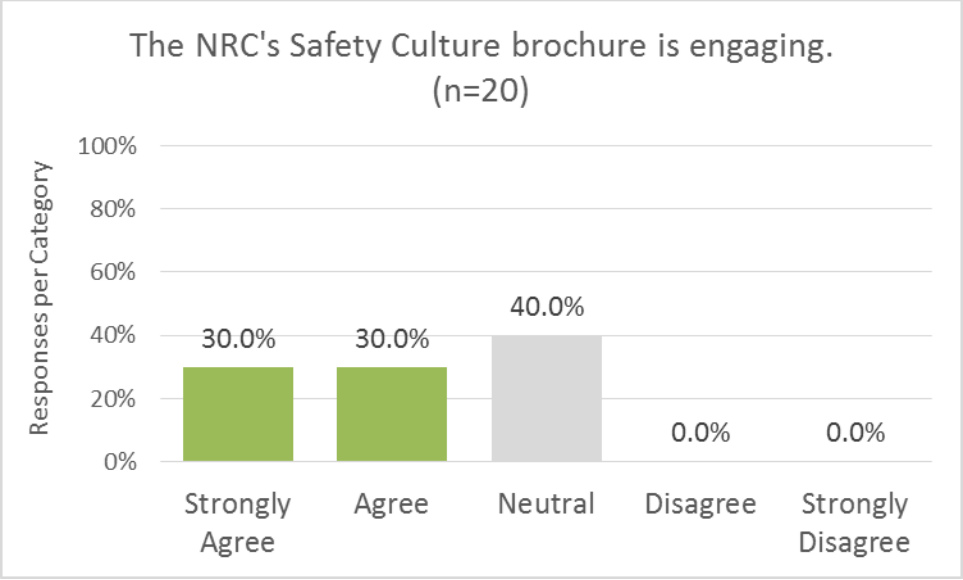
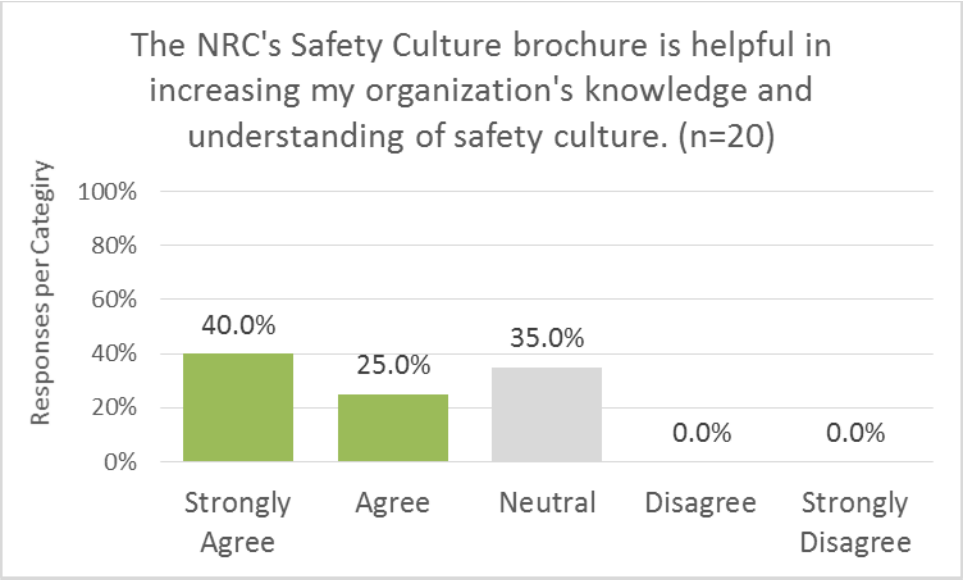


Figure 95: NRC Safety Culture Brochure Is Helpful



Of the 73 total North Carolina licensees surveyed, 20 answered questions pertaining to the NRC's Safety Culture brochure. Respondents reported that the NRC safety brochure was helpful, appropriately detailed, informative, easy to find, and clear, logical, and easy to follow. Respondents consistently noted the brochure was utilized for various meetings and training purposes. One respondent stated "As written, [the brochure] is complete and easy to understand…" Respondents responded less favorably when asked about the brochure being engage as 40% responded neutral. This indicates that improvement can be made to the brochure's engaging quality.

NRC Safety Culture Case Studies

Figure 96: NRC Safety Culture Case Studies Are Clear, Logical, and Easy to Follow

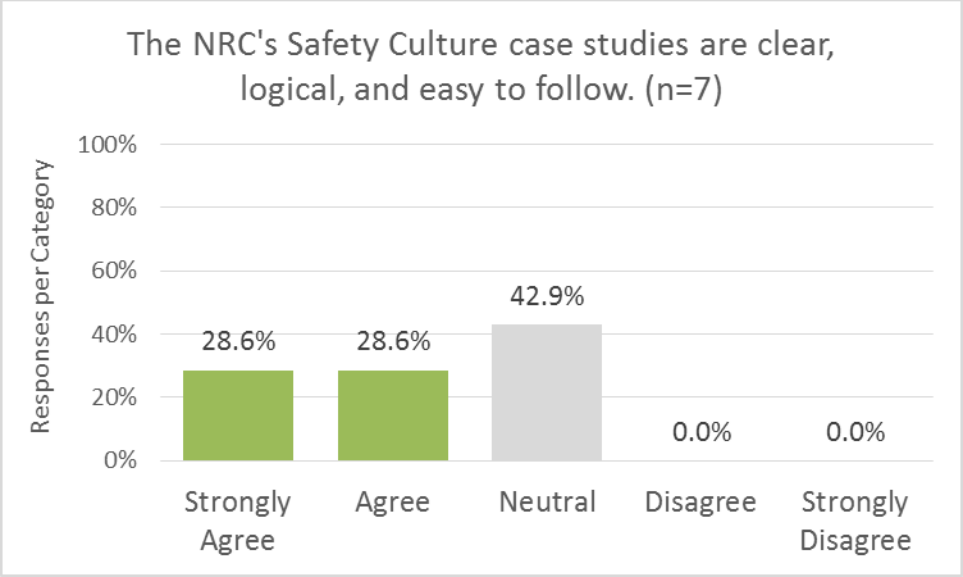


Figure 97: NRC Safety Culture Case Studies Are Easy to Find

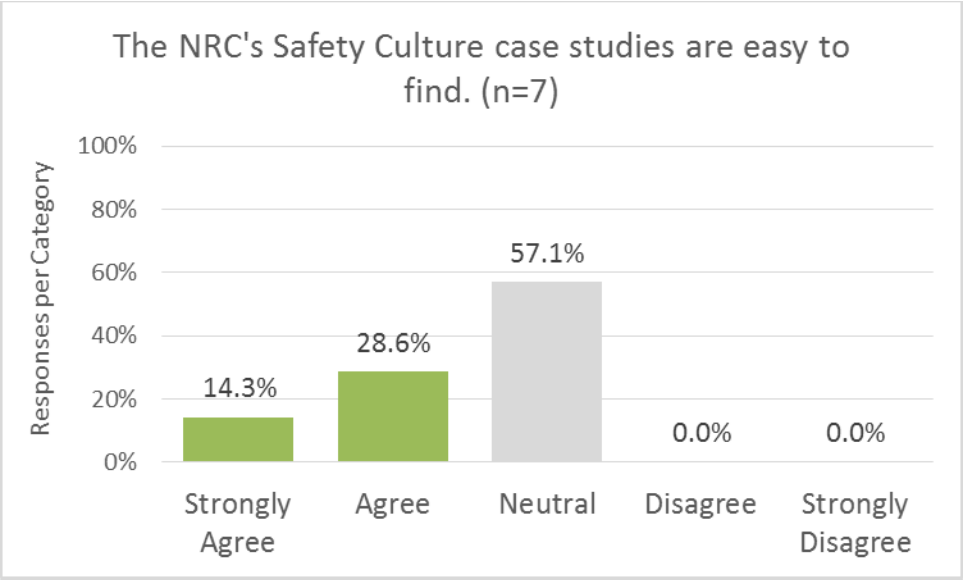


Figure 98: NRC Safety Culture Case Studies Are Informative

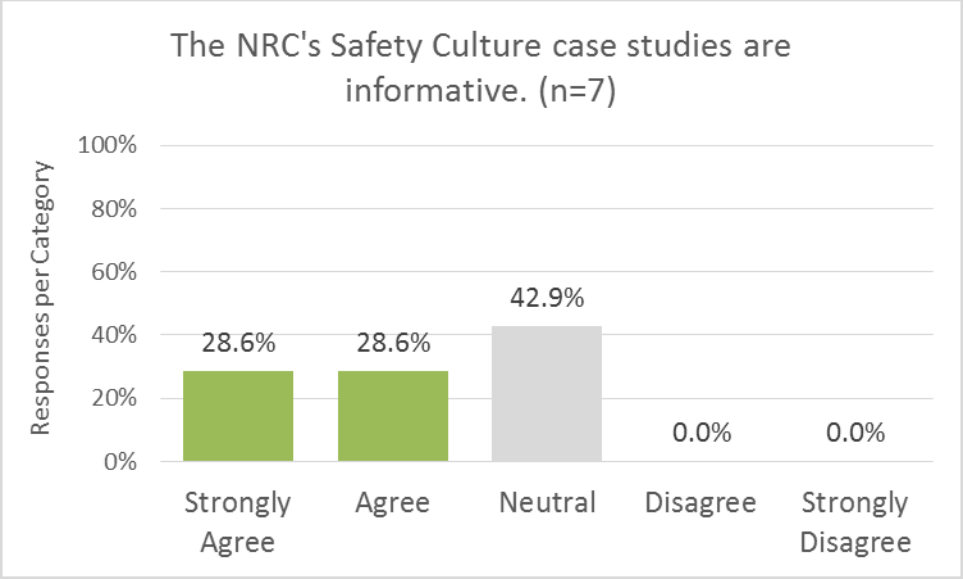


Figure 99: NRC Safety Culture Case Studies Are Appropriately Detailed

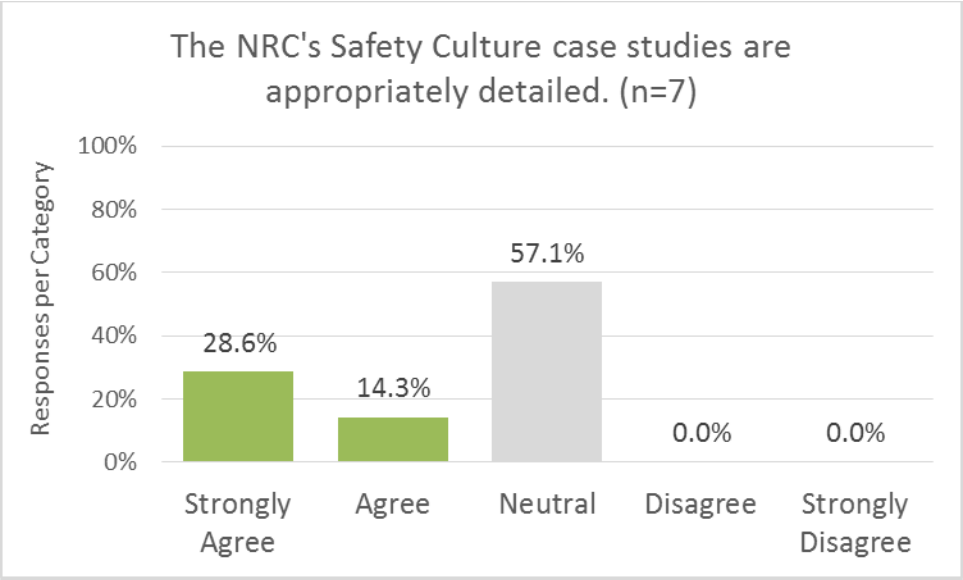


Figure 100: NRC Safety Culture Case Studies Are Engaging

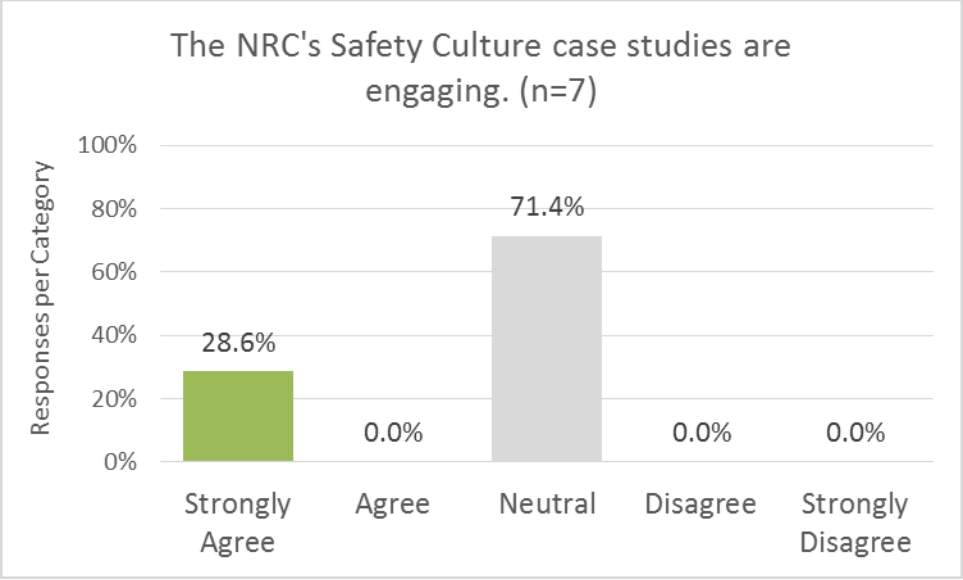


Figure 101: NRC Safety Culture Case Studies Are Practical

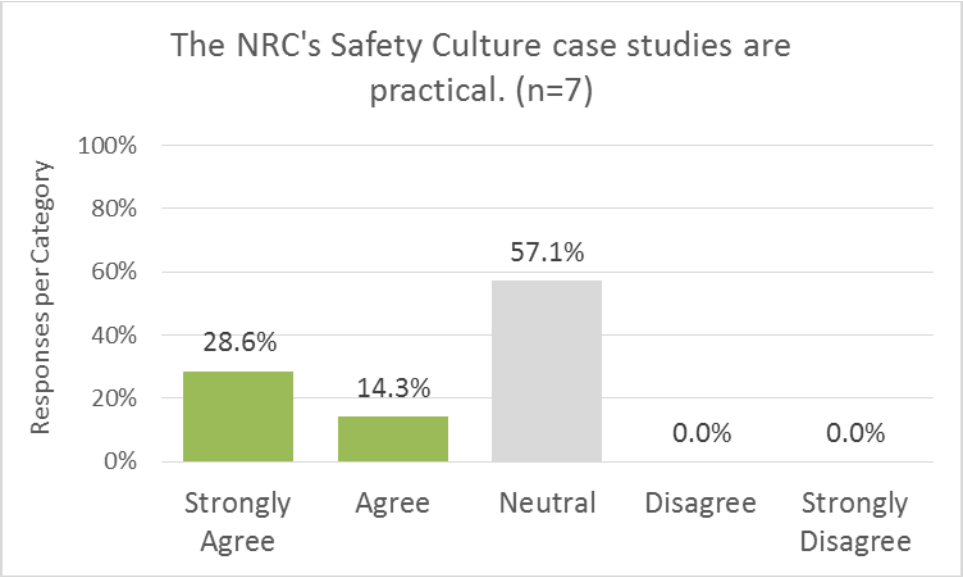
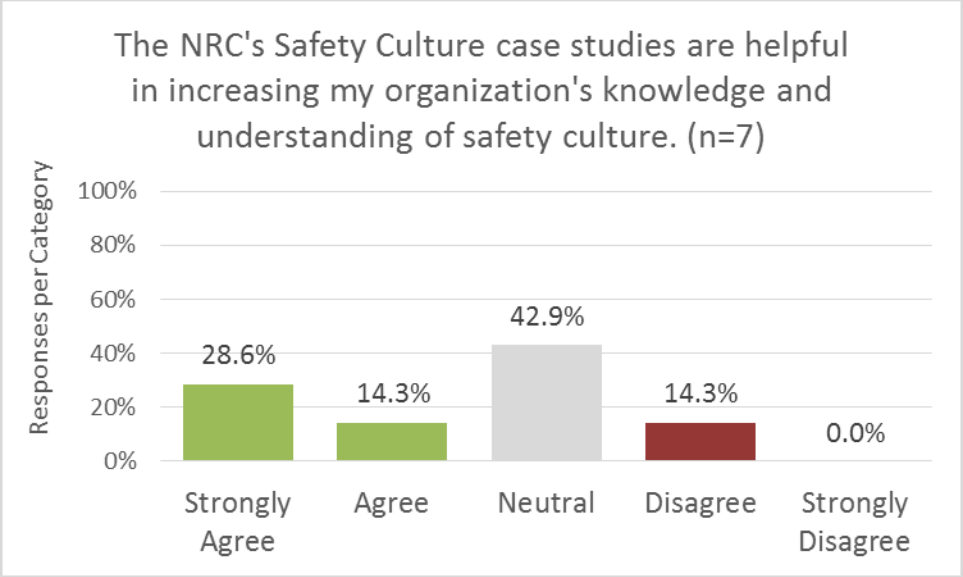


Figure 102: NRC Safety Culture Case Studies Are Helpful



Of the 73 surveyed North Carolina licensees, only seven responded to questions concerning the NRC's Safety Culture case studies. Respondents consistently replied neutral when asked about the case studies. Over 40% responded neutral to the case studies being helpful, appropriately detailed, easy to find, informative, and clear, logical, and easy to follow, while over 70% responded neutral when asked if the case studies were engaging. This indicates there is room for further communications and education concerning the case studies. No comments were received concerning case studies

State Regulator Website Safety Culture Information

Figure 103: State Regulator's Website Is User Friendly

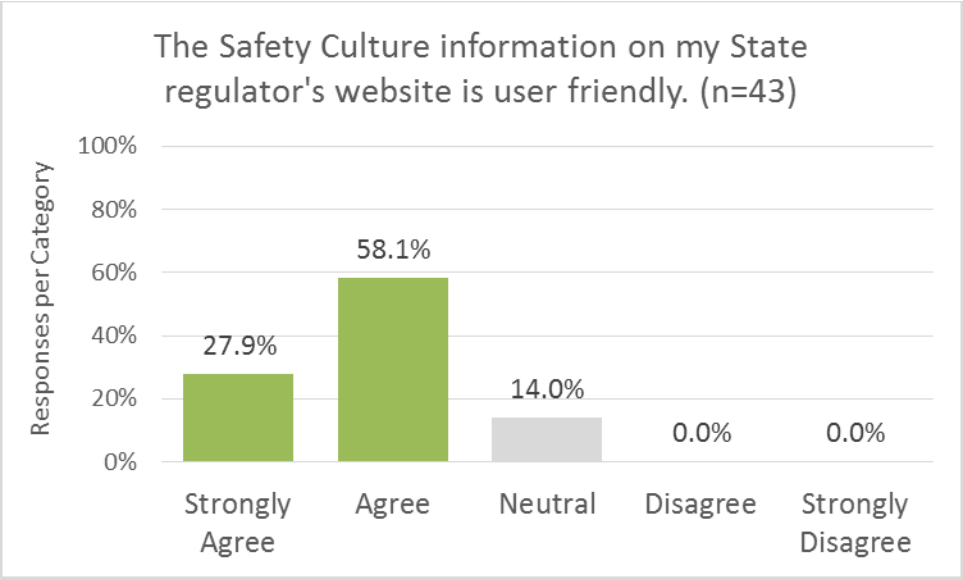


Figure 104: State Regulator's Website Is Easy to Find

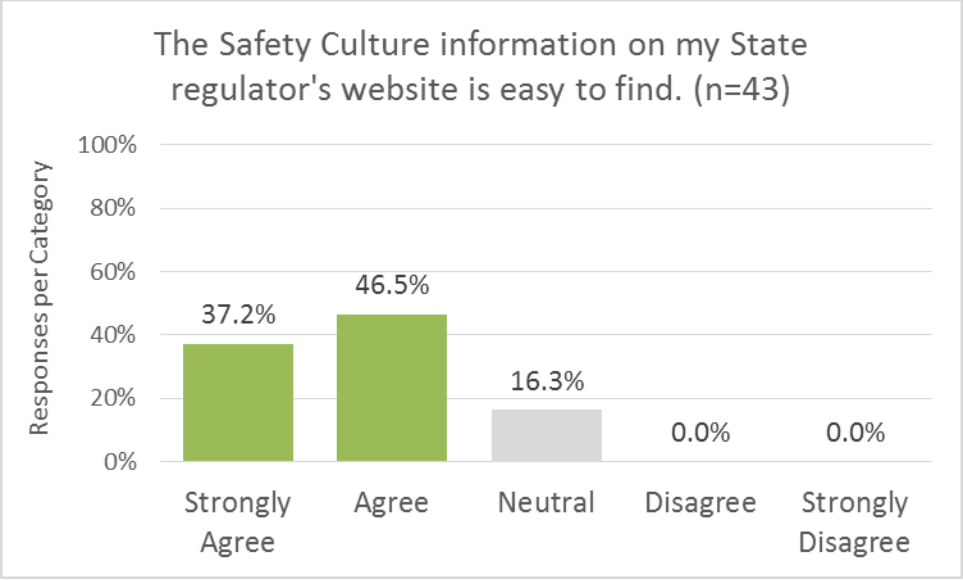


Figure 105: State Regulator's Website Is Up-to-Date

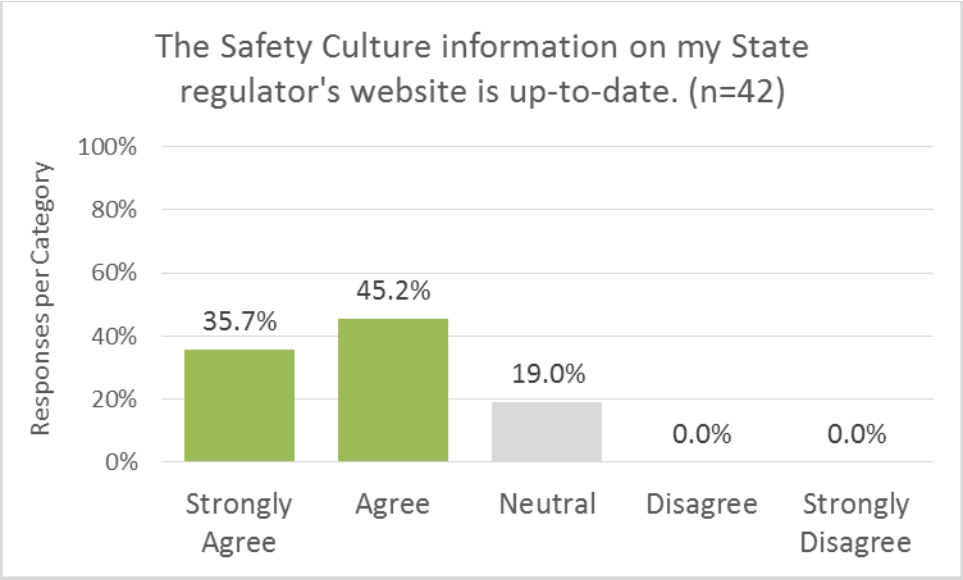
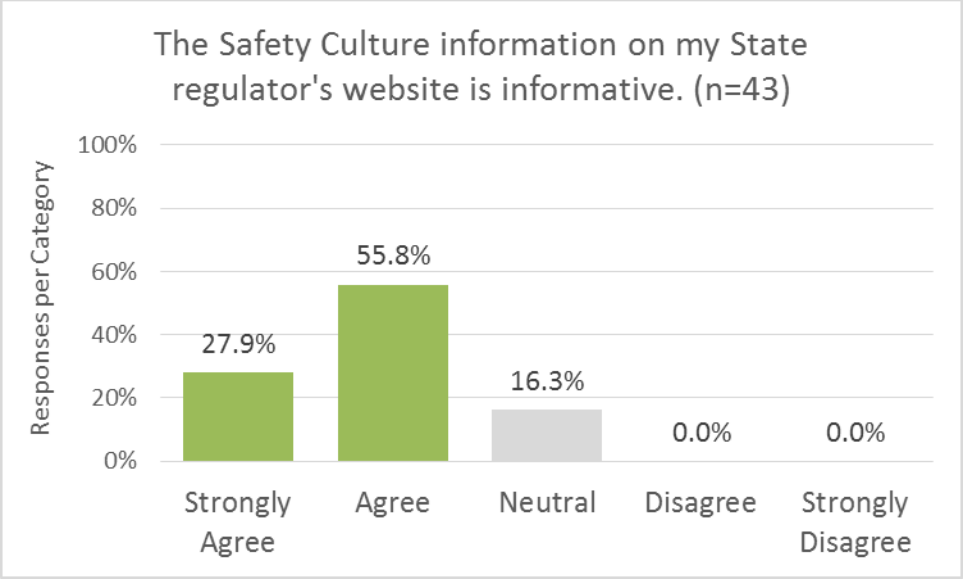


Figure 106: State Regulator's Website Is Informative



Of the 73 North Carolina licensee respondents, 43 answered questions pertaining to the State regulator's website. Over 80% of respondents, found their State regulator's website to be up-to-date, informative, easy to find, and user friendly.

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 107: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, over 77% of respondents replied favorably.

Figure 108: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, over

80% responded favorably.

Summary of Qualitative Feedback:

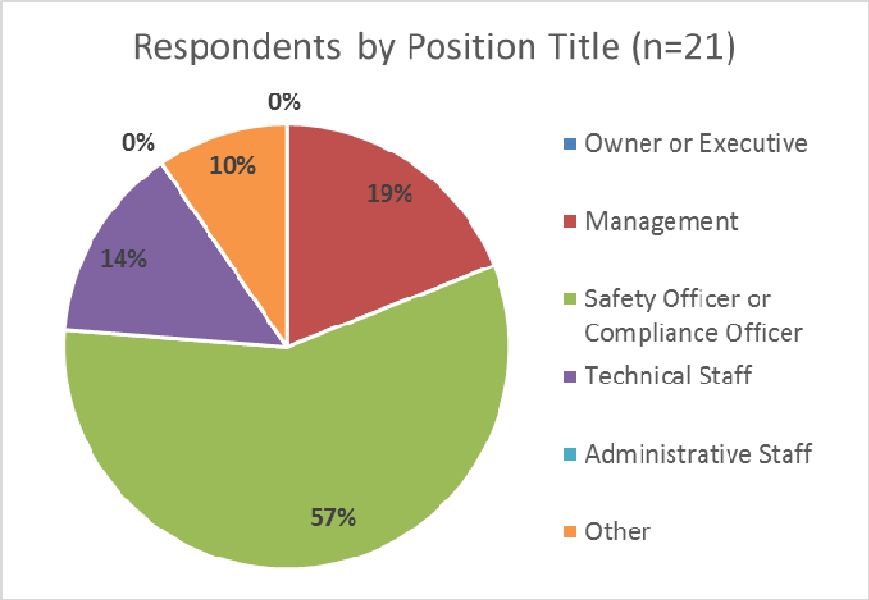
- "It is redundant to our own policies promoting Safety Culture in our organization"
- "It makes employees aware of the importance of our jobs as manufacturers in the nuclear and nuclear medicine shipping and storage packages"
- "This really has little impact on an organization with a good safety process and culture, and fails to add value for resources expended in education of this initiative by the federal agency"
- "Although many of the traits of a Positive Safety Culture seems to be common sense, actually having them printed should make more of an impact. Leadership and accountability should be foremost and the other traits will follow"
- "One of the best ways to make good practices a part of one's daily work is to create a way of thinking about safety in the organization that promotes openness, clear lines of communication, awareness of standards, and an educated approach to the use and disposal of radioactive materials"
- "Presentations at local level are very helpful- example local "safety schools" sponsored by NC"
- "We can review examples of ways our site demonstrate Safety Culture traits during inspections"
- "maybe put a link on ncradiation.net website to the NRC Safety Culture & Policy statement", information on websites, provide list of training resources

Appendix E: Data Analysis Findings – Ohio

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze responses by subpopulation.

Figure 109: Respondents by Position Title



There were a total of 21 survey respondents who identified themselves as Ohio licensees. This group consisted of Safety or Compliance Officers, management, owners or executives, and "other."

Table 5: Survey Respondents by License Type

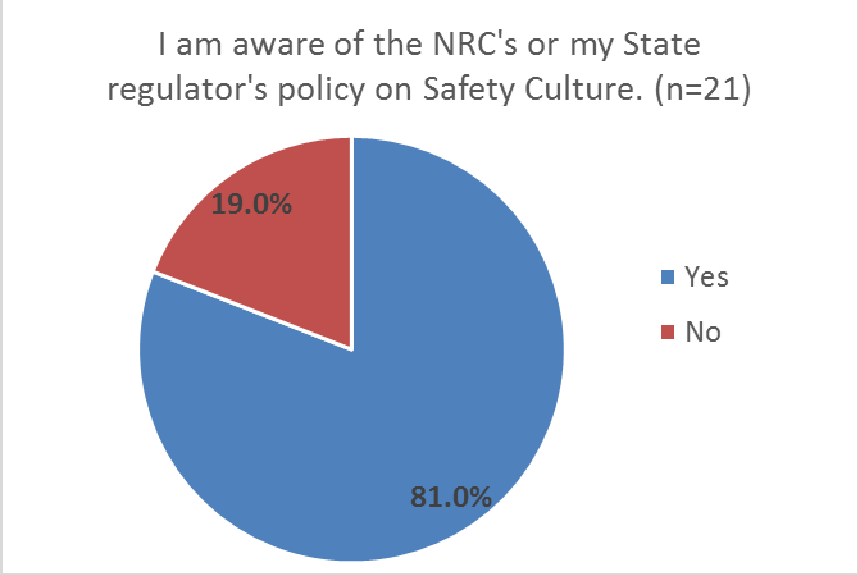
Subpopulation by License Type*	Number of Respondents
Portable Gauge Licensee	4
Fixed Gauge Licensee	0
Industrial Radiography/Logging Licensee	5
Irradiator Licensee	0
Master Materials Licensee	0
Medical Use Licensee	8
Broad Scope Licensee	3
Research and Development, Gas Chromatographs, and X-Ray Fluorescence Licensee	0
Exempt Distribution Licensee	0
Possession License for Manufacturing and Distribution	0
Commercial Radiopharmacy Licensee	1
Service Provider Licensee	1
License for Special Nuclear Material of Less Than Critical Mass	0
Spent Fuel Storage Licensee	0
Fuel Cycle Facility Licensee	0
Other	2

*(*As some licensees may hold multiple license types, above subpopulations are not mutually exclusive)*

Awareness of Safety Culture

Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents understand where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the Safety Culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Figure 110: Respondent Awareness of Safety Culture Policy



A large majority of the respondents (81%) is aware of the NRC or their Agreement State's policy on Safety Culture.

Figure 111: Management Awareness of Safety Culture Policy

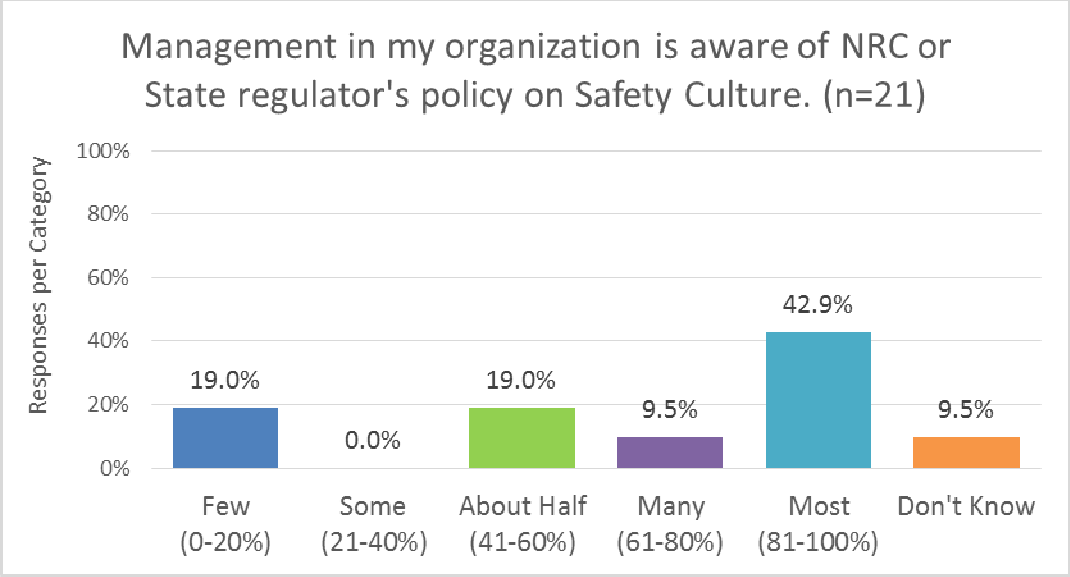
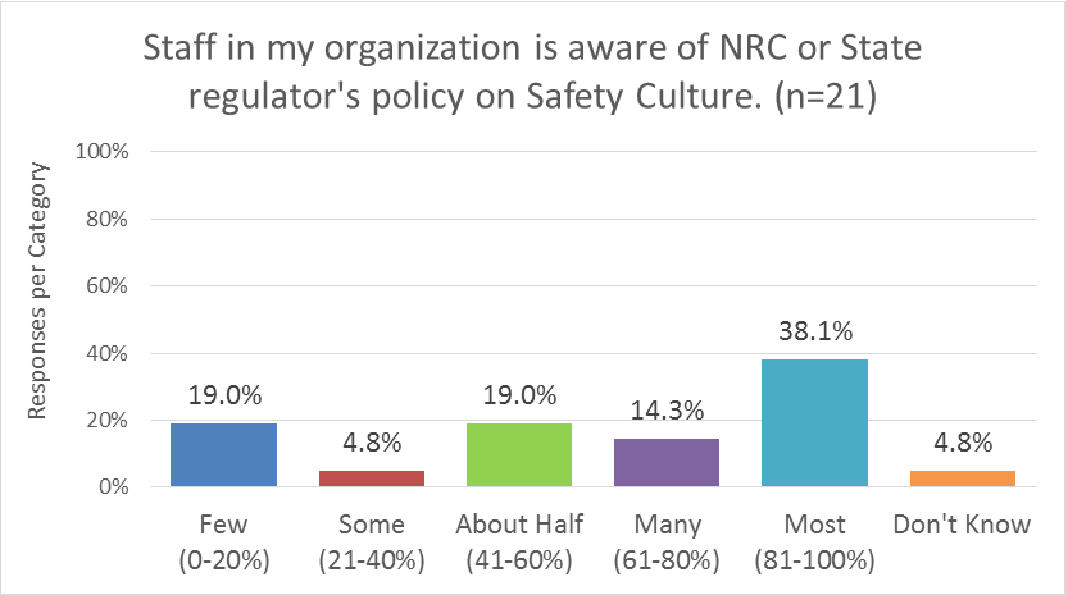


Figure 112: Staff Awareness of Safety Culture Policy W License Type



In general, respondents perceived management and staff awareness at their organizations similarly. When questioned, over half of respondents felt many or most of the management and staff at their organizations were aware of Safety Culture policy. In both management and staff cases, 19% of respondents perceived that only a few of the staff and management at their organizations to be aware. This poses a rather large concern. There is a large discrepancy when we compare what the survey respondents state their own awareness to be in comparison to their perception of the population's awareness at their organization. This may indicate that Safety Culture awareness is not readily discussed and therefore respondents assume others are unaware as a result.

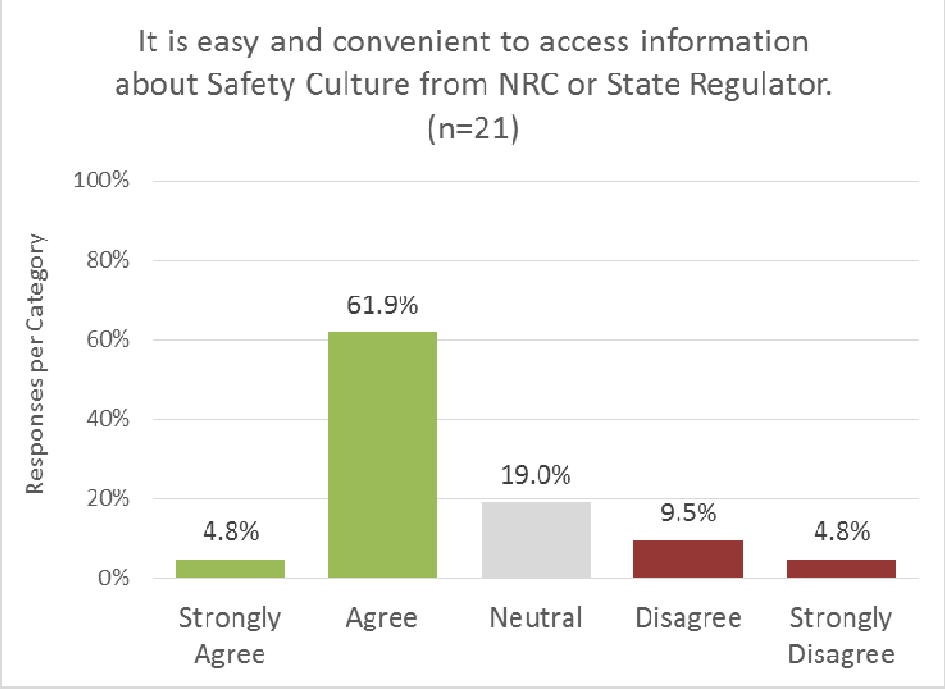
Distribution of NRC Safety Culture Products

The distribution survey questions helped to understand how organizations access the NRC Safety Culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive Safety Culture information, determine how accessible Safety Culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 113: Methods by Which Organizations Received Safety Culture Information

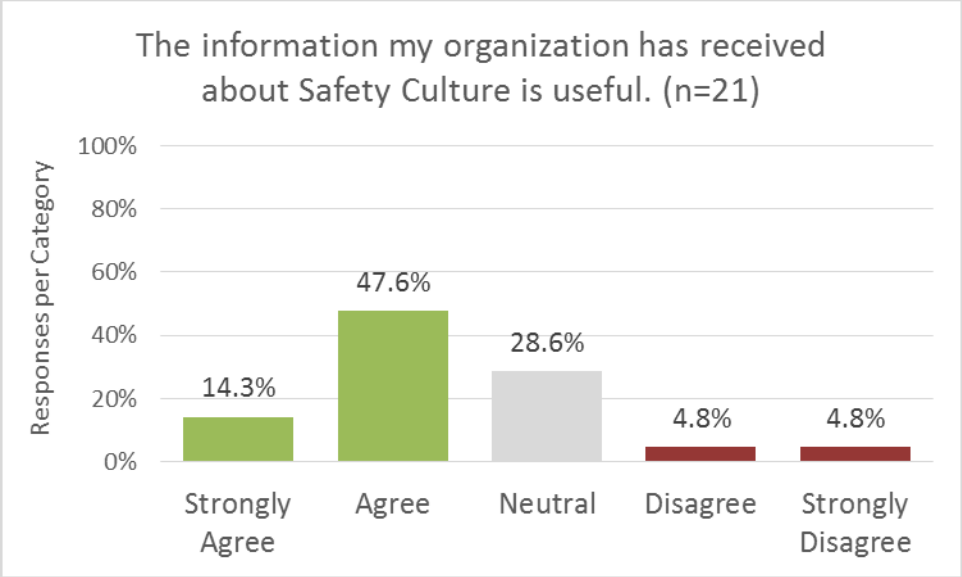
Survey respondents noted most frequently that correspondence (such as emails and letters) and the NRC's Safety Culture website were the methods by which their organizations received Safety Culture information.

Figure 114: Ease and Convenience of Accessing Safety Culture Information



Respondents provided their agreement level with the statement "It is easy and convenient to access information about Safety Culture from NRC or my State regulator." A large majority (66.7%) of respondents agreed or strongly agreed with this statement. Approximately one third of respondents were either neutral or did not find it easy and convenient to access Safety Culture information. Although the majority of responses were favorable, unfavorable and neutral responses suggest further efforts are necessary to educate a wider audience on the availability of Safety Culture information.

Figure 115: Usefulness of Safety Culture Information Received

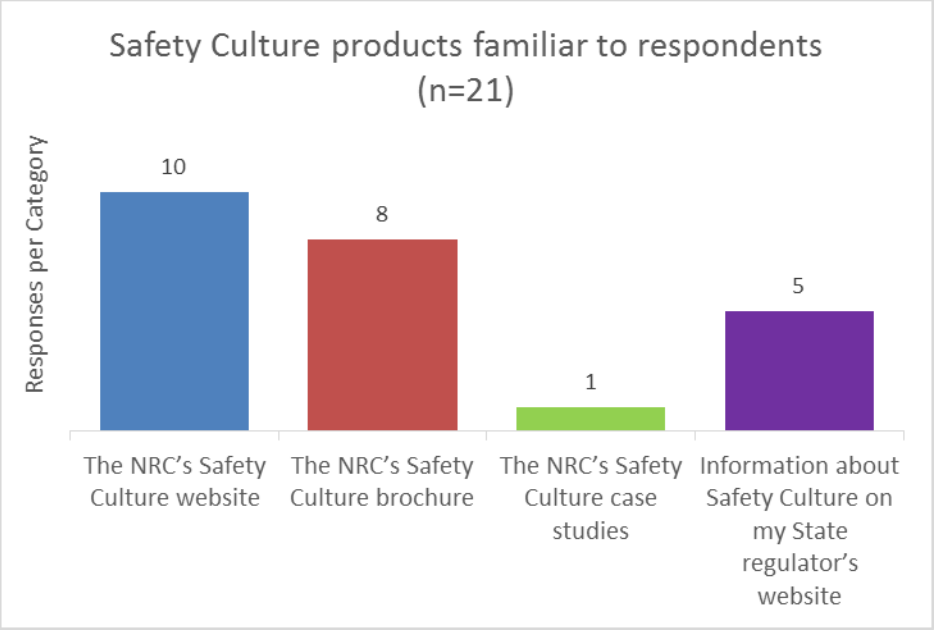


Respondents provided their agreement level with the following statement "The information my organization has received about Safety Culture is useful." The majority (over 62%) agreed or strongly agreed the information was useful. Despite this positive feedback, over a third of respondents were neutral or did not find the information useful.

Products for NRC Safety Culture Education and Outreach

These questions elicit an understanding respondents' familiarity with various NRC Safety Culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as Safety Culture information available on the State regulator's website.

Figure 116: Safety Culture Products Familiar to Respondents



When asked what Safety Culture products they were familiar with, respondents noted the NRC's Safety Culture website and brochure most frequently.

NRC Safety Culture Website

Figure 117: NRC Safety Culture Website Is User Friendly

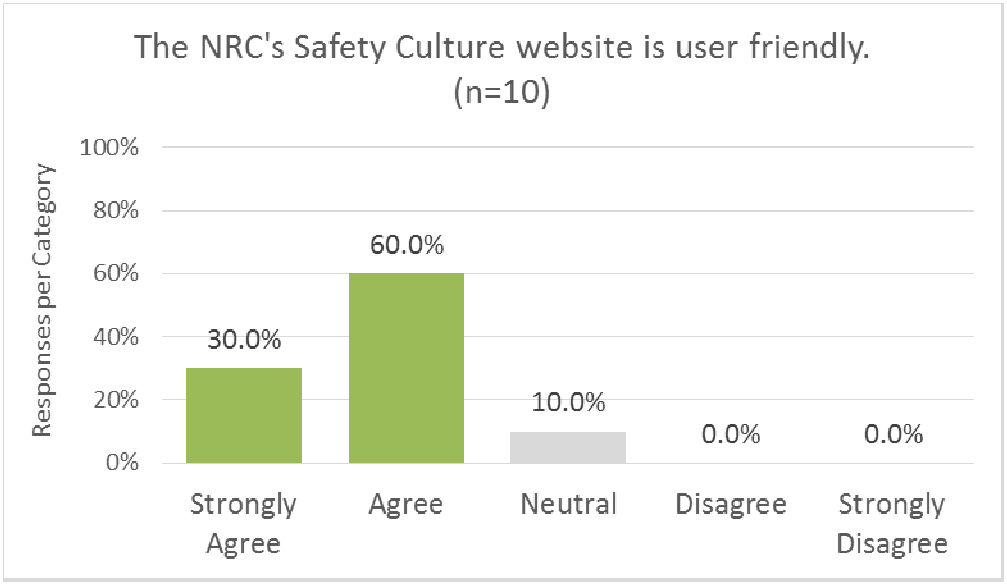


Figure 118: NRC Safety Culture Website Is Easy to Find

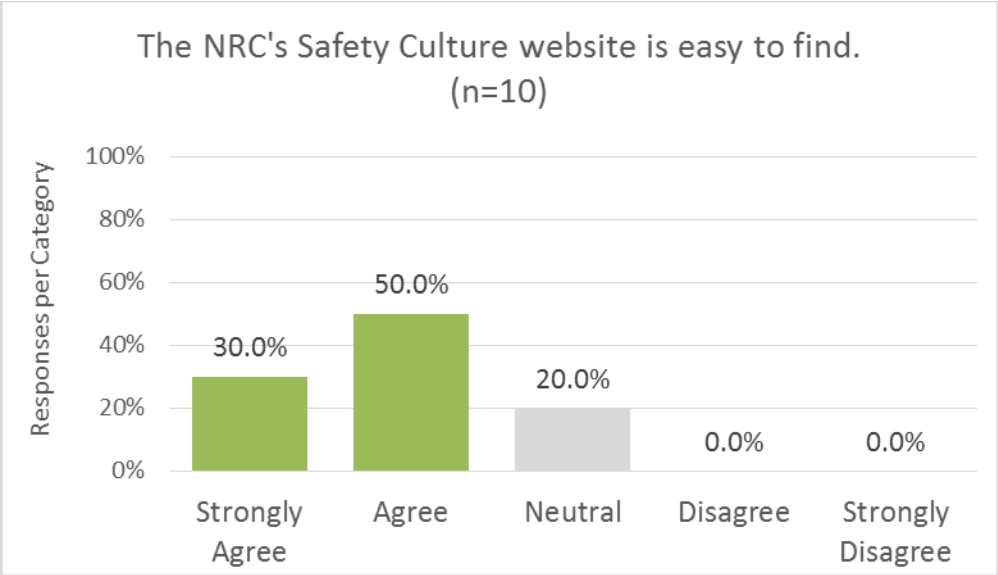


Figure 119: NRC Safety Culture Website Is Up-to-Date

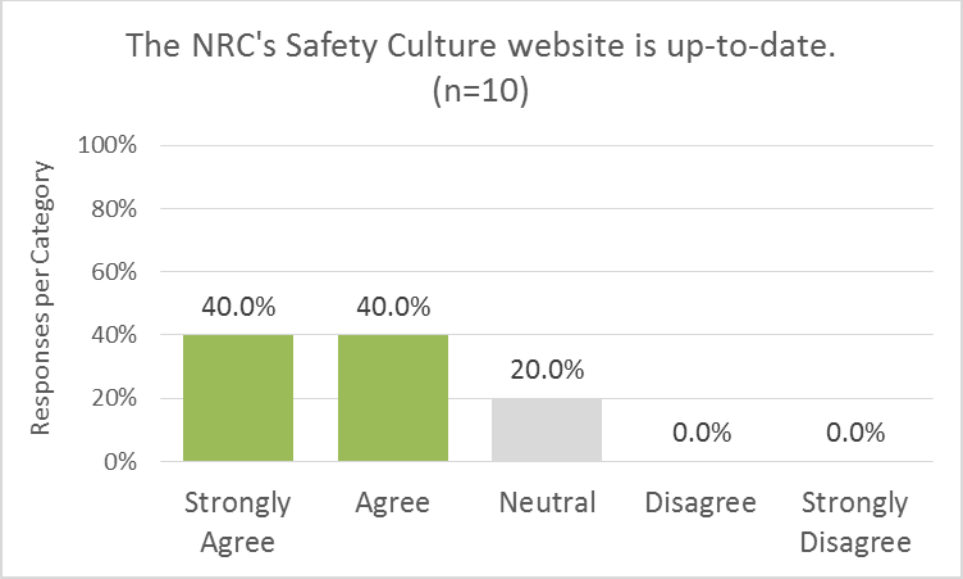
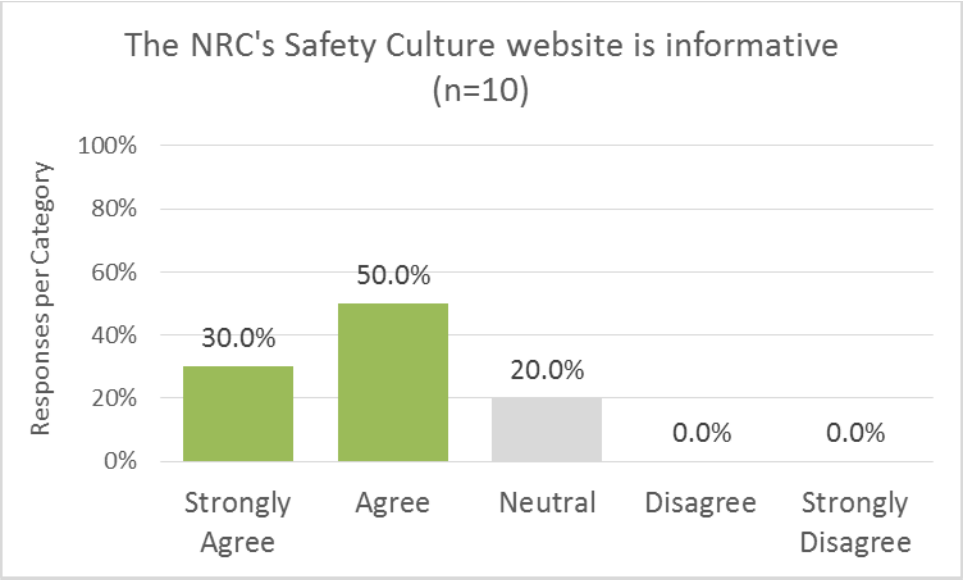


Figure 120: NRC Safety Culture Website Is Informative



Of the 21 Ohio licensees who participated in the survey, ten completed questions relating to the NRC's Safety Culture website. The majority of the respondents found the NRC website to be user friendly, easy to find, up-to-date, and informative.

NRC Safety Culture Brochure

Figure 121: NRC Safety Culture Brochure Is Clear, Logical, and Easy to Follow

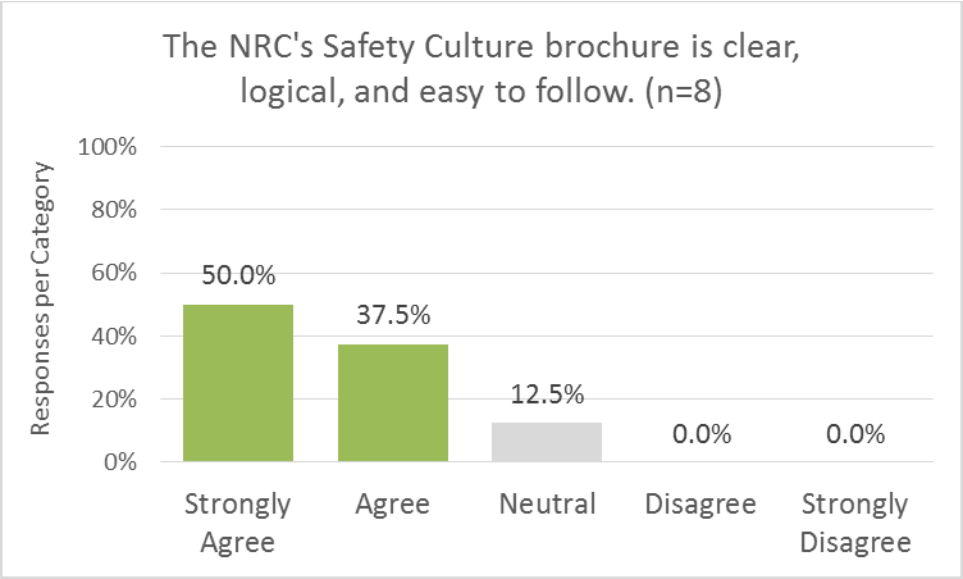


Figure 122: NRC Safety Culture Brochure Is Easy to Find

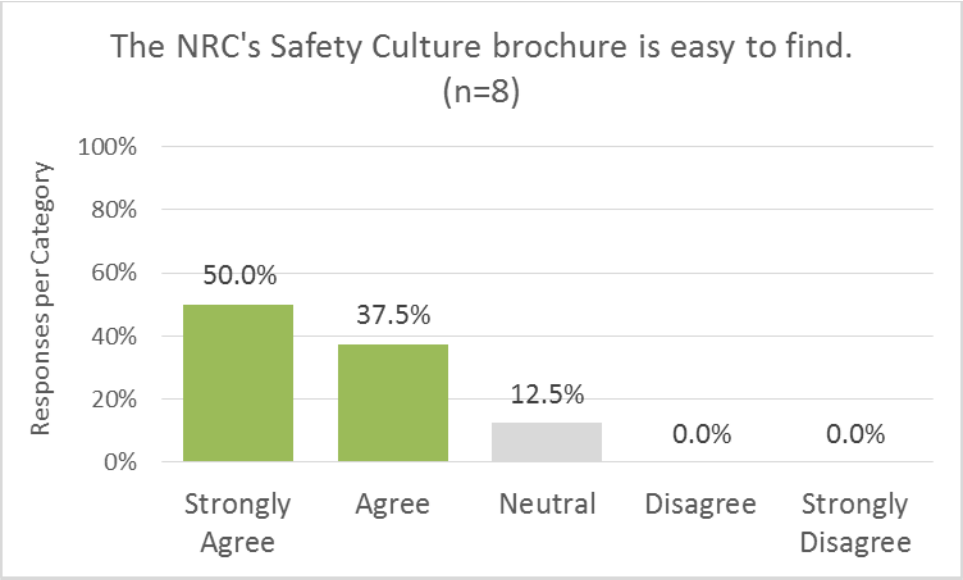


Figure 123: NRC Safety Culture Brochure Is Informative

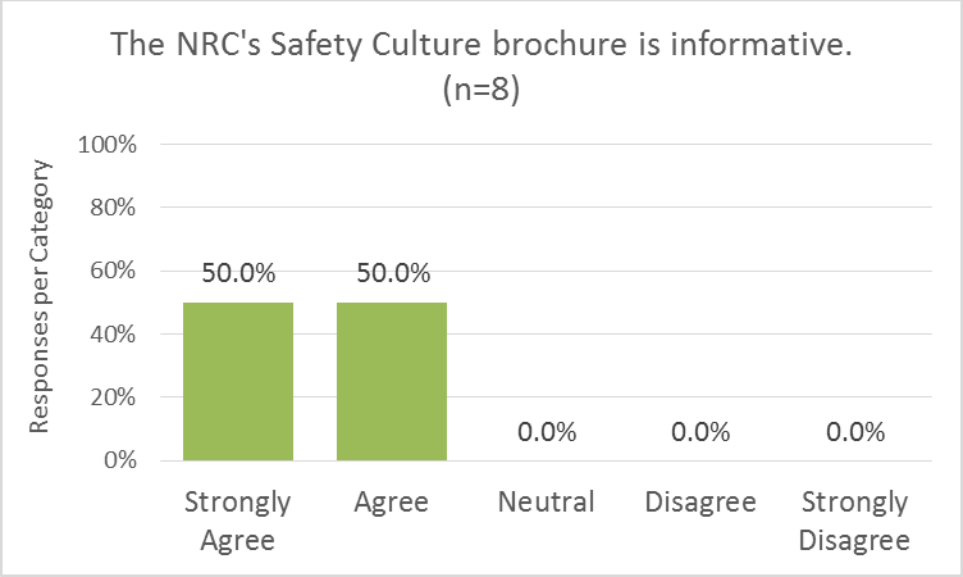


Figure 124: NRC Safety Culture Brochure Is Appropriately Detailed

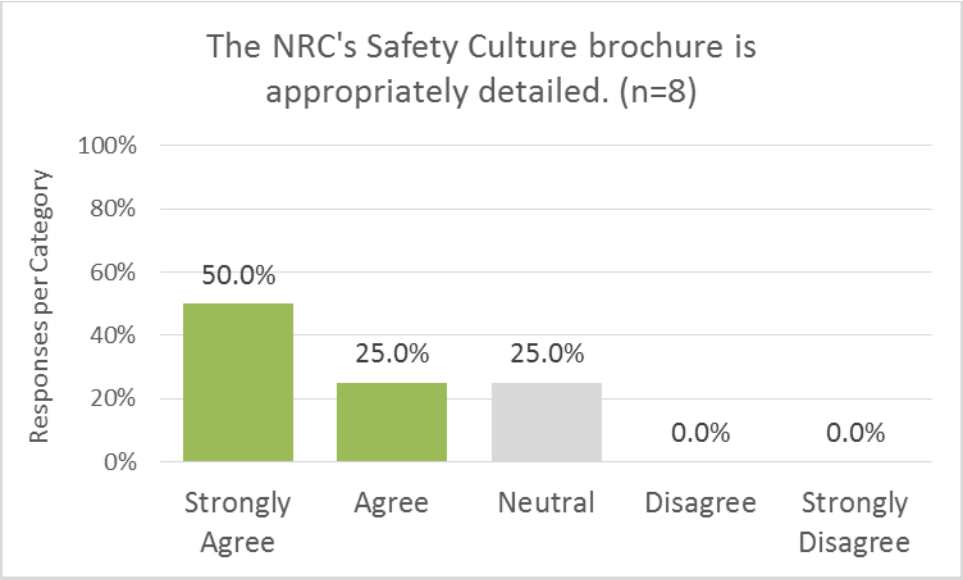


Figure 125: NRC Safety Culture Brochure Is Engaging

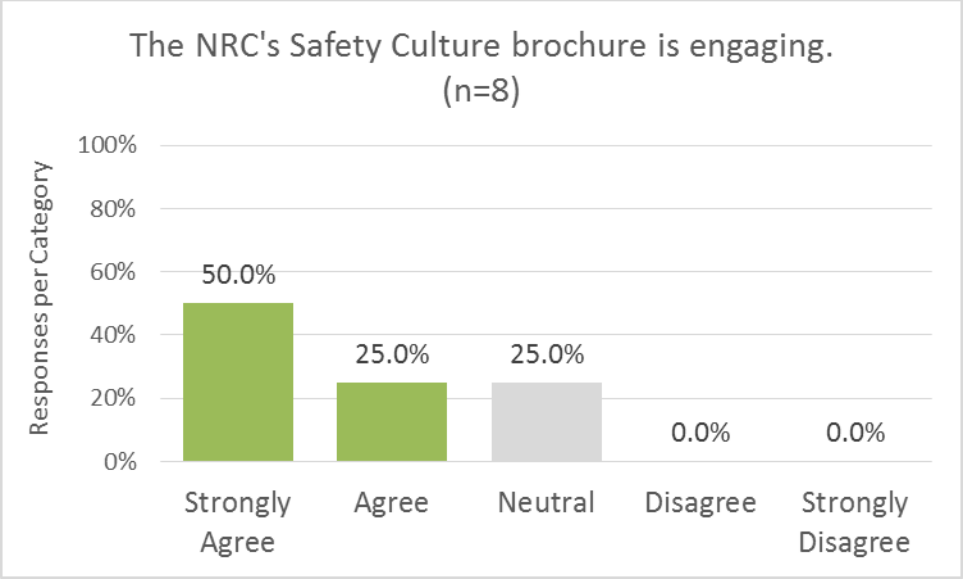
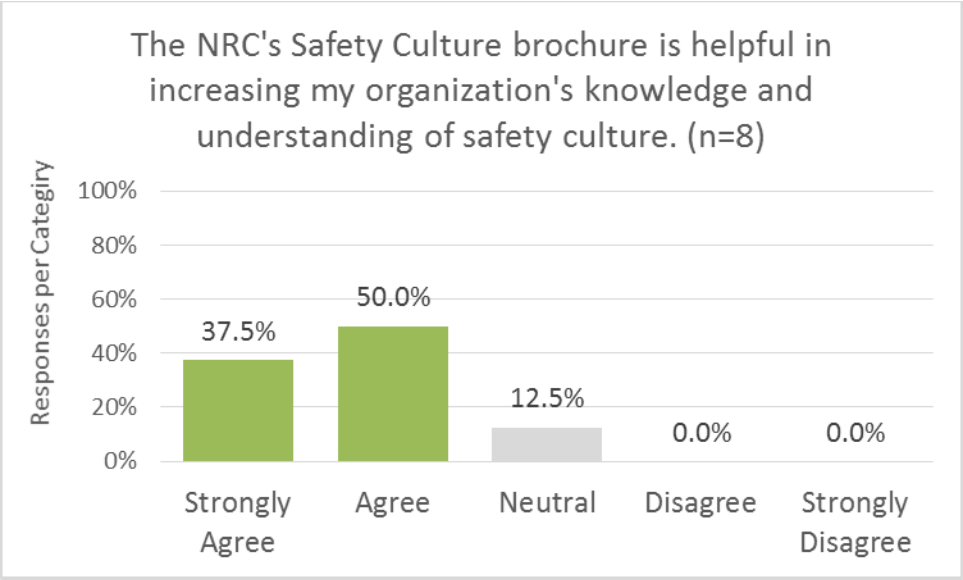


Figure 126: NRC Safety Culture Brochure Is Helpful



Of the 21 Ohio licensees who participated in the survey, eight answered questions concerning the NRC's Safety Culture brochure. Over 75% of respondents reported that the NRC safety brochure was helpful, appropriately detailed, engaging, easy to find, and clear, logical, and easy to follow. All respondents agreed or strongly agreed the brochure was informative. No respondents replied unfavorably when questioned about the brochure.

NRC Safety Culture Case Studies

Only one respondent answered questions pertaining to the NRC Safety Culture Case Studies. The respondent answered neutral on all questions when asked if the case studies were easy to find, informative, practical, engaging, helpful, appropriately detailed, and clear, logical, and easy to follow.

State Regulator Website Safety Culture Information

Figure 127: State Regulator's Website Is User Friendly

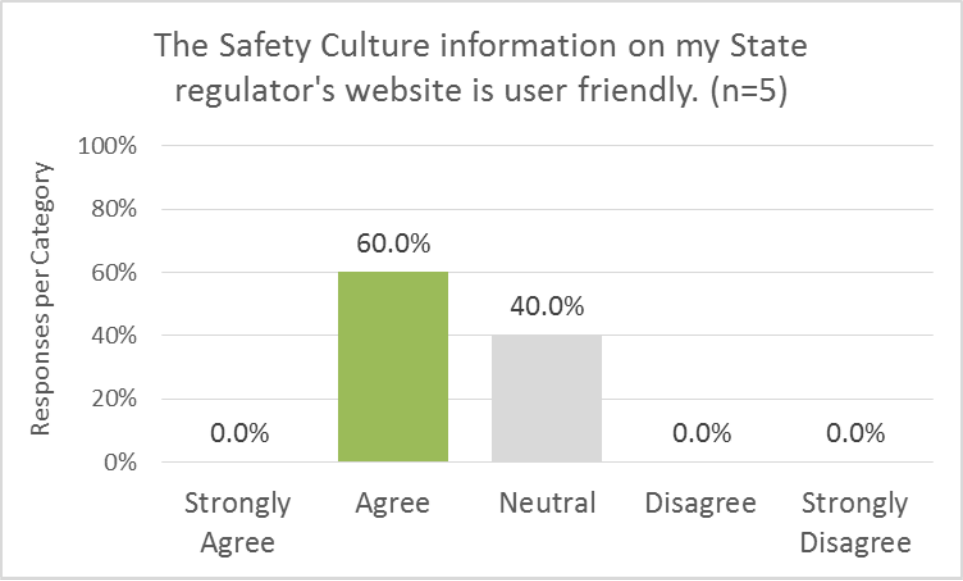


Figure 128: State Regulator's Website Is Easy to Find

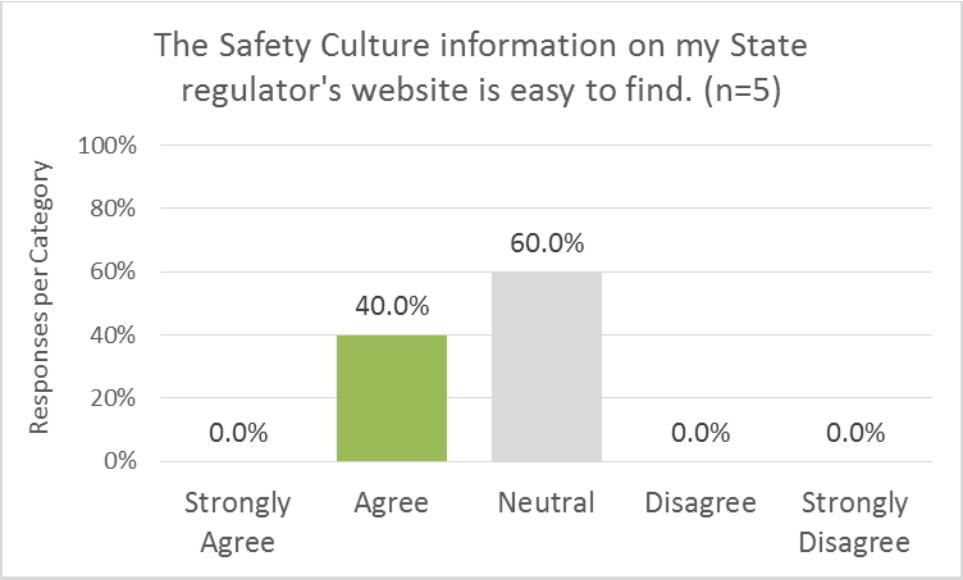


Figure 129: State Regulator's Website Is Up-to-Date

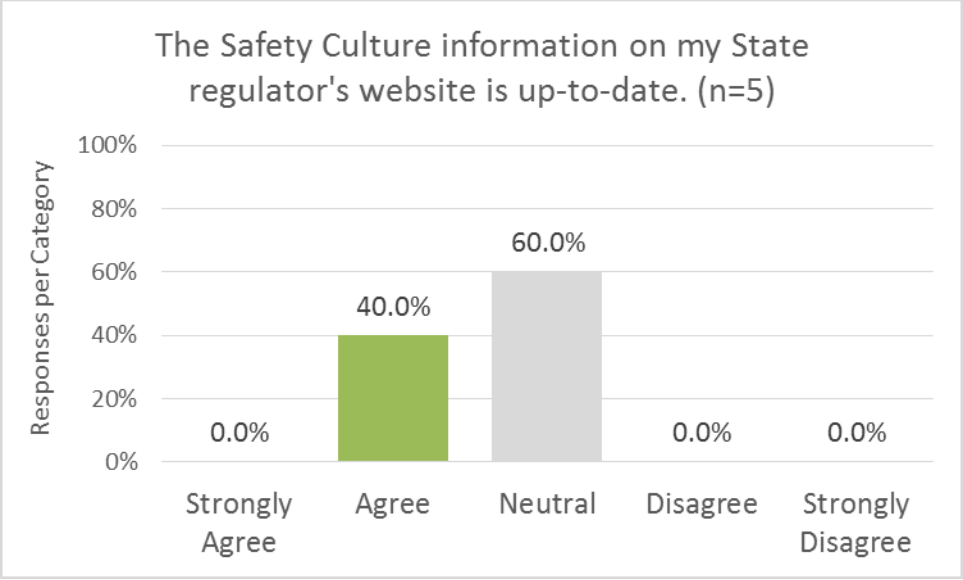
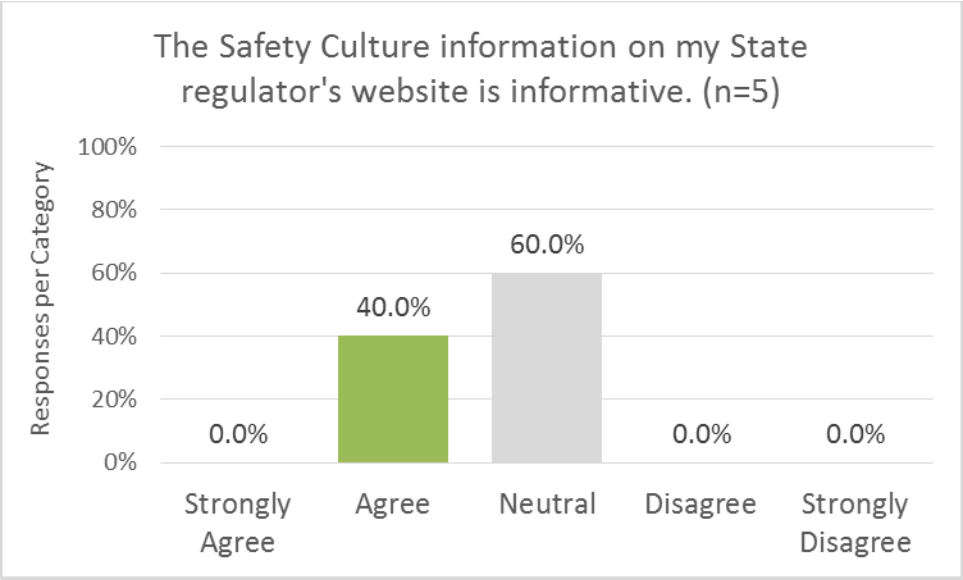


Figure 130: State Regulator's Website Is Informative



Of the 21 Ohio licensee respondents, only five answered questions pertaining to the State regulator's website. The majority of respondents (60%) were neutral when asked about the State regulator's website being informative, easy to find, and up-to-date. The majority of respondents (60%) found the website to be user friendly. There were no unfavorable responses concerning the State regulator's website.

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 131: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, over 57% of respondents replied favorably. When combining the neutral and unfavorable responses (disagree or strongly disagree), over 40% of respondents were indifferent or not satisfied. This indicates room for improvement.

Figure 132: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, over 60% responded favorably, over 28% indicated neutral and nearly 10% responded unfavorably. Concerning quality of communications, there is some significant room for improvement.

Summary of Qualitative Feedback:

- "Send regular updates via email to RSO", "send more information to license holders"
- "Address Safety Culture in a positive manner"
- "Continue your outreach program. It is one of the best ways to engage people from multiple locations"
- "Ohio Department of Health Radiation Program is made up of former RTs and HP technicians. They are ignorant of managerial skills, organizational behavior and medical /health physics"
- "Add information on it to the state's license renewal page"
- "Encourage self-identification and correction of problems during inspections"
- "I would like to receive guidance on specific actions that can be taken to establish and maintain a positive Safety Culture environment in my organization"

Appendix F: Data Analysis Findings – Rhode Island

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze responses by subpopulation.

There were two survey respondents in the Rhode Island group. One held multiple state licenses. Both respondents identified themselves as Safety or Compliance Officers. One held a Medical Use license and the other a Fixed Gauge License.

Awareness of Safety Culture

Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents understand where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the Safety Culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Both respondents felt they were aware of the NRC's or their State regulator's policy on Safety Culture. This presents positive feedback in that the population surveyed is receiving some type of communication concerning the NRC's or their State regulator's policy.

Figure 133: Management Awareness of Safety Culture Policy

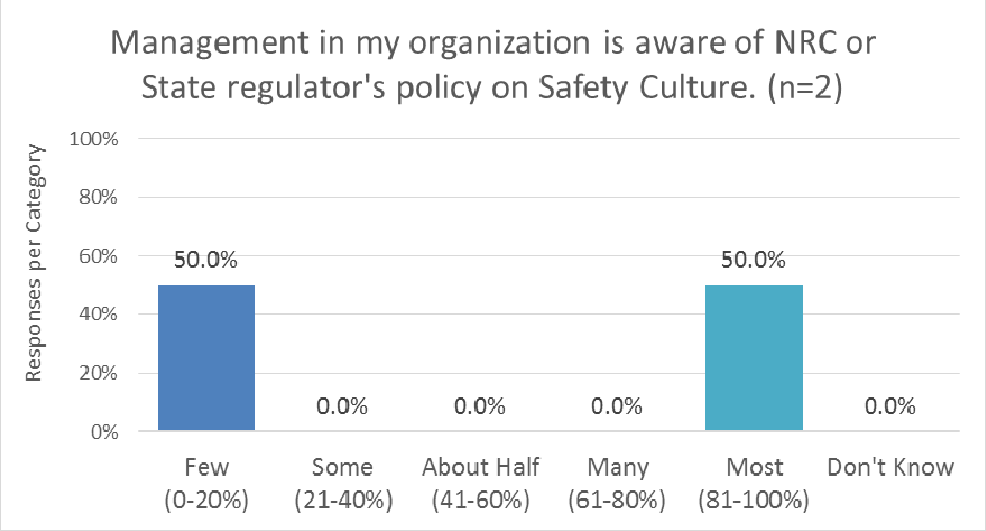
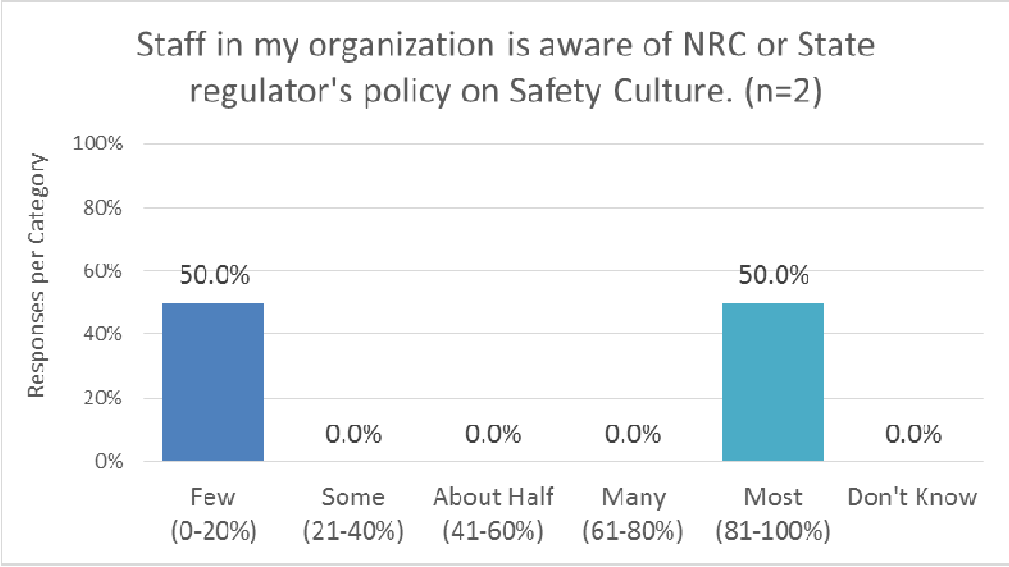


Figure 134: Staff Awareness of Safety Culture Policy W License Type

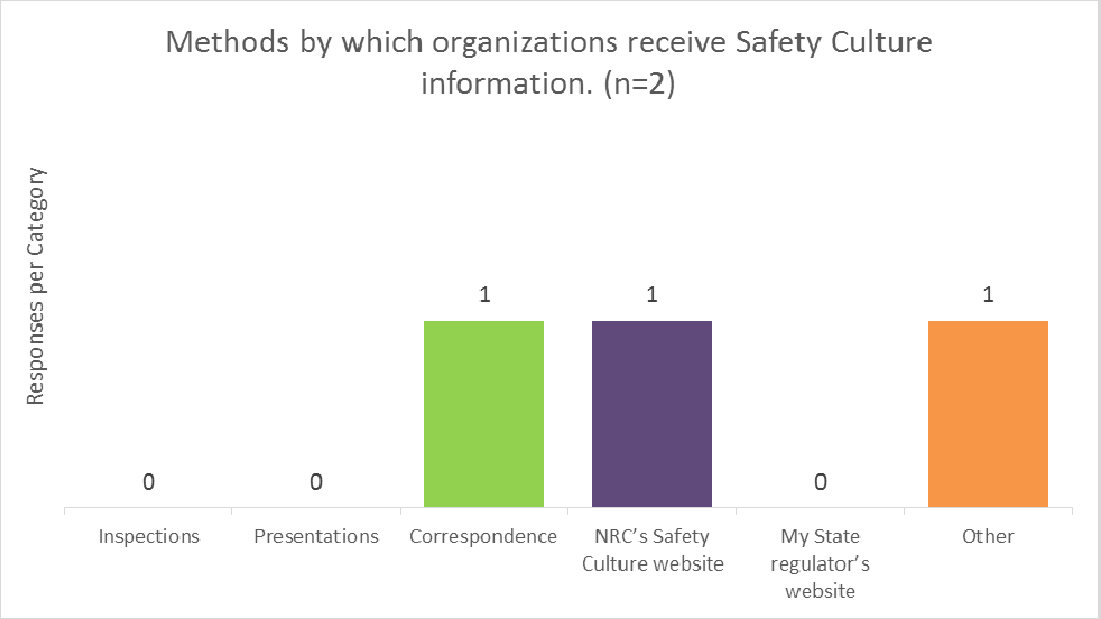


The survey group was very small for this subpopulation, consisting of only two respondents. The results for management and staff awareness of Safety Culture policy were identical. Only one respondent felt that most of the staff at his/her organization was aware of Safety Culture policy while the other felt only few were aware. This may indicate that Safety Culture awareness is not readily discussed and therefore respondents assume others are unaware as a result.

Distribution of NRC Safety Culture Products

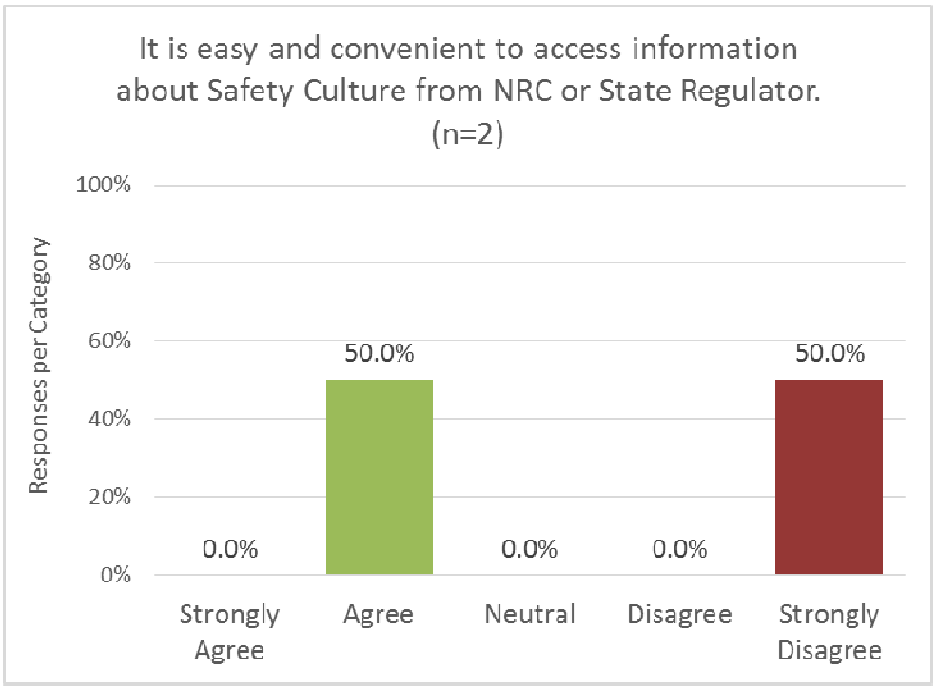
The distribution survey questions helped to understand how organizations access the NRC Safety Culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive Safety Culture information, determine how accessible Safety Culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 135: Methods by Which Organizations Received Safety Culture Information



Survey respondents only identified correspondence (such as emails and letters), the NRC's Safety Culture website, and "other" (or Compliance Action) as methods by which their organizations received Safety Culture information.

Figure 136: Ease and Convenience of Accessing Safety Culture Information



Respondents provided their agreement level with the statement "It is easy and convenient to access information about

Safety Culture from NRC or my State regulator." One respondent was favorable and the other unfavorable.

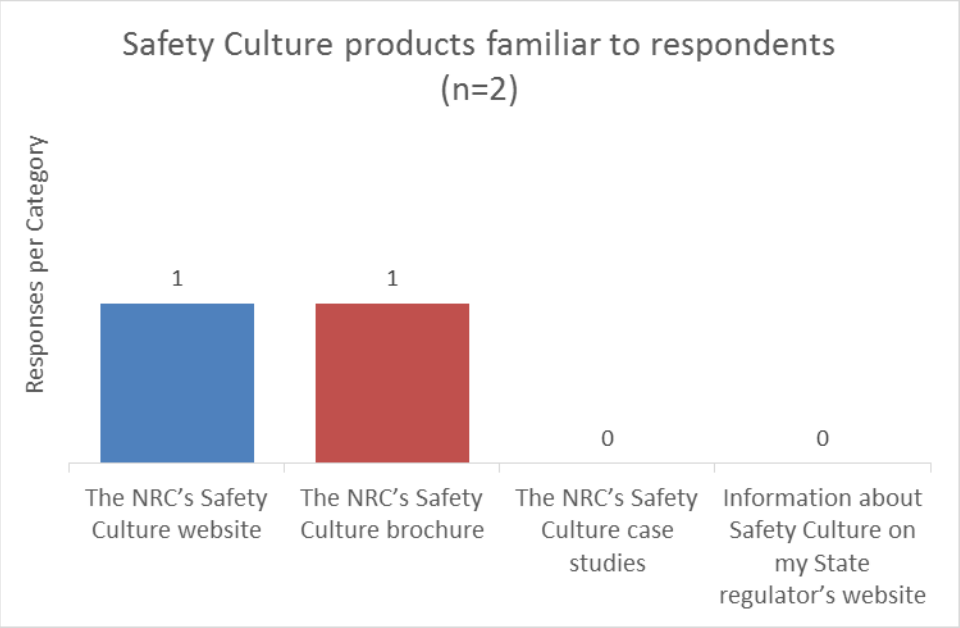
Figure 137: Usefulness of Safety Culture Information Received

Respondents provided their agreement level with the following statement "The information my organization has received about Safety Culture is useful." One respondent found the information useful and the other did not. One respondent stated "When I seeked out information about the NRC's Safety Culture initiative when I became aware of it, the available guidance was as vague as the initiative itself."

Products for NRC Safety Culture Education and Outreach

These questions elicit an understanding respondents' familiarity with various NRC Safety Culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as Safety Culture information available on the State regulator's website.

Figure 138: Safety Culture Products Familiar to Respondents



When asked what Safety Culture products they were familiar with, respondents noted the NRC's Safety Culture website and the NRC Safety Culture brochure only once each.

NRC Safety Culture Website

Only one respondent answered questions pertaining to the NRC Safety Culture website. The respondent agreed that the website was user friendly, easy to find, up-to-date, and informative.

NRC Safety Culture Brochure

Only one respondent provided feedback concerning the NRC Safety Culture brochure. The respondent agreed the brochure was informative, appropriately detailed, engaging, easy to find, helpful, and clear, logical, and easy to follow.

NRC Safety Culture Case Studies

No responses were obtained concerning NRC Safety Culture case studies.

State Regulator Website Safety Culture Information

No responses were obtained concerning Safety Culture information on the State regulator's website.

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 139: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, one respondent agreed while the other strongly disagreed.

Figure 140: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety

Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, one respondent was satisfied while the other respondent strongly disagreed with the statement. “If licensees are forced to tolerate this ridiculous, ill-conceived initiative, at least put it into a regulation with specific, achievable compliance expectations.”

Summary of Qualitative Feedback:

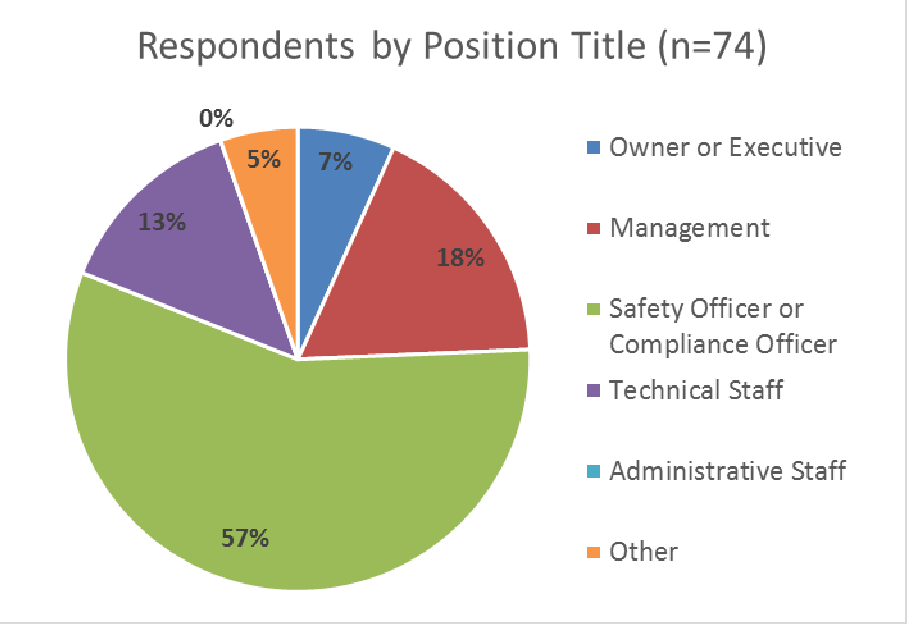
- “If licensees are forced to tolerate this ridiculous, ill-conceived initiative, at least put it into a regulation with specific, achievable compliance expectations (after a reasonable comment period, which of course the NRC will merely defend their efforts rather than heed licensee complaints)”
- “Send regular updates (if any) to RSO”

Appendix G: Data Analysis Findings – Virginia

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze responses by subpopulation.

Figure 141: Respondents by Position Title



There were a total of 75 survey respondents who identified themselves as Virginia licensees. Of those, 57% were Safety or Compliance Officers. Among the Virginia respondents, 21 held Medical Use Licenses and 18 held Portable Gauge licenses.

Subpopulation by License Type*	Number of Respondents
Portable Gauge Licensee	18
Fixed Gauge Licensee	10
Industrial Radiography/Logging Licensee	9
Irradiator Licensee	2
Master Materials Licensee	0
Medical Use Licensee	22
Broad Scope Licensee	5
Research and Development, Gas Chromatographs, and X-Ray Fluorescence Licensee	3
Exempt Distribution Licensee	0
Possession License for Manufacturing and Distribution	2
Commercial Radiopharmacy Licensee	2
Service Provider Licensee	3
License for Special Nuclear Material of Less Than Critical Mass	2
Spent Fuel Storage Licensee	0
Fuel Cycle Facility Licensee	0
Other	8

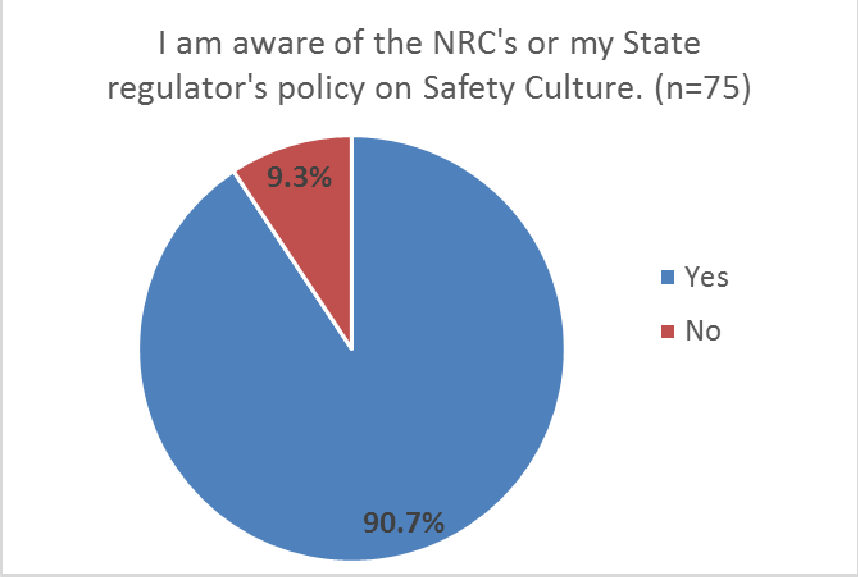
*(*As some licensees may hold multiple license types, above subpopulations are not mutually exclusive)*

Awareness of Safety Culture

Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC

Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents understand where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the Safety Culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Figure 142: Respondent Awareness of Safety Culture Policy



A large majority of the respondents (90.7%) is aware of the NRC or their Agreement State's policy on Safety Culture. Several respondents noted that this survey was the first they had heard of Safety Culture policy. This presents positive feedback overall in that the population surveyed is receiving some type of communication concerning the NRC's or their State regulator's policy.

Figure 143: Management Awareness of Safety Culture Policy

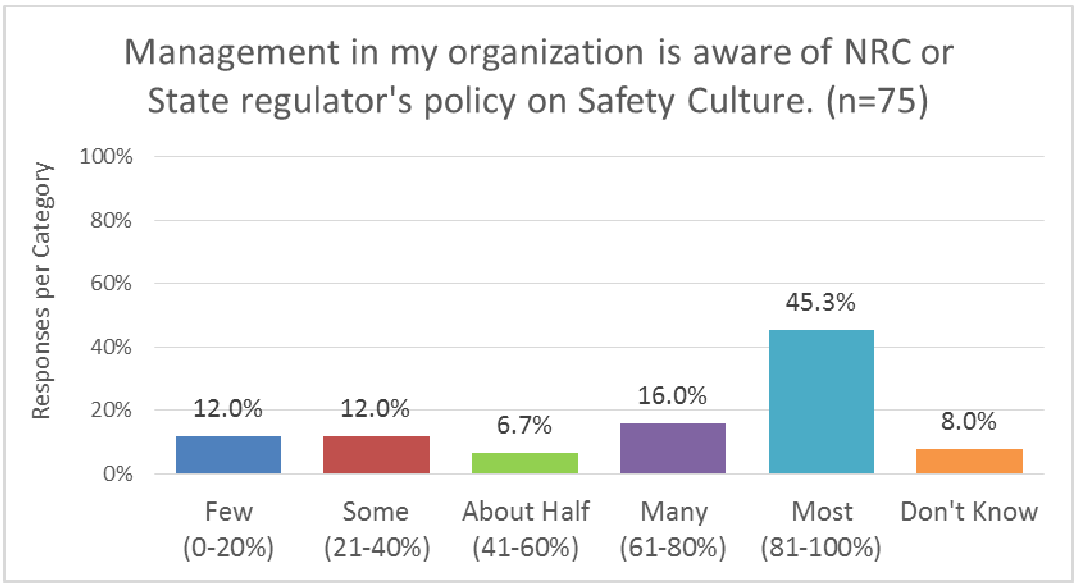
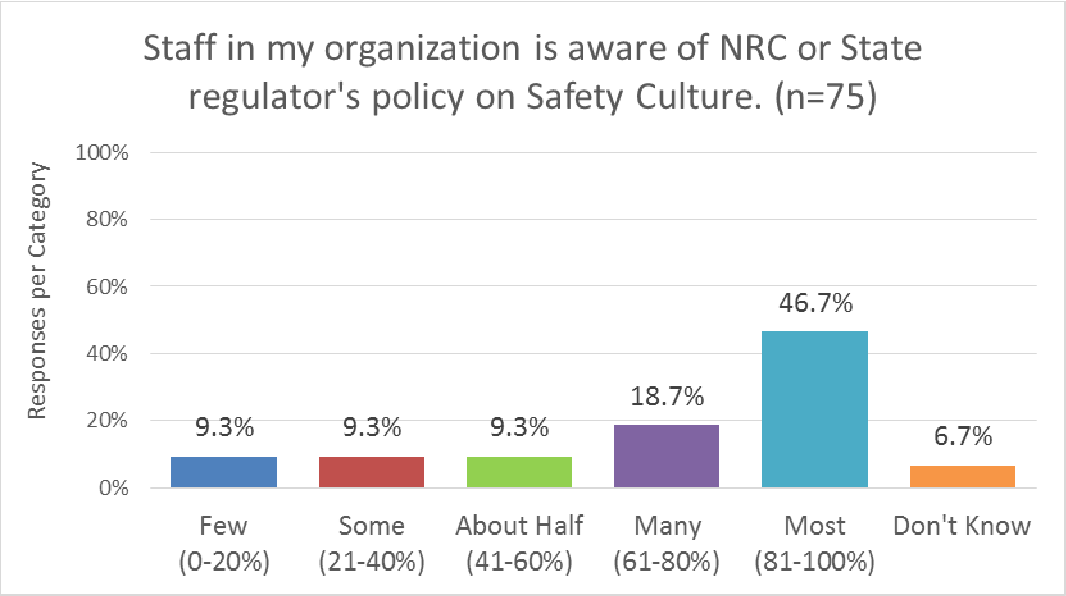


Figure 144: Staff Awareness of Safety Culture Policy W License Type



Virginia licensee respondents perceived management and staff awareness at their organizations similarly. Over 60% of respondents felt many or most of the management and staff at their organizations were aware of Safety Culture policy. In both management and staff cases, 31% of respondents perceived that only a few of the staff and management at their organization to be aware. There is a large discrepancy when we compare what the survey respondents state their own awareness to be with their perception of the population's awareness at their organization. This may indicate that Safety Culture awareness is not readily discussed and therefore respondents assume others are unaware as a result.

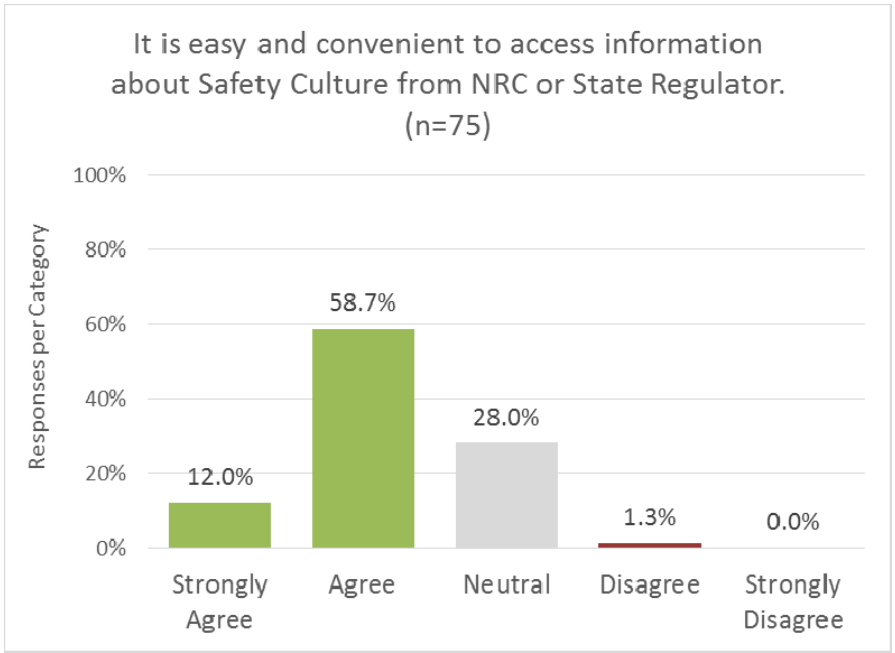
Distribution of NRC Safety Culture Products

The distribution survey questions helped to understand how organizations access the NRC Safety Culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive Safety Culture information, determine how accessible Safety Culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 145: Methods by Which Organizations Received Safety Culture Information

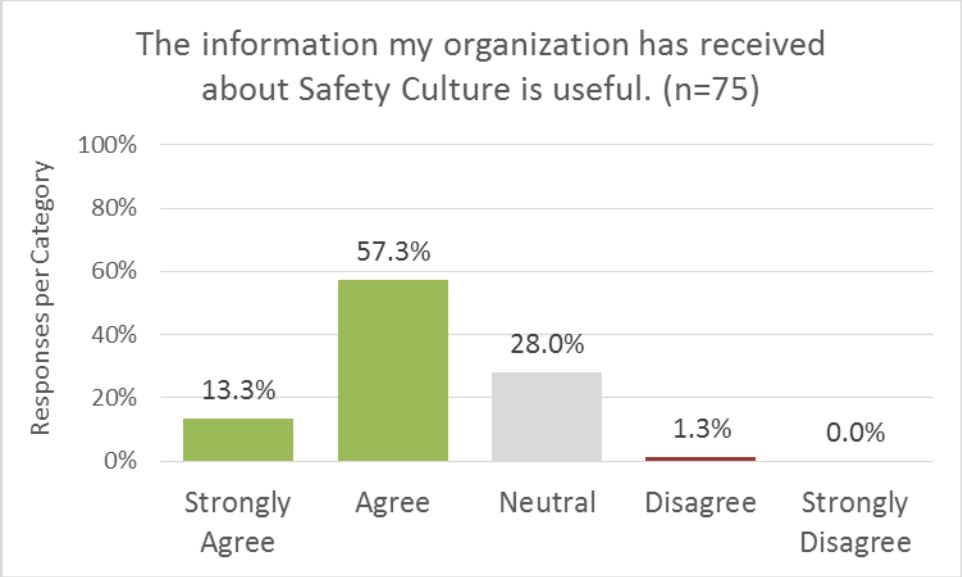
Survey respondents noted most frequently that correspondence (such as emails and letters) and inspections were the methods by which their organizations received Safety Culture information.

Figure 146: Ease and Convenience of Accessing Safety Culture Information



Respondents provided their agreement level with the statement "It is easy and convenient to access information about Safety Culture from NRC or my State regulator." Over 70% of respondents agreed or strongly agreed with this statement. Approximately 29% of respondents were either neutral or did not find it easy and convenient to access Safety Culture information. One respondent said he was unaware resources were available on the Safety Culture website until this survey. Although the majority of responses were favorable, unfavorable and neutral responses suggest further efforts are necessary to educate a wider audience on the availability of Safety Culture information.

Figure 147: Usefulness of Safety Culture Information Received

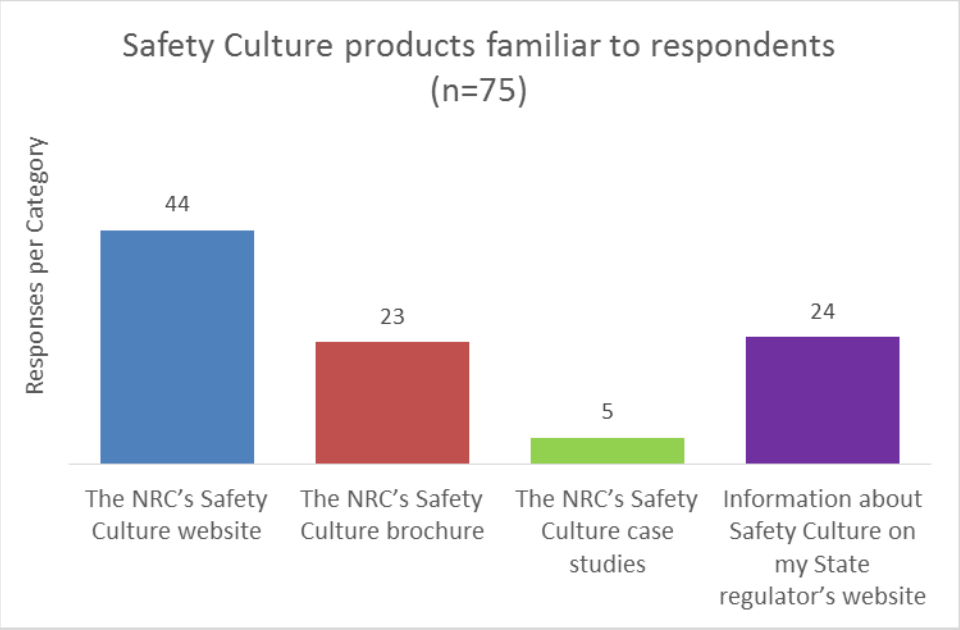


Respondents provided their agreement level with the following statement "The information my organization has received about Safety Culture is useful." The majority (over 70%) agreed or strongly agreed the information was useful. Repeatedly, respondents stated the information was useful to supplement training in place. One respondent said the information "provides good talking points for daily safety job briefs" while another stated his organization has "used the information to reconfirm what we were already trying to accomplish in culture change." Despite this positive feedback, over 29% of respondents were neutral or did not find the information useful. One respondent felt the information was too broad and, therefore, not applicable to specific job tasks to be useful.

Products for NRC Safety Culture Education and Outreach

These questions elicit an understanding respondents' familiarity with various NRC Safety Culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as Safety Culture information available on the State regulator's website.

Figure 148: Safety Culture Products Familiar to Respondents



When asked what Safety Culture products they were familiar with, respondents noted the NRC's Safety Culture website most frequently followed by then by the NRC's Safety Culture brochure and their State regulator's website.

NRC Safety Culture Website

Figure 149: NRC Safety Culture Website Is User Friendly

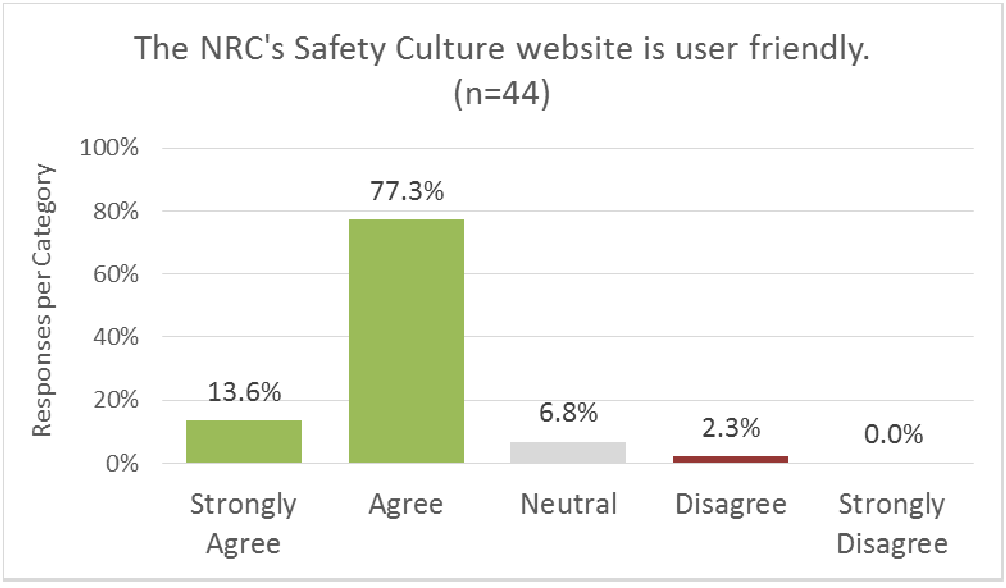


Figure 150: NRC Safety Culture Website Is Easy to Find

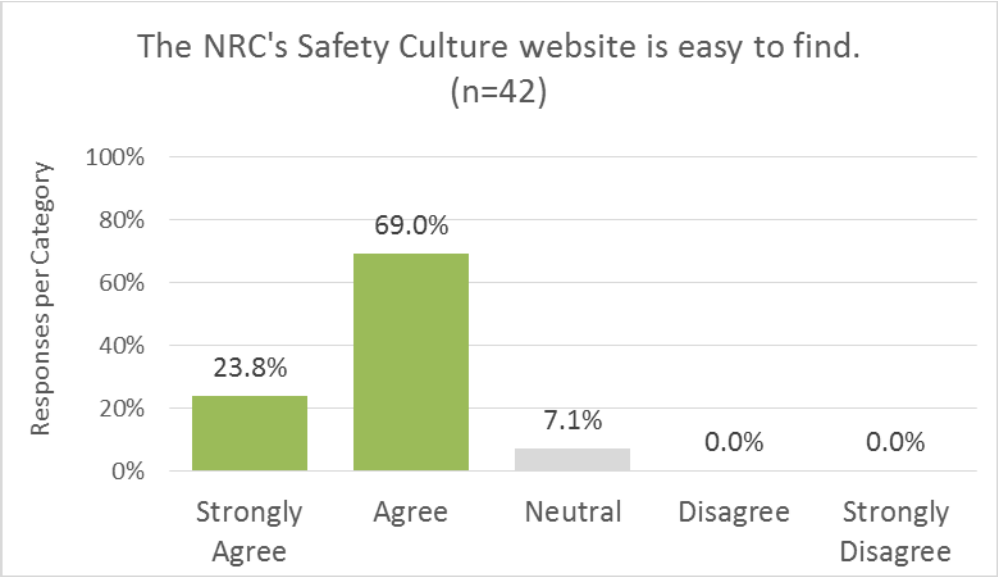


Figure 151: NRC Safety Culture Website Is Up-to-Date

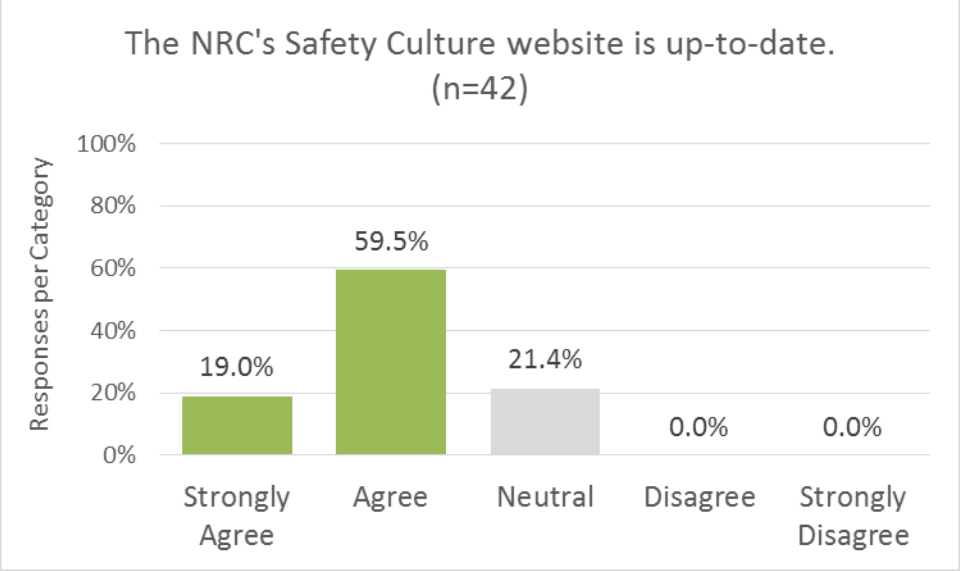
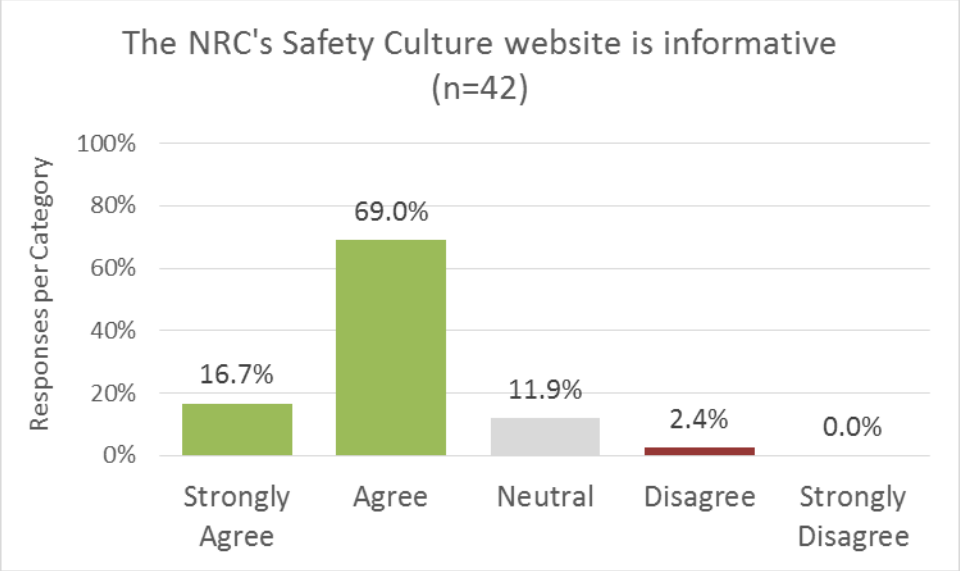


Figure 152: NRC Safety Culture Website Is Informative



Of the 75 Virginia licensee survey participants, 44 responded to questions pertaining to the NRC's Safety Culture website. A large majority found the NRC website to be user friendly, easy to find, up-to-date, and informative.

> *"I have seen links to the NRC Safety Culture website from the left-hand navigation of the main NRC website. I think it might be useful to make the Safety Culture section more prominent; possibly with its own layout and branding. This would help make it more distinct, easier to find, and more noticeable as a priority of the NRC."*

NRC Safety Culture Brochure

Figure 153: NRC Safety Culture Brochure Is Clear, Logical, and Easy to Follow

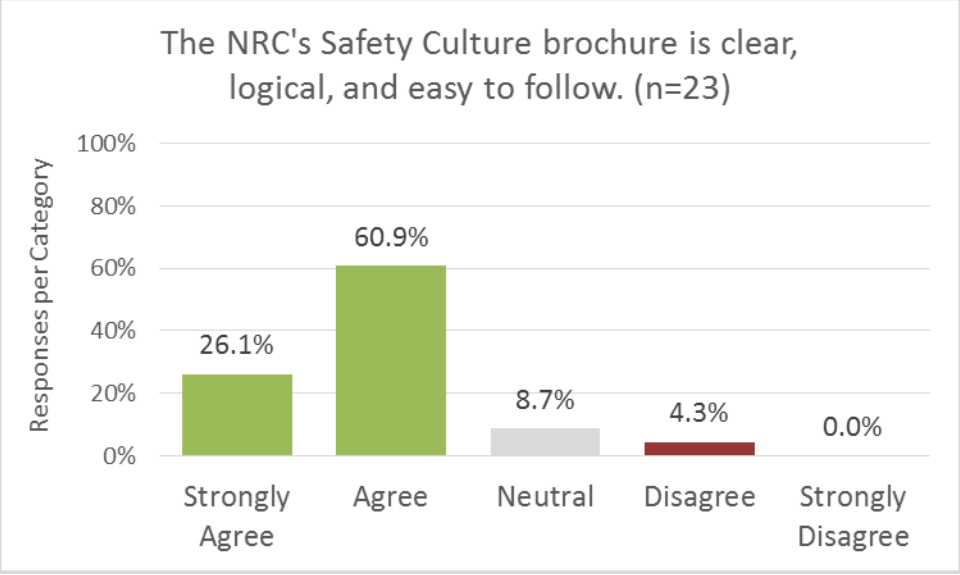


Figure 154: NRC Safety Culture Brochure Is Easy to Find

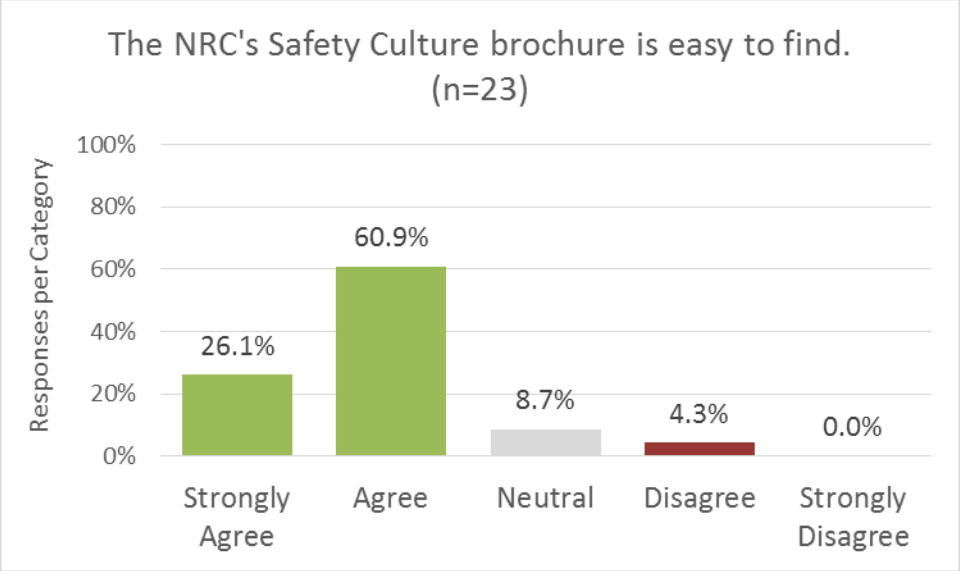


Figure 155: NRC Safety Culture Brochure Is Informative

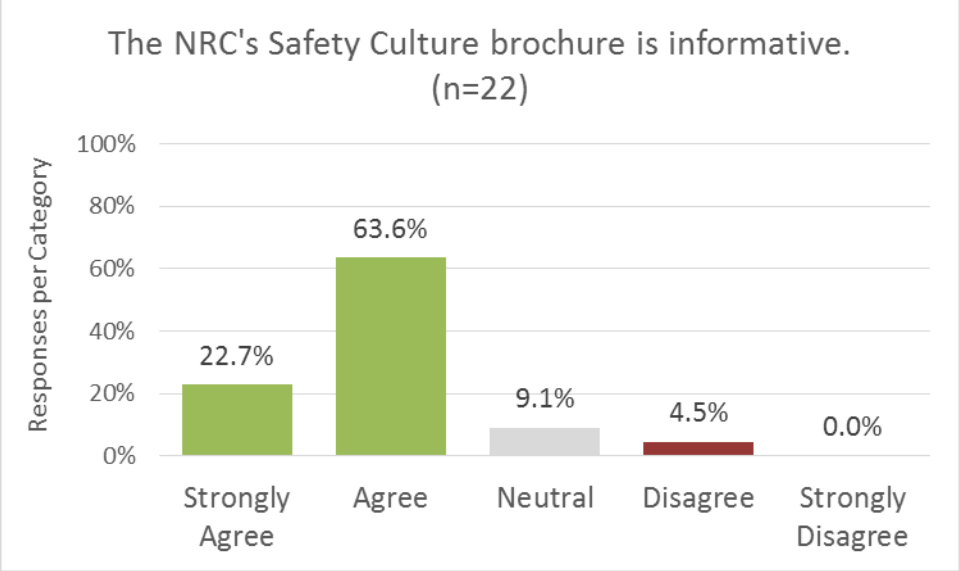


Figure 156: NRC Safety Culture Brochure Is Appropriately Detailed

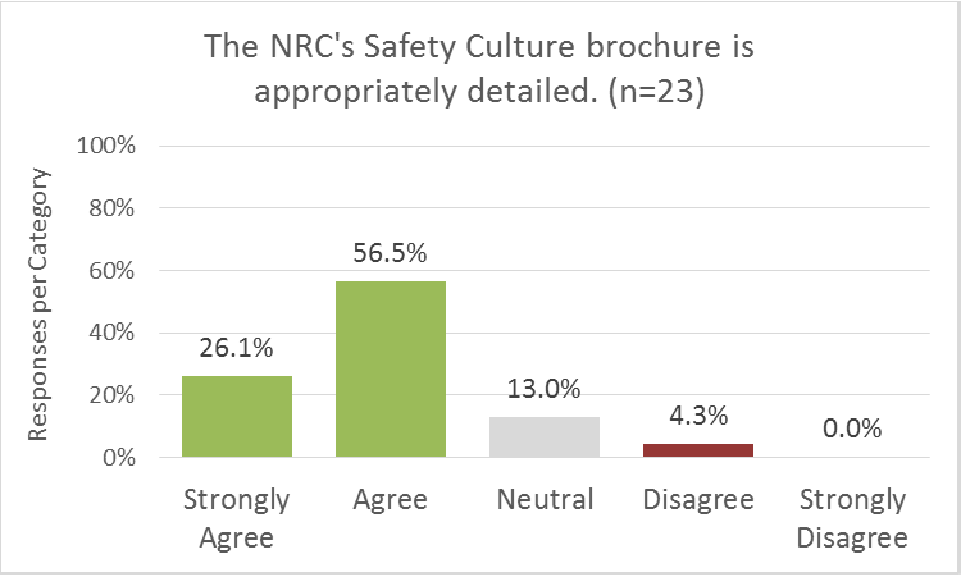


Figure 157: NRC Safety Culture Brochure Is Engaging

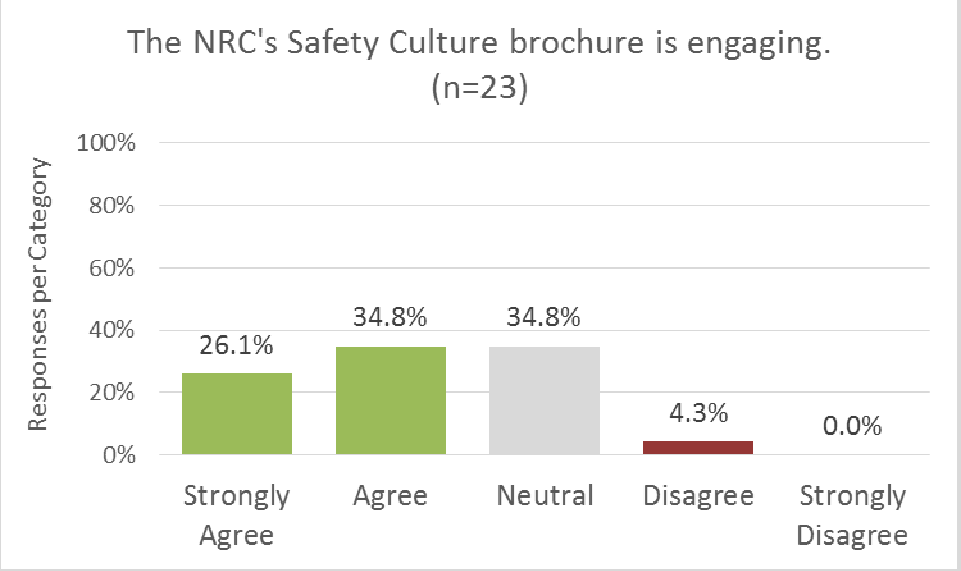
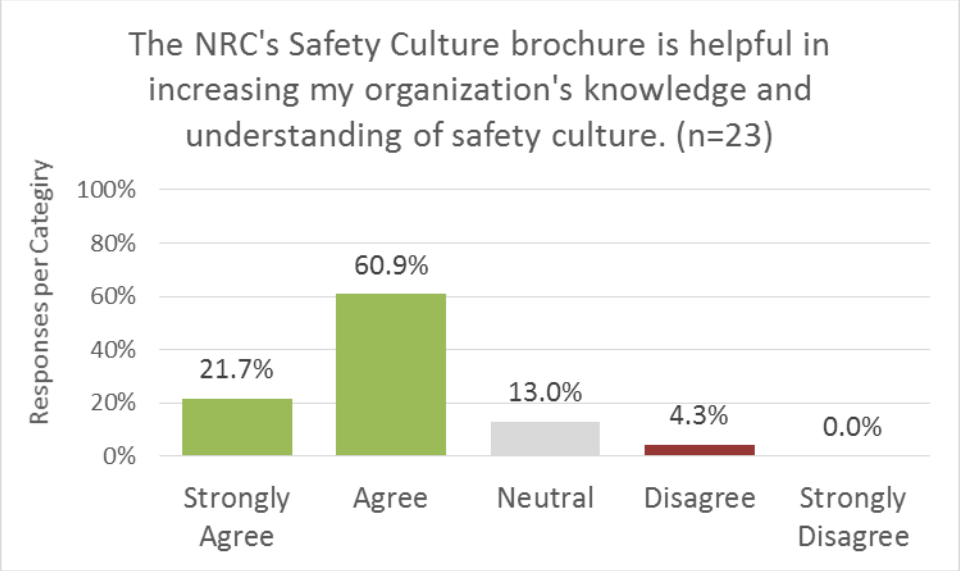


Figure 158: NRC Safety Culture Brochure Is Helpful



Of the 75 Virginia licensees who took part in the survey, 23 responded to questions pertaining to the NRC's Safety Culture brochure. The large majority responded favorably to the brochure. Over 80% of respondents found the brochure helpful, appropriately detailed, informative, easy to find, and clear, logical, and easy to follow. Respondents consistently noted the brochure was utilized for various meetings and training purposes. One respondent stated "As written, [the brochure] is complete and easy to understand… Can easily take the 'Safety Culture Policy' and turn it into Company's/Management Policy."

NRC Safety Culture Case Studies

Figure 159: NRC Safety Culture Case Studies Are Clear, Logical, and Easy to Follow

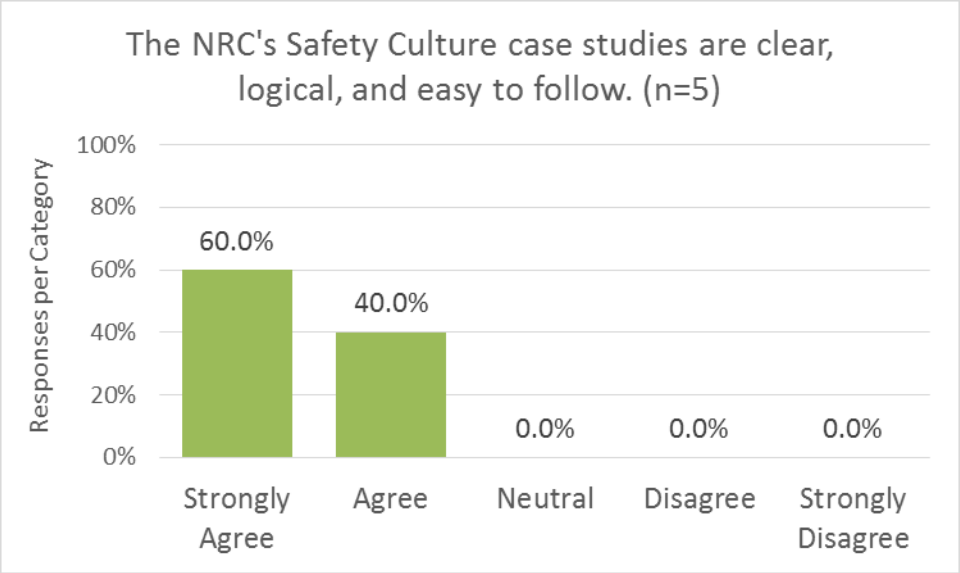


Figure 160: NRC Safety Culture Case Studies Are Easy to Find

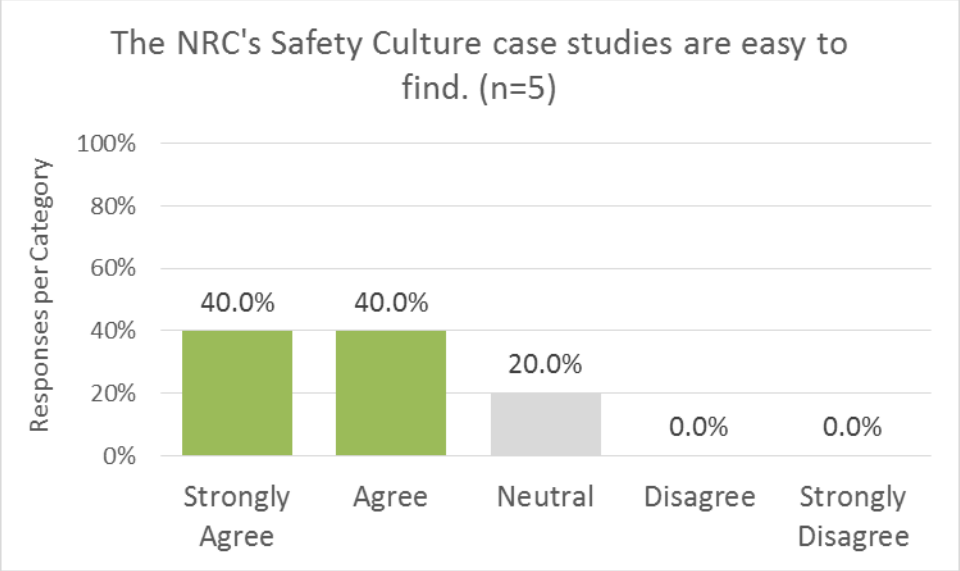


Figure 161: NRC Safety Culture Case Studies Are Informative

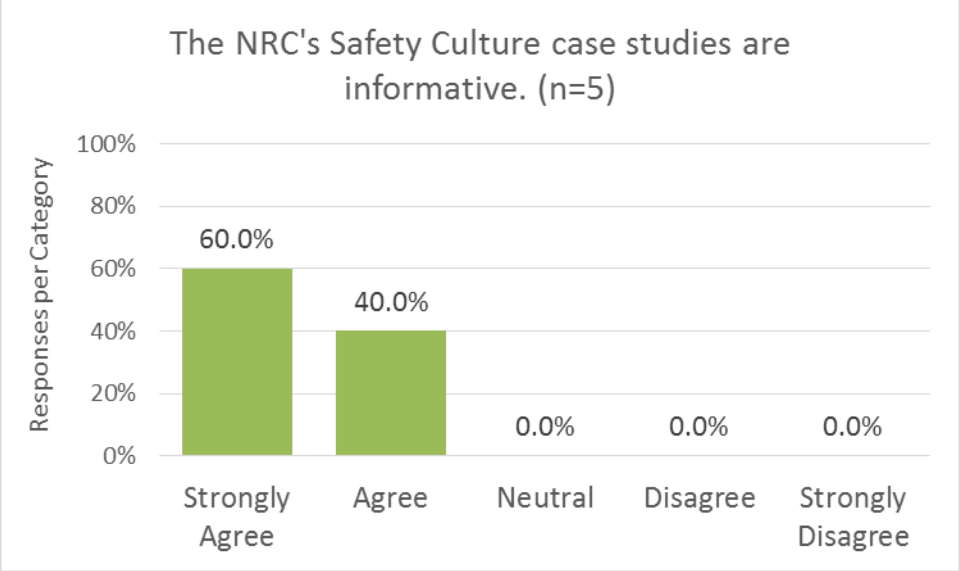


Figure 162: NRC Safety Culture Case Studies Are Appropriately Detailed

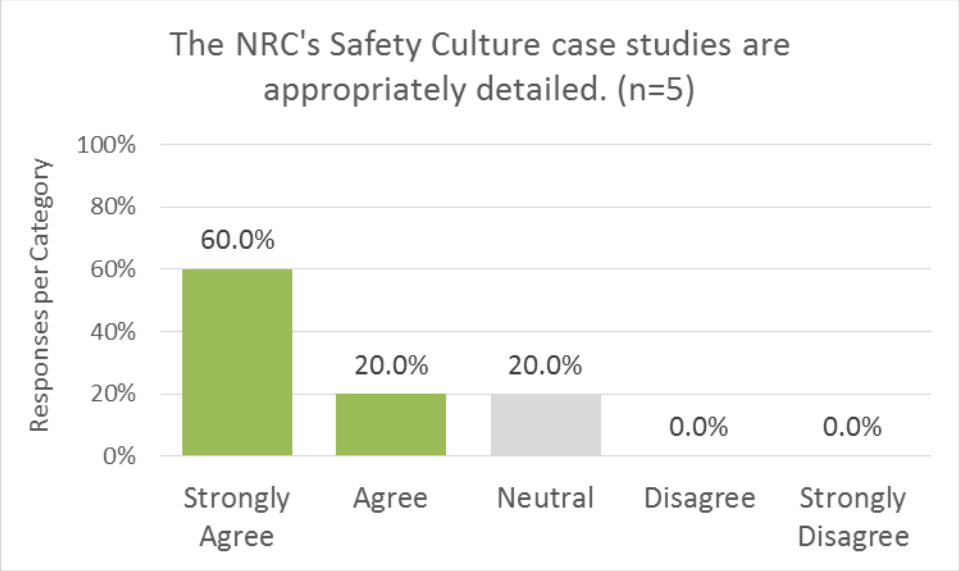


Figure 163: NRC Safety Culture Case Studies Are Engaging

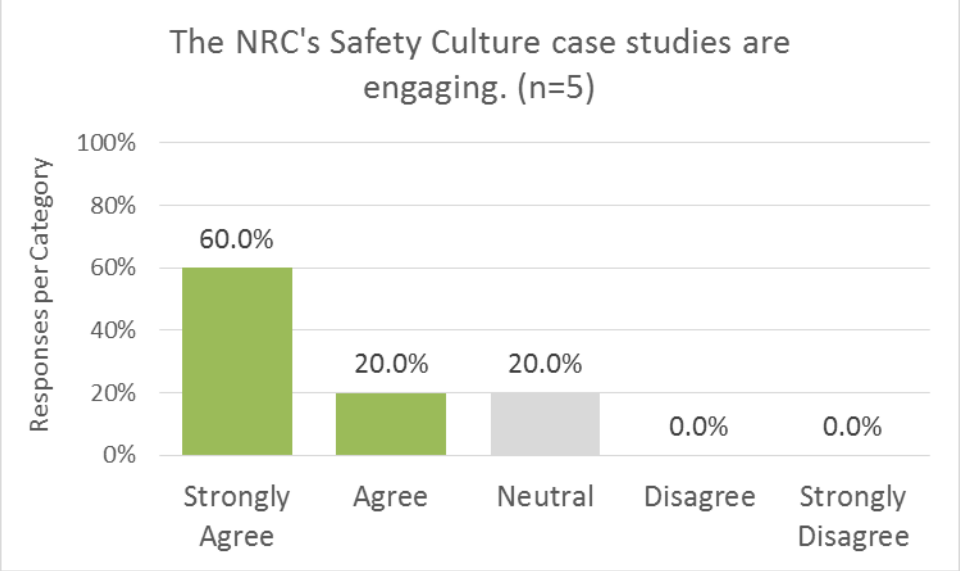


Figure 164: NRC Safety Culture Case Studies Are Practical

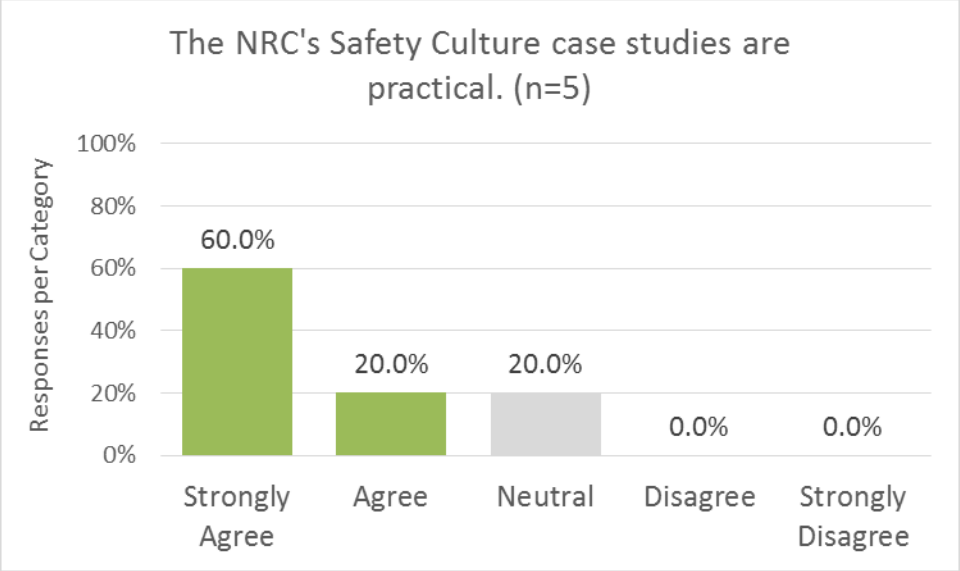
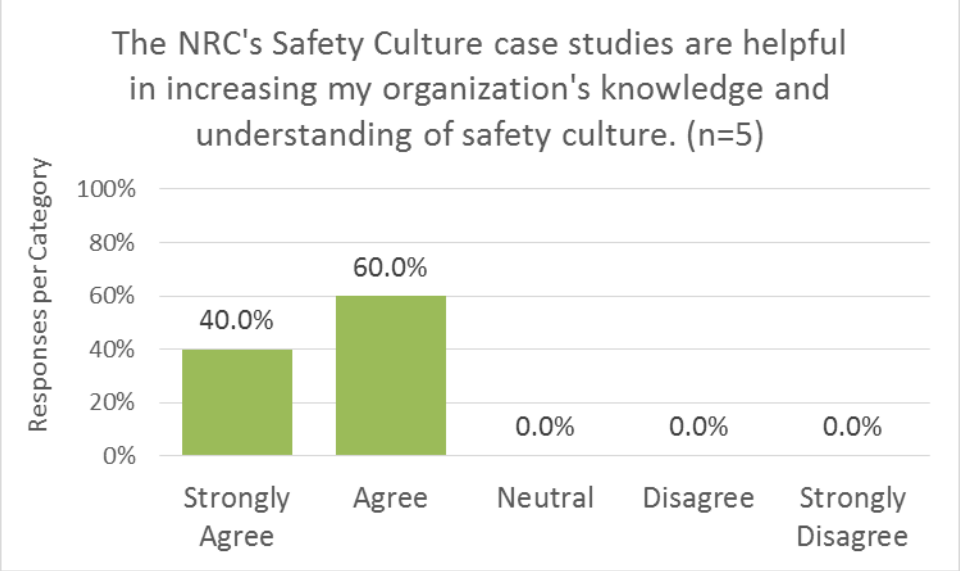


Figure 165: NRC Safety Culture Case Studies Are Helpful



Of the 75 Virginia licensees, only five responded to questions concerning the NRC Safety Culture case studies. All respondents agreed or strongly agreed the case studies were helpful, informative and clear, logical, and easy to follow. Appropriately detailed, engaging, practical, and easy to find.

State Regulator Website Safety Culture Information

Figure 166: State Regulator's Website Is User Friendly

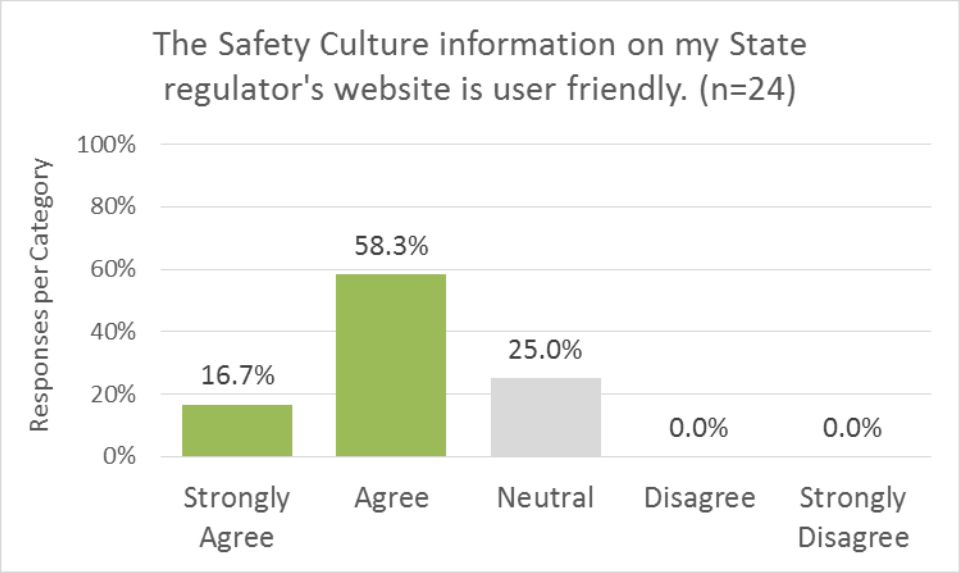


Figure 167: State Regulator's Website Is Easy to Find

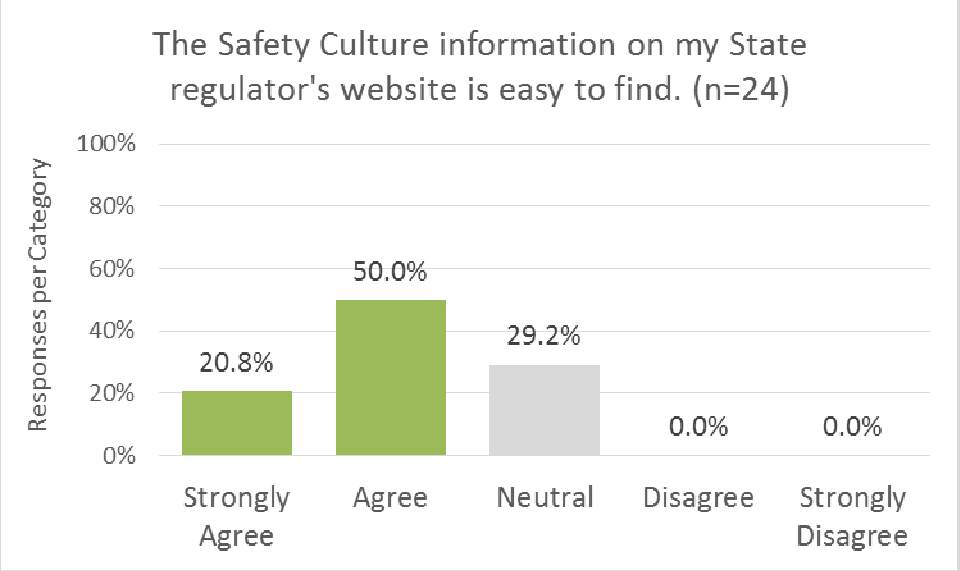


Figure 168: State Regulator's Website Is Up-to-Date

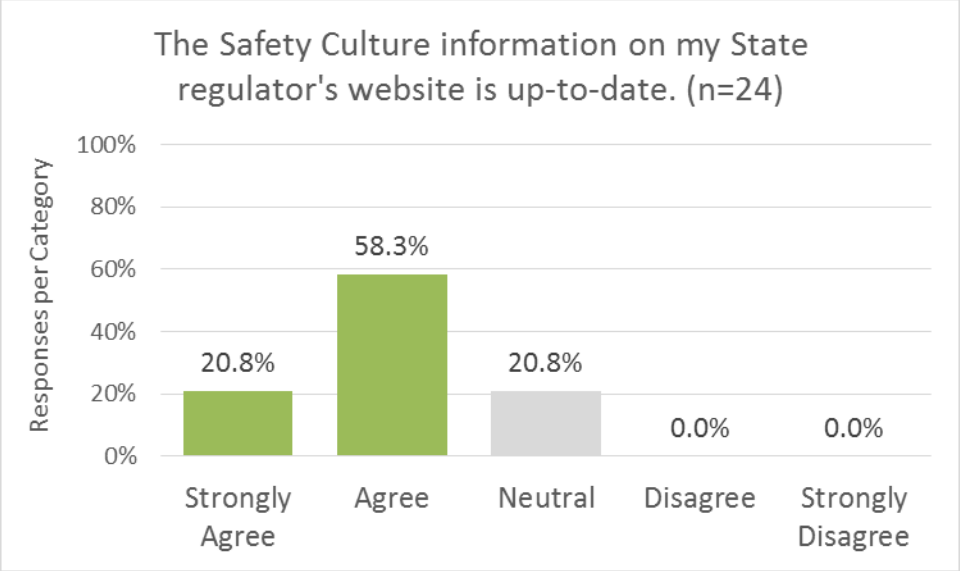
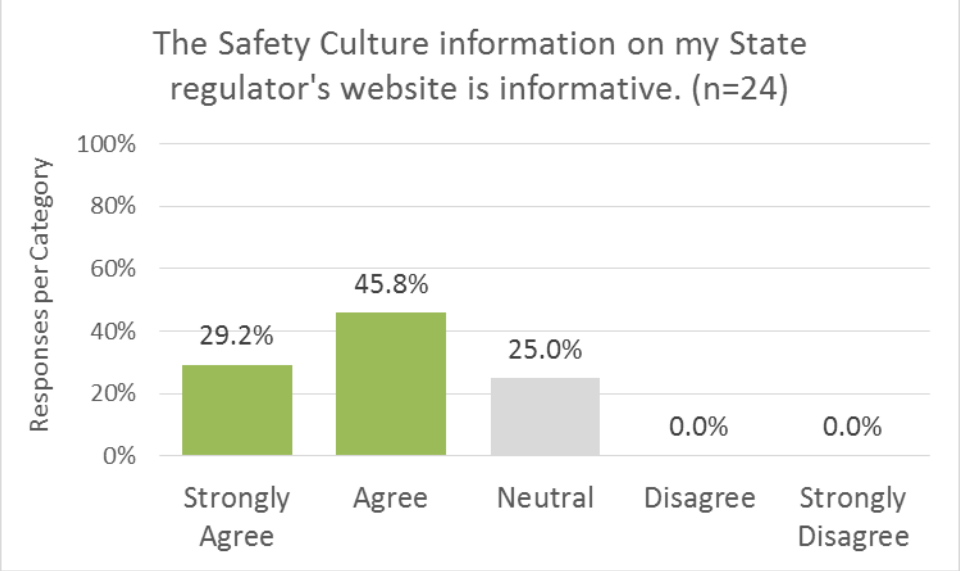


Figure 169: State Regulator's Website Is Informative



Of the 75 Virginia licensees that participated in the survey, 24 answered questions pertaining to the State regulator's website. Majority of respondents, found their State regulator's website to be up-to-date and informative. Respondents found the website very specific and one stated information was "very well listed and to the point." A noticeable portion of respondents (ranging from 20-29%) felt neutral when asked about the State regulator's website. This indicates there may be value in further communications or education concerning the Virginia State regulator's website.

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 170: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, over 60% of respondents replied favorably. When combining the neutral and unfavorable responses, nearly 40% of respondents were indifferent or not satisfied. This indicates room for improvement. Few respondents remarked "This survey is the first we have heard of it." One respondent suggested "periodic reminders and updates, signup for the notification of Safety Culture and Policy changes." Another respondent stated, "It would be nice to receive more information, i.e. maybe a monthly newsletter via email or [an] information packet quarterly. Something that helps me educate my employees better and keeps us all up to date on any current or pending changes."

Figure 171: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, nearly 65% responded favorably, 30% indicated neutral and 5.5% responded unfavorably. Concerning quality of communications, there is some significant room for improvement.

Summary of Qualitative Feedback

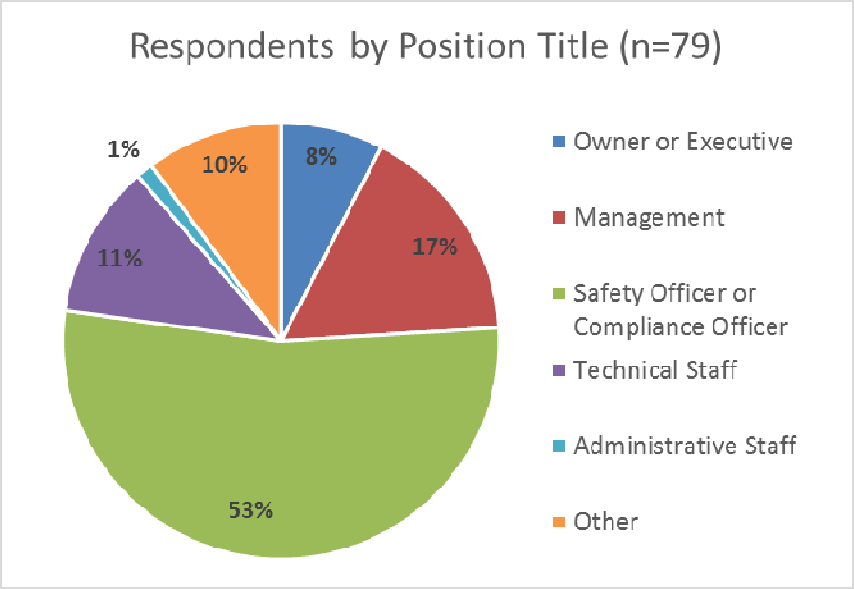
- Some respondents are not aware or have no information about the Safety Culture propagated by NRC but some of them follow their own policies and guidelines
- "…the Safety Culture does not seem to add value to the organization but probably does create enhanced safety for the state. It is more work, such as the review of individuals with fingerprinting and background checks to have to go through the process again after 10 years. The GTRI initiative has also created slightly more safety but many more problems with the equipment, monitoring and reports"
- "Our company policies usually are more stringent than regulatory safety programs. We utilized the information from many regulatory agencies and integrate them into our own culture"
- "Leadership Safety Values and Actions our facility leads by example, Personal Accountability is important so that each employee is responsible for his her day to day safe work habits. Environment for Raising Concerns is probably the most important due to the open door policy on any concerns to any manager"
- "We have always a practiced a culture of safety but the information provided by the NRC is useful as well"
- "It's too broad and isn't directed to my market segment"
- Keeps us up to date on safety issues, solutions and upcoming changes, reconfirms/reinforces that we are already trying to accomplish in culture change, "provides good talking points for daily safety job briefs", "found the poster information useful for educating staff", "makes employees aware of the company and individual responsibility towards a safe workplace"
- Posted posters for employees, used hand out brochures regarding Safety Culture for training, website is very user friendly

Appendix H: Data Analysis Findings – Washington

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze responses by subpopulation.

Figure 172: Respondents by Position Title



There were a total of 80 survey respondents who identified themselves as Washington state licensees. Over half identified themselves as Safety or Compliance Officers, 15 held Medical Use Licenses and 23 held Portable Gauge licenses.

Table 6: Survey Respondents by License Type

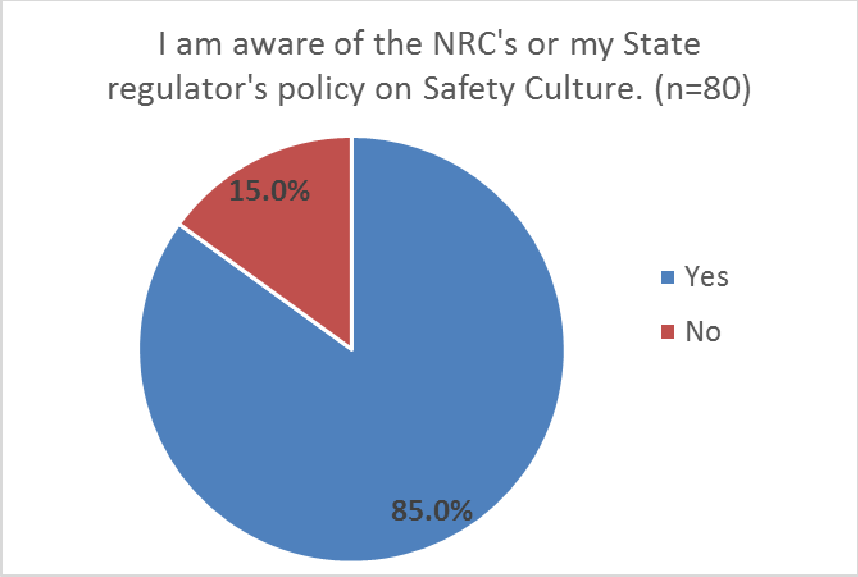
Subpopulation by License Type*	Number of Respondents
Portable Gauge Licensee	23
Fixed Gauge Licensee	6
Industrial Radiography/Logging Licensee	9
Irradiator Licensee	1
Master Materials Licensee	0
Medical Use Licensee	15
Broad Scope Licensee	7
Research and Development, Gas Chromatographs, and X-Ray Fluorescence Licensee	8
Exempt Distribution Licensee	0
Possession License for Manufacturing and Distribution	1
Commercial Radiopharmacy Licensee	2
Service Provider Licensee	3
License for Special Nuclear Material of Less Than Critical Mass	1
Spent Fuel Storage Licensee	0
Fuel Cycle Facility Licensee	0
Other	13

*(*As some licensees may hold multiple license types, above subpopulations are not mutually exclusive)*

Awareness of Safety Culture

Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents understand where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the Safety Culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Figure 173: Respondent Awareness of Safety Culture Policy



A large majority of the respondents (85%) is aware of the NRC or their Agreement State's policy on Safety Culture. Several respondents noted that this survey was the first they had heard of Safety Culture policy. This presents positive feedback overall in that the population surveyed is receiving some type of communication concerning the NRC's or their State regulator's policy.

Figure 174: Management Awareness of Safety Culture Policy

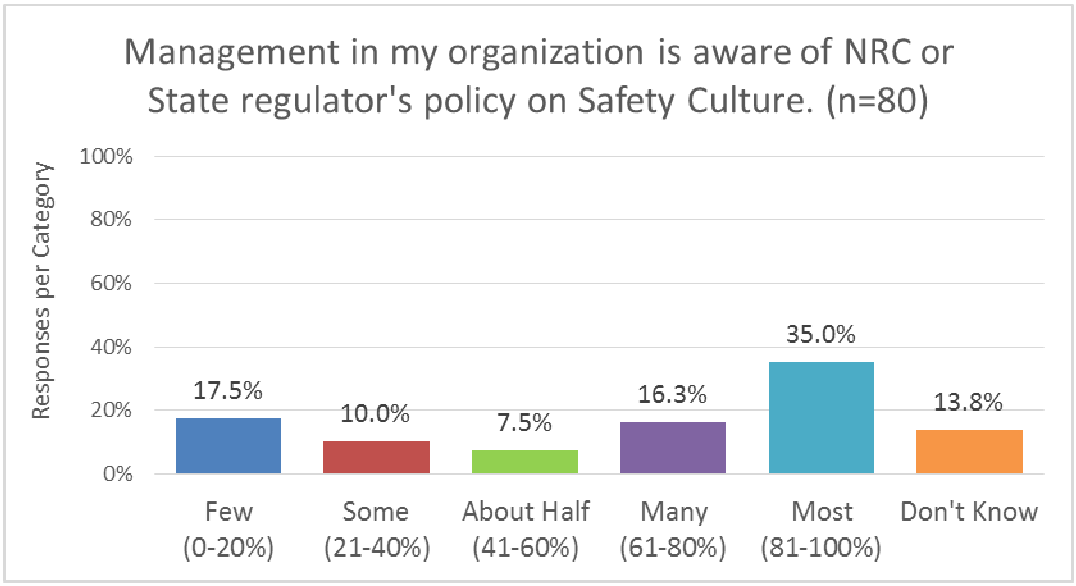
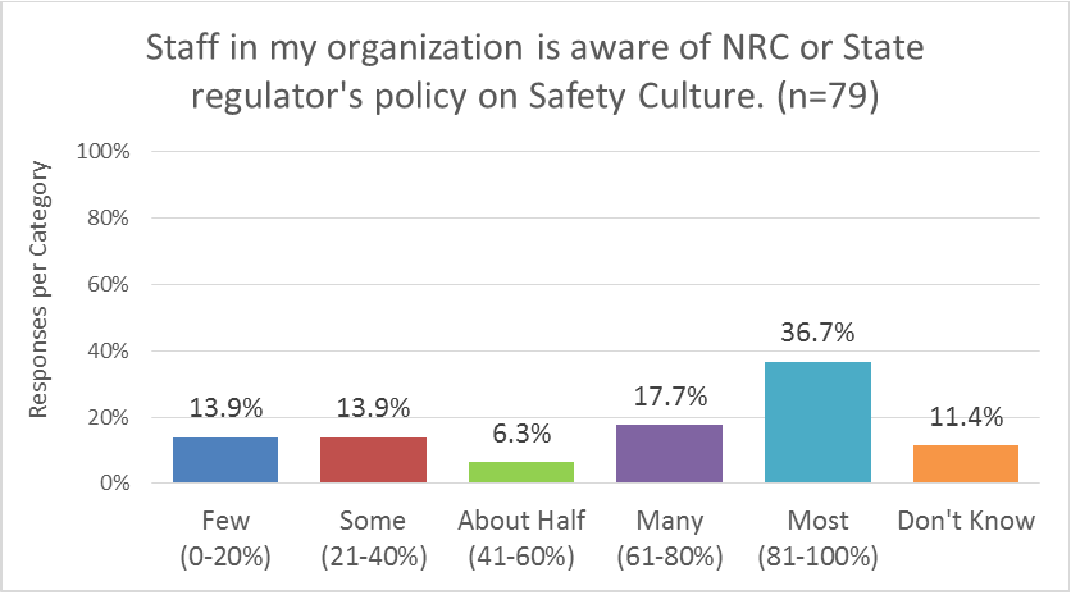


Figure 175: Staff Awareness of Safety Culture Policy W License Type

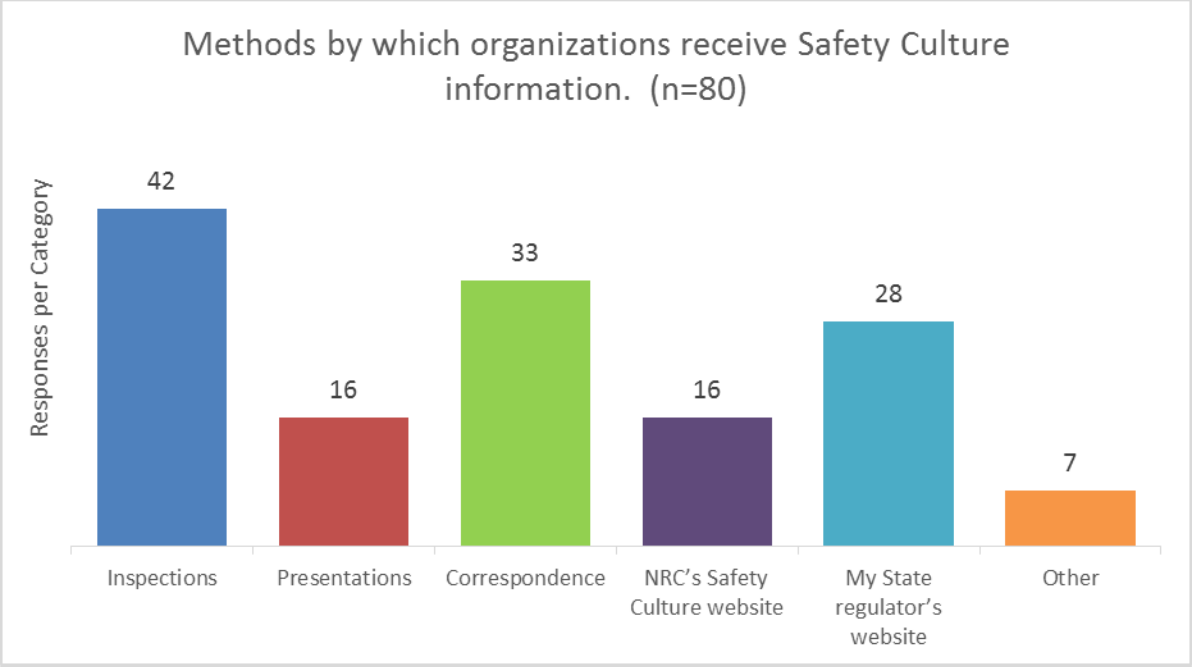


In general, respondents perceived management and staff awareness at their organizations similarly. Over half of the respondents felt most of the management and staff at their organizations were aware of Safety Culture policy. Conversely, over 25% of respondents perceived that only a few or some of the staff and management at their organization to be aware. There is a large discrepancy when we compare what the survey respondents state their own awareness to be in comparison to their perception of the population's awareness at their organization. This may indicate that Safety Culture awareness is not readily discussed and therefore respondents assume others are unaware as a result.

Distribution of NRC Safety Culture Products

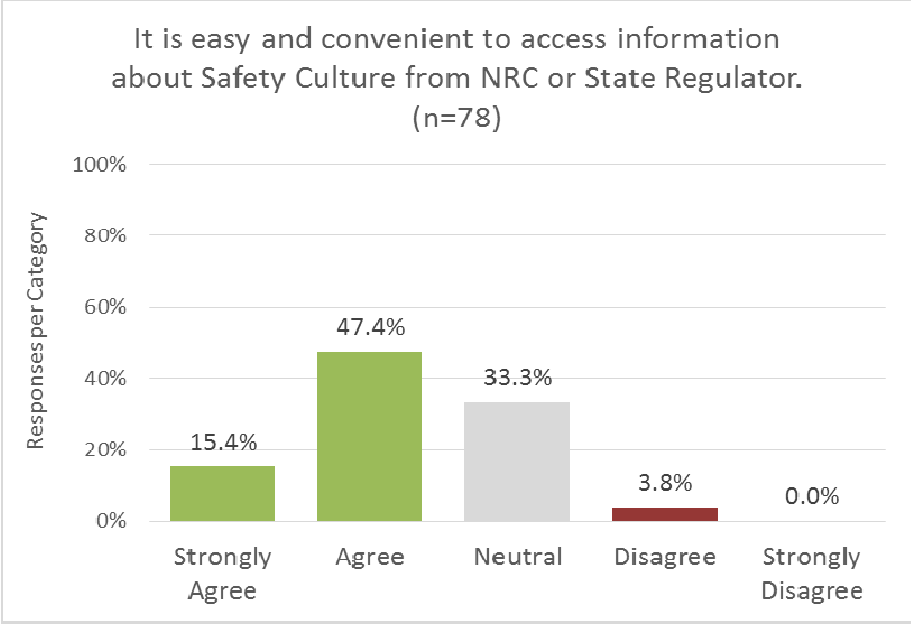
The distribution survey questions helped to understand how organizations access the NRC Safety Culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive Safety Culture information, determine how accessible Safety Culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 176: Methods by Which Organizations Received Safety Culture Information



Survey respondents noted most frequently that inspections, correspondence (such as emails and letters), and the State regulator's website were the methods by which their organizations received Safety Culture information.

Figure 177: Ease and Convenience of Accessing Safety Culture Information



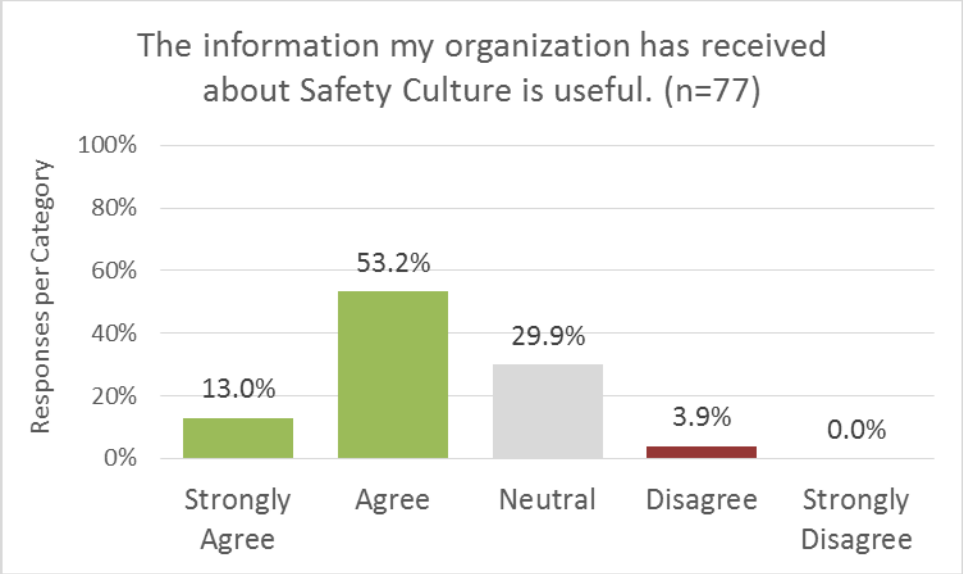
Respondents provided their agreement level with the statement "It is easy and convenient to access information about Safety Culture from NRC or my State regulator." Over 60% of respondents agreed or strongly agreed with this

statement. In reference to the NRC website, one respondent stated it provided "easy access, prompt response if there is questions and overall easy to understand." Over one third of respondents were either neutral or did not find it easy and convenient to access Safety Culture information. In reference to the Washington state website, one respondent stated:

> *"The website does not appear to be a great safety resource in itself. It instead directs questions about Safety Culture to the NRC website. That said, the individual auditors and people working at WADOE [Washington State Department of Ecology] are great resources concerning this topic."*

Although the majority of responses were favorable, unfavorable and neutral responses suggest further efforts are necessary to educate a wider audience on the availability of Safety Culture information.

Figure 178: Usefulness of Safety Culture Information Received

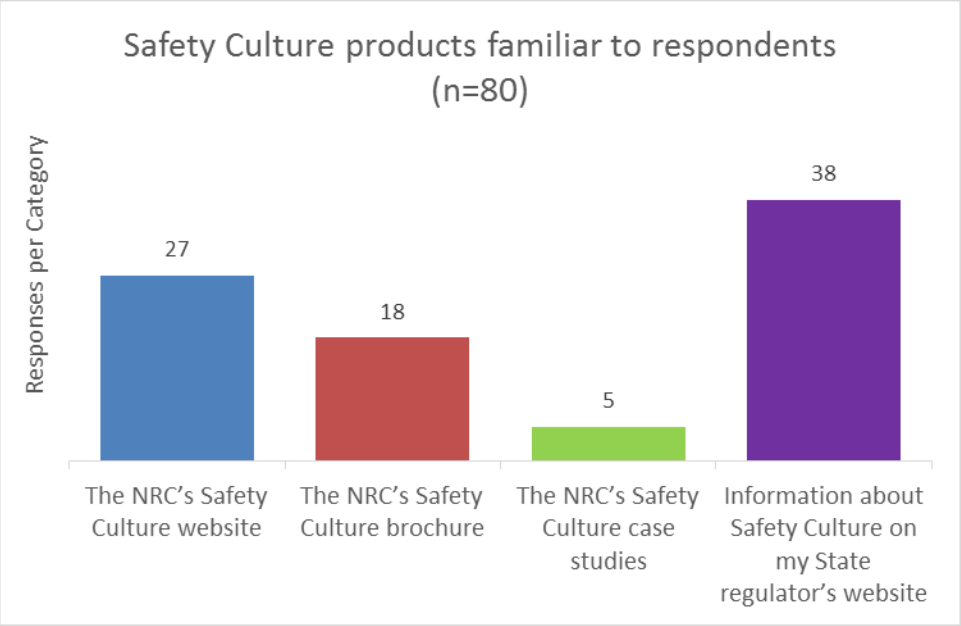


Respondents provided their agreement level with the following statement "The information my organization has received about Safety Culture is useful." The majority (over 66%) agreed or strongly agreed the information was useful. One respondent stated "On-line availability of information is helpful in not [only] general training and understanding but is also helpful when answering specific concerns of individual employees." Repeatedly, respondents stated the information was useful as supplemental information for continual awareness and/or training. One respondent said "while we already had a policy to promote a Safety Culture, provided information has provided additional clarity and confirmed our approach." Despite this positive feedback, over a third of respondents were neutral or did not find the information useful. Some respondents stated the first time they received information concerning Safety Culture was this survey.

Products for NRC Safety Culture Education and Outreach

These questions elicit an understanding respondents' familiarity with various NRC Safety Culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as Safety Culture information available on the State regulator's website.

Figure 179: Safety Culture Products Familiar to Respondents



When asked what Safety Culture products they were familiar with, respondents noted the information about Safety Culture on Washington State regulator's website most frequently.

NRC Safety Culture Website

Figure 180: NRC Safety Culture Website Is User Friendly

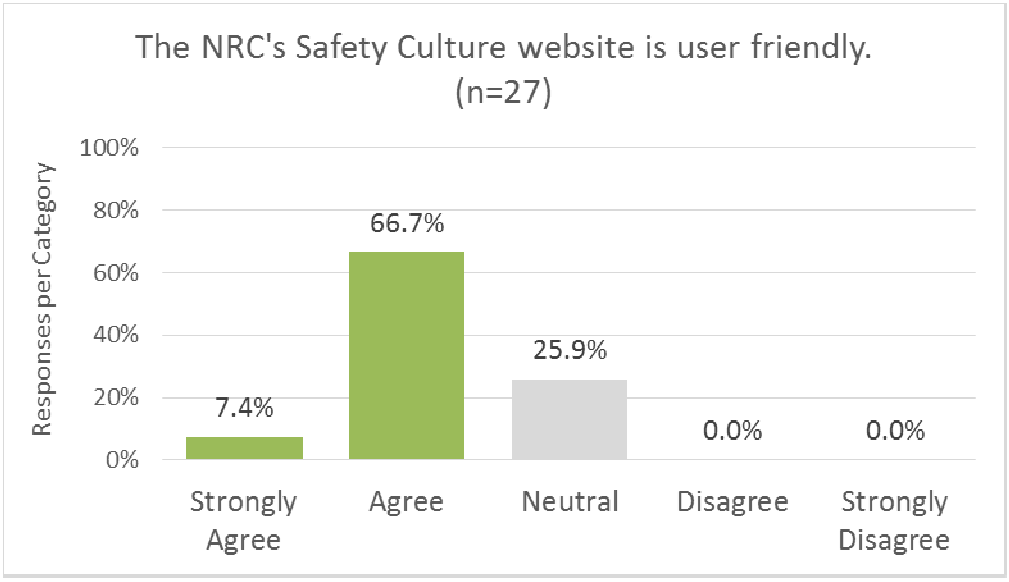


Figure 181: NRC Safety Culture Website Is Easy to Find

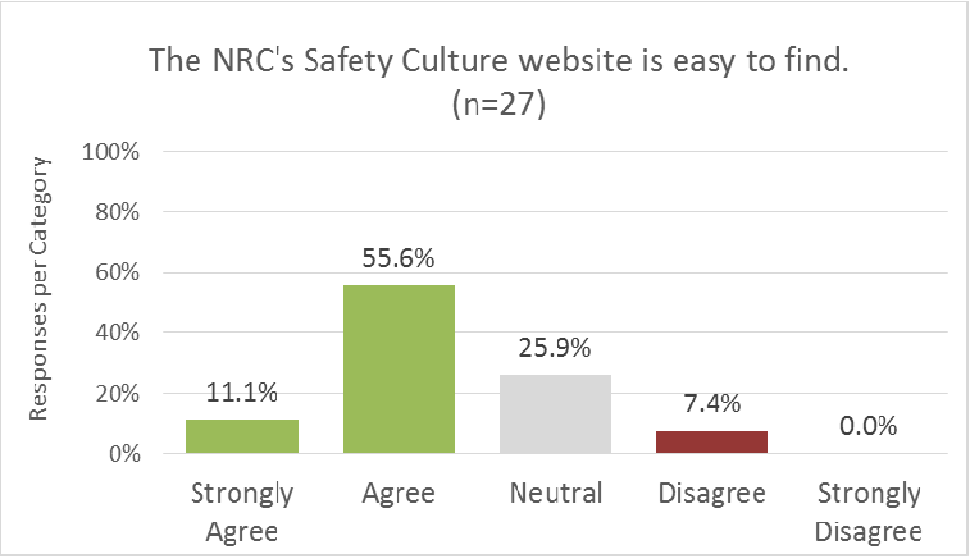


Figure 182: NRC Safety Culture Website Is Up-to-Date

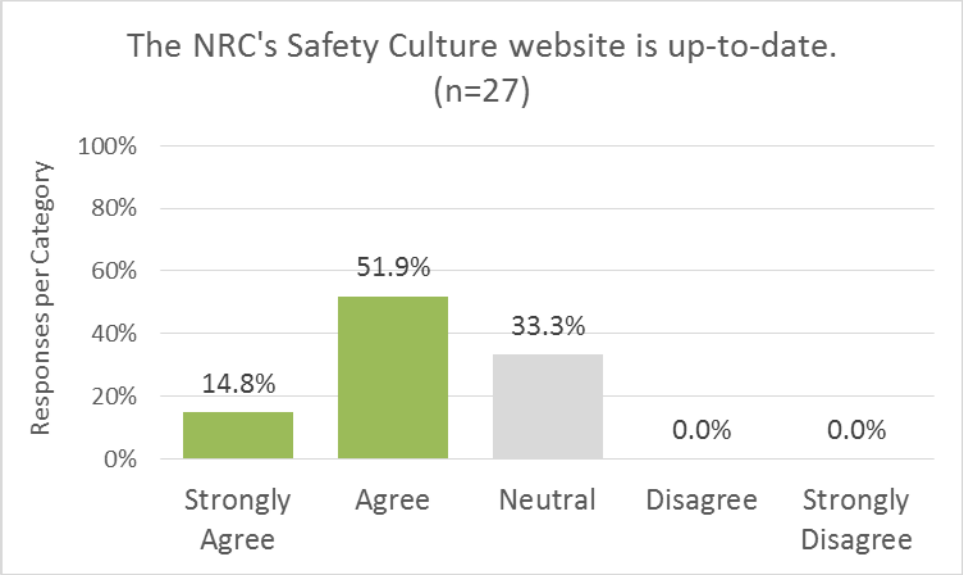
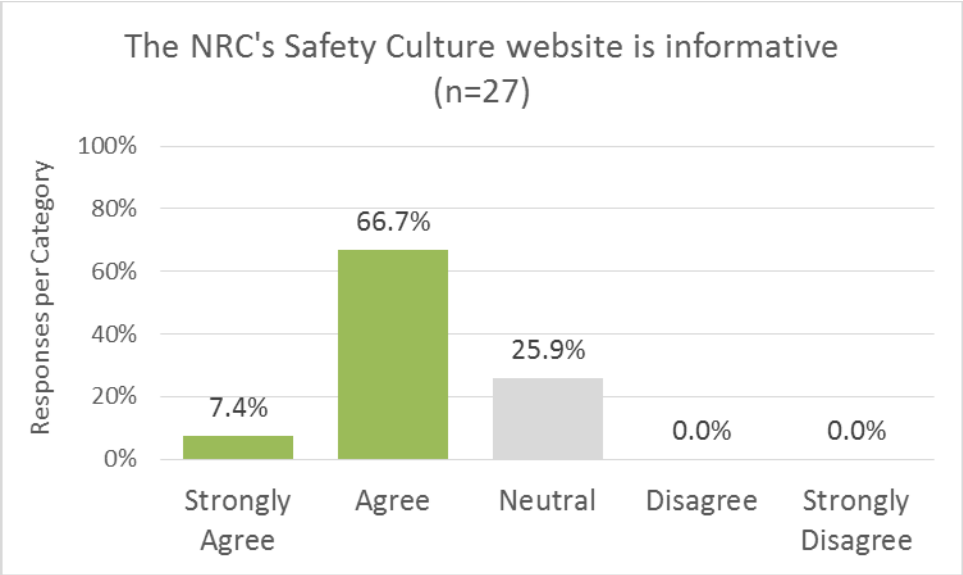


Figure 183: NRC Safety Culture Website Is Informative



Of the 80 Washington licensee survey respondents, 27 responded to questions pertaining to the NRC's Safety Culture website. Overall, majority of the respondents found the NRC website to be user friendly, easy to find, up-to-date, and informative. Respondents find the website useful as a training aid and information on the site useful for meetings and knowledge sharing. One respondent would like better print formatting in order for displaying and sharing certain website content.

NRC Safety Culture Brochure

Figure 184: NRC Safety Culture Brochure Is Clear, Logical, and Easy to Follow

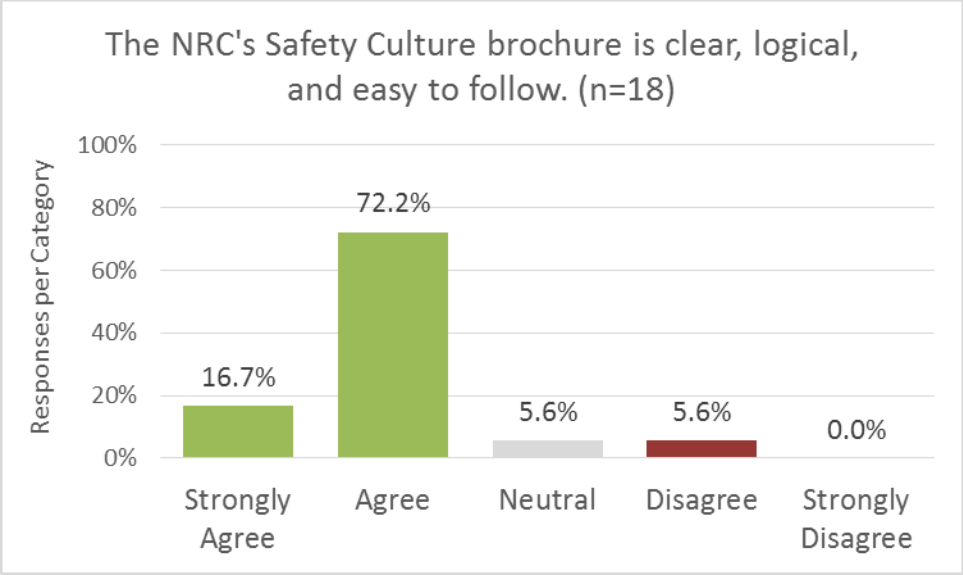


Figure 185: NRC Safety Culture Brochure Is Easy to Find

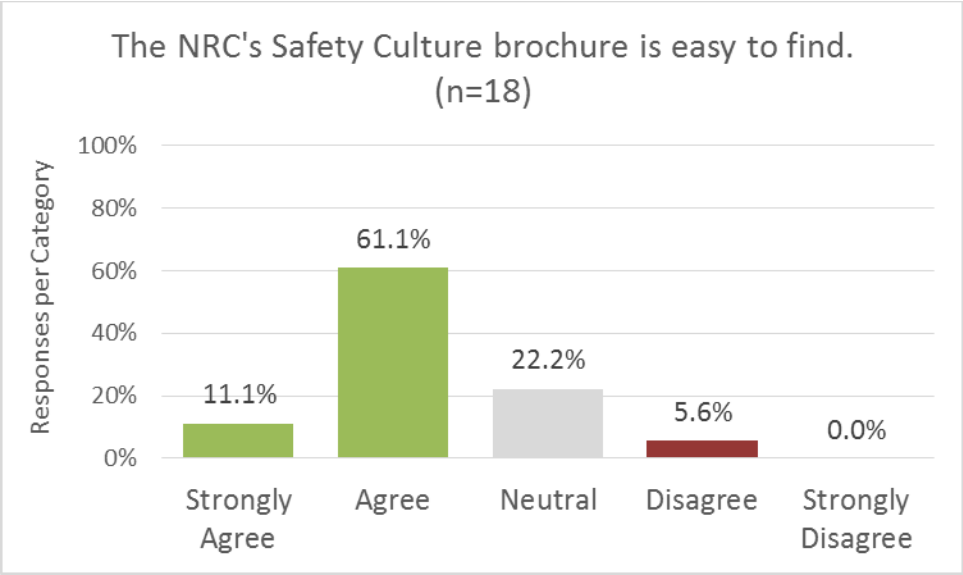


Figure 186: NRC Safety Culture Brochure Is Informative

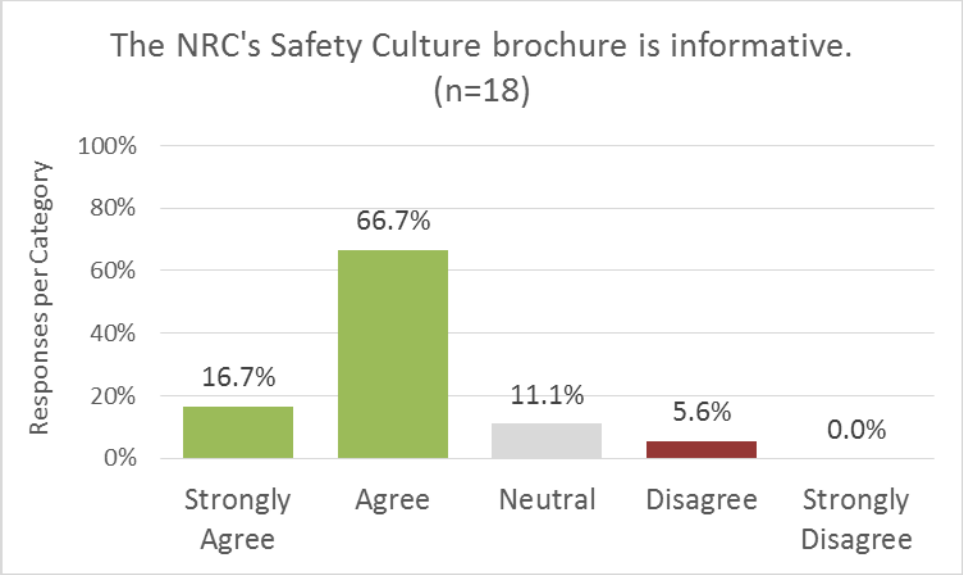


Figure 187: NRC Safety Culture Brochure Is Appropriately Detailed

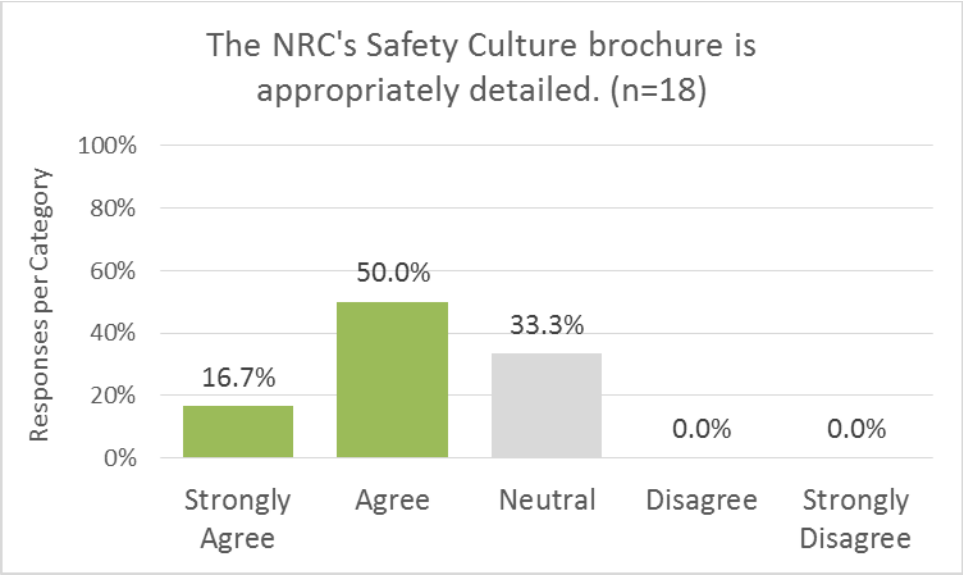


Figure 188: NRC Safety Culture Brochure Is Engaging

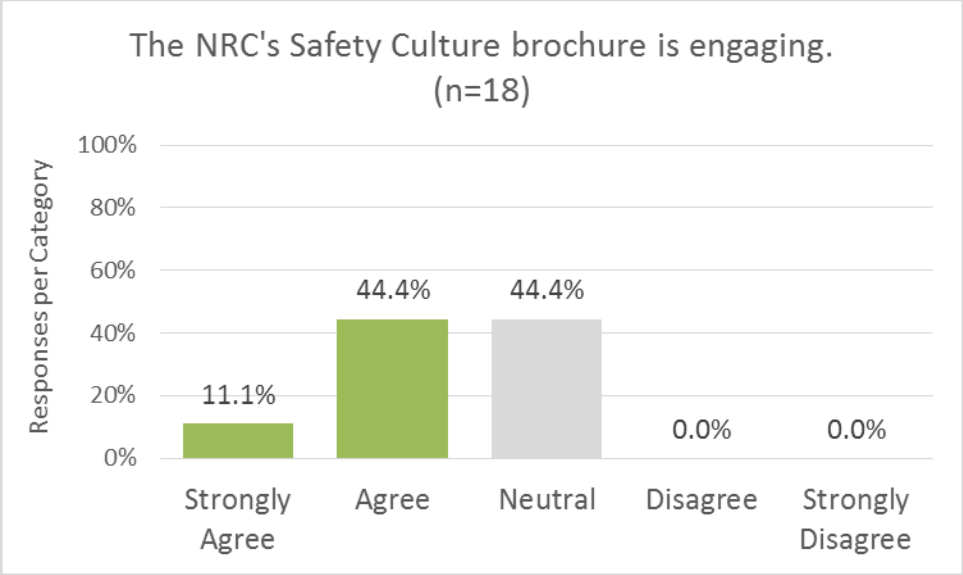
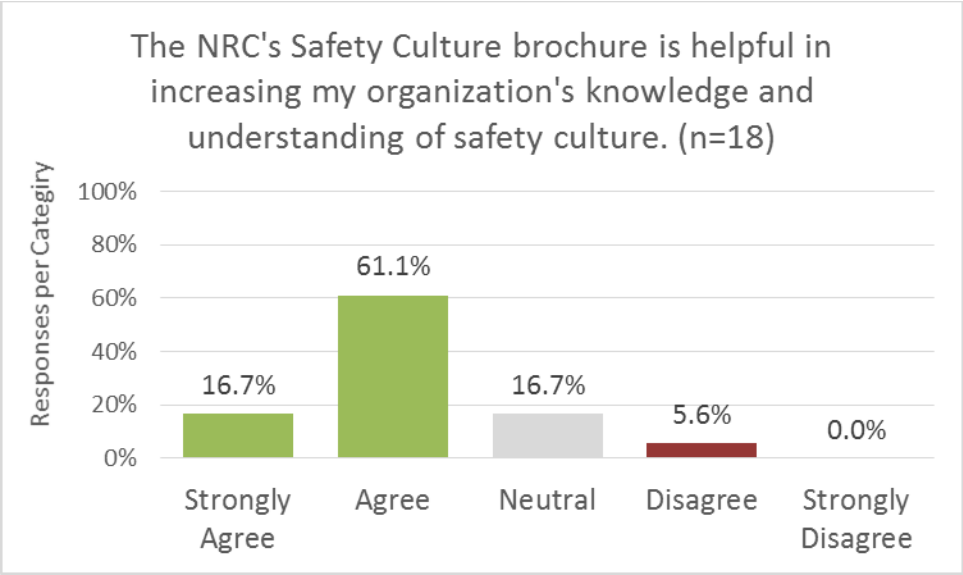


Figure 189: NRC Safety Culture Brochure Is Helpful



Of the 80 Washington licensees that participated in the survey, eighteen responded to questions concerning the NRC's Safety Culture brochure. Most respondents reported that the NRC safety brochure was helpful, appropriately detailed, informative, easy to find, and clear, logical, and easy to follow. Respondents consistently noted the brochure was utilized for various meetings and training purposes.

One survey question about the brochure yielded less positive feedback in comparison to the consistently positive feedback from other questions. When asked if the NRC Safety Culture brochure was engaging, respondents replied less favorably. This shows that even though respondents found the brochure easy to follow and helpful, and informative, improvement can be made the brochure to have it more engaging.

NRC Safety Culture Case Studies

Figure 190: NRC Safety Culture Case Studies Are Clear, Logical, and Easy to Follow

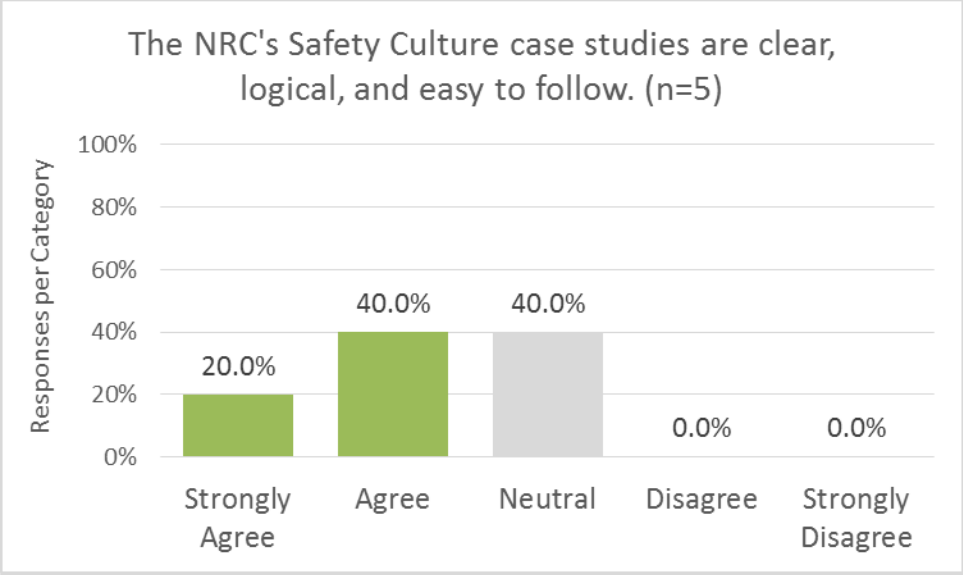


Figure 191: NRC Safety Culture Case Studies Are Easy to Find

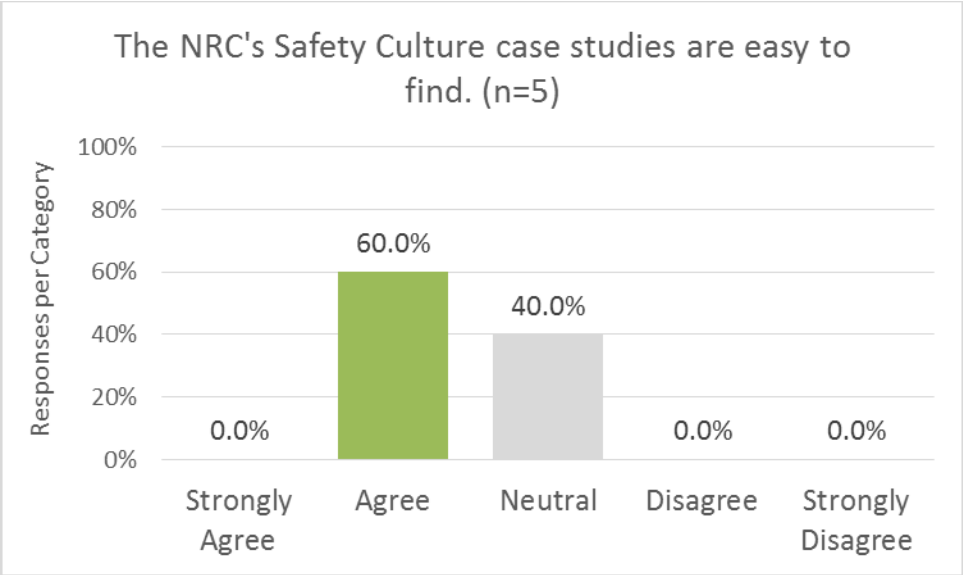


Figure 192: NRC Safety Culture Case Studies Are Informative

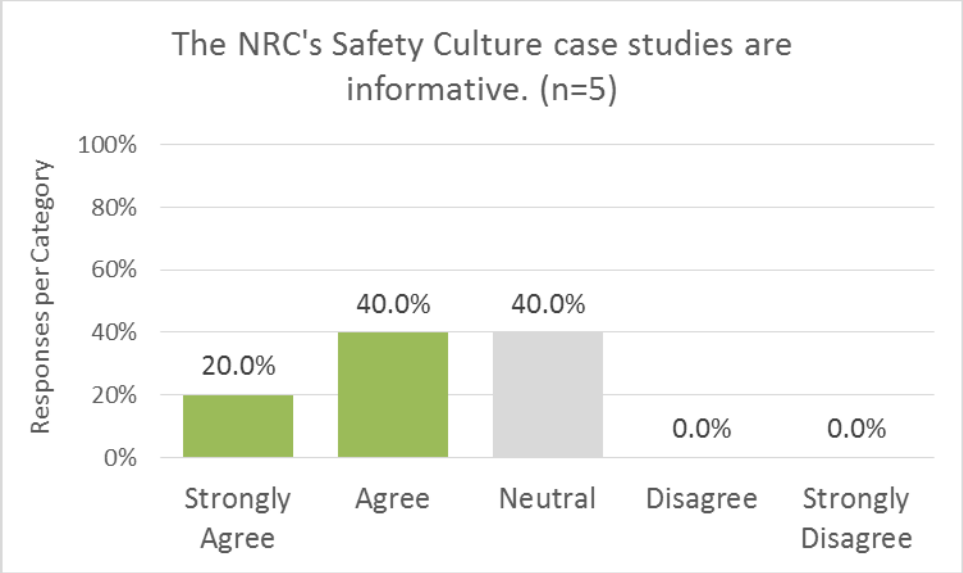


Figure 193: NRC Safety Culture Case Studies Are Appropriately Detailed

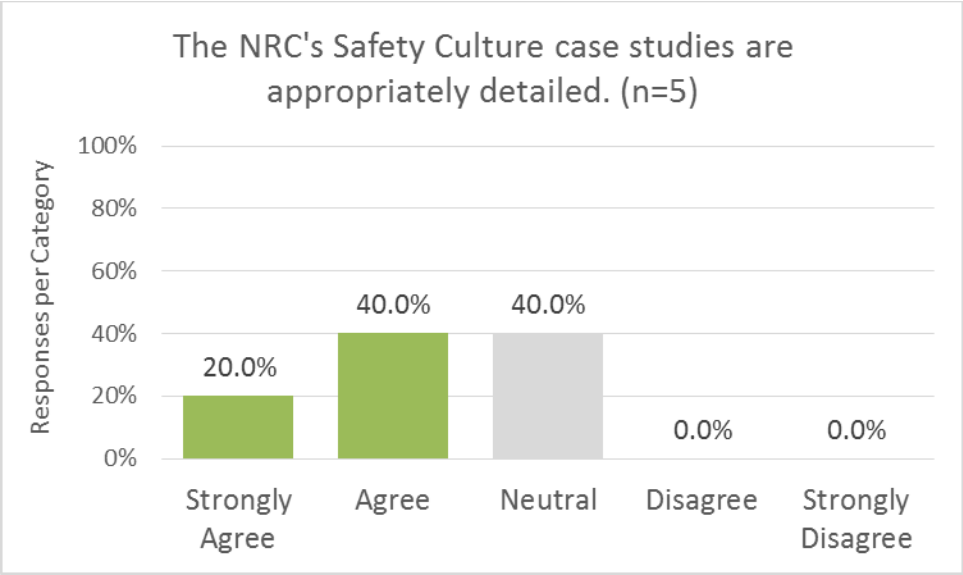


Figure 194: NRC Safety Culture Case Studies Are Engaging

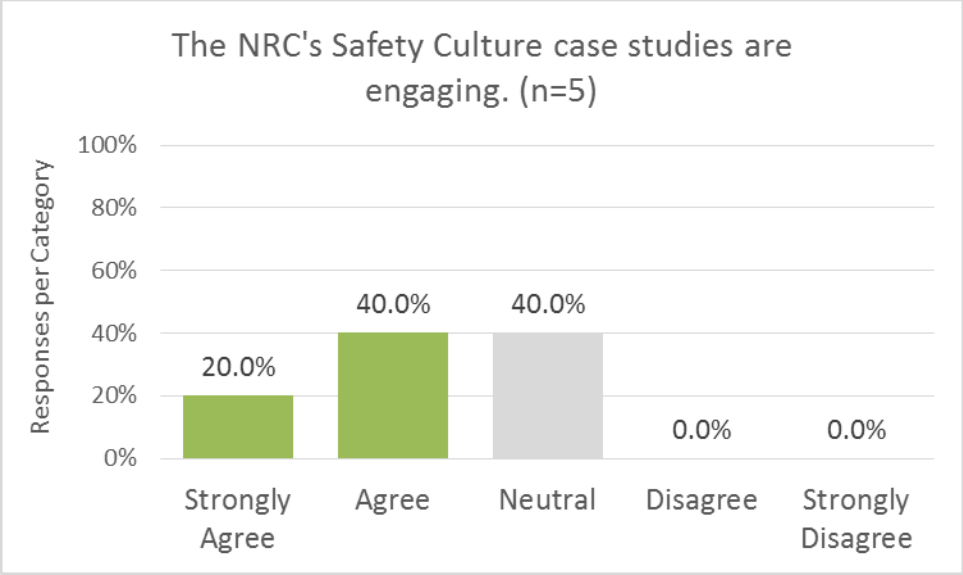


Figure 195: NRC Safety Culture Case Studies Are Practical

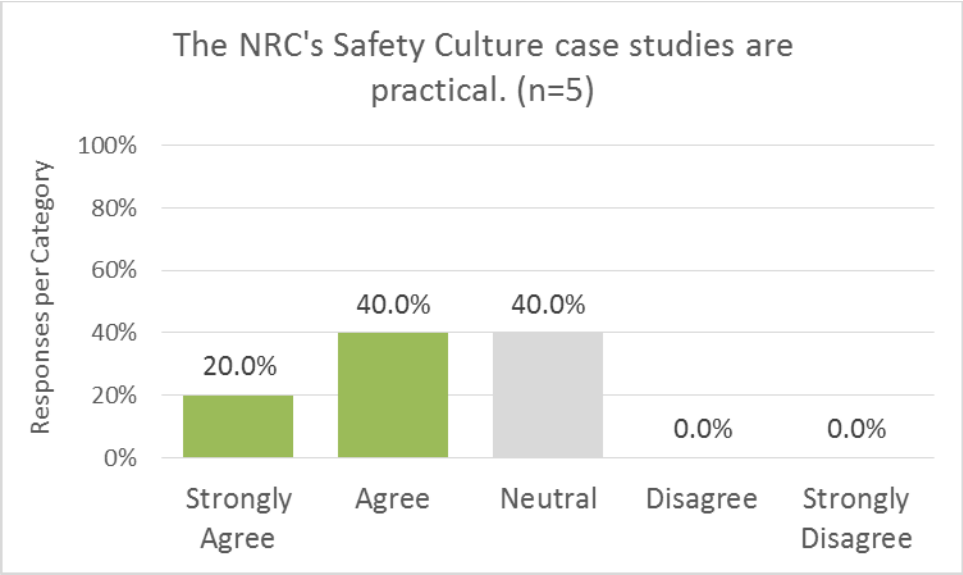
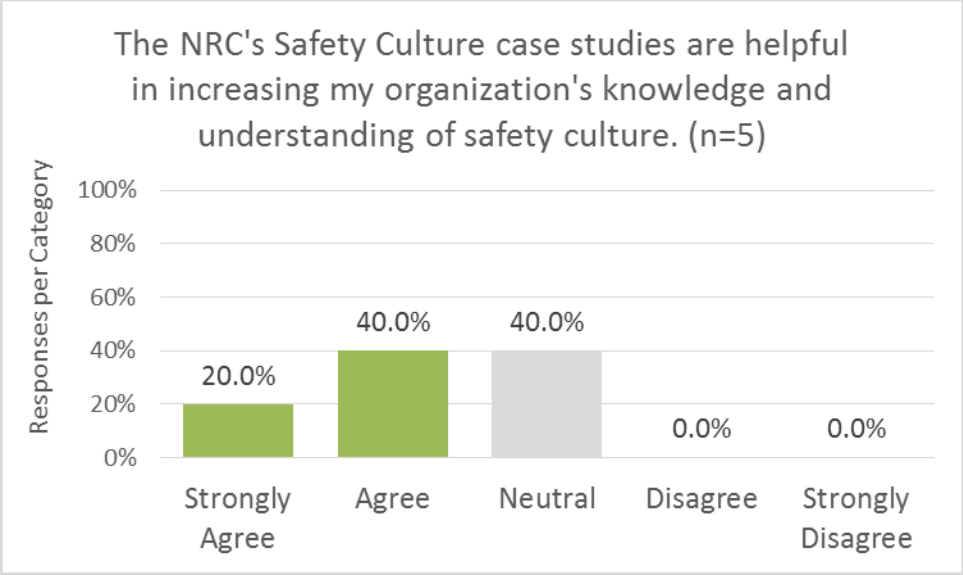


Figure 196: NRC Safety Culture Case Studies Are Helpful



Of the 80 Washington licensees that participated in the survey, only five responded to questions concerning the NRC Safety Culture case studies. For all questions, 60% of respondents replied favorably 60% of the time agreeing or strongly agreeing- the case studies were helpful, appropriately detailed, informative, easy to find, practical, engaging, and clear, logical, and easy to follow. The remaining 40% of respondents replied neutral indicating improvements can be made to the NRC's Safety Culture case studies.

State Regulator Website Safety Culture Information

Figure 197: State Regulator's Website Is User Friendly

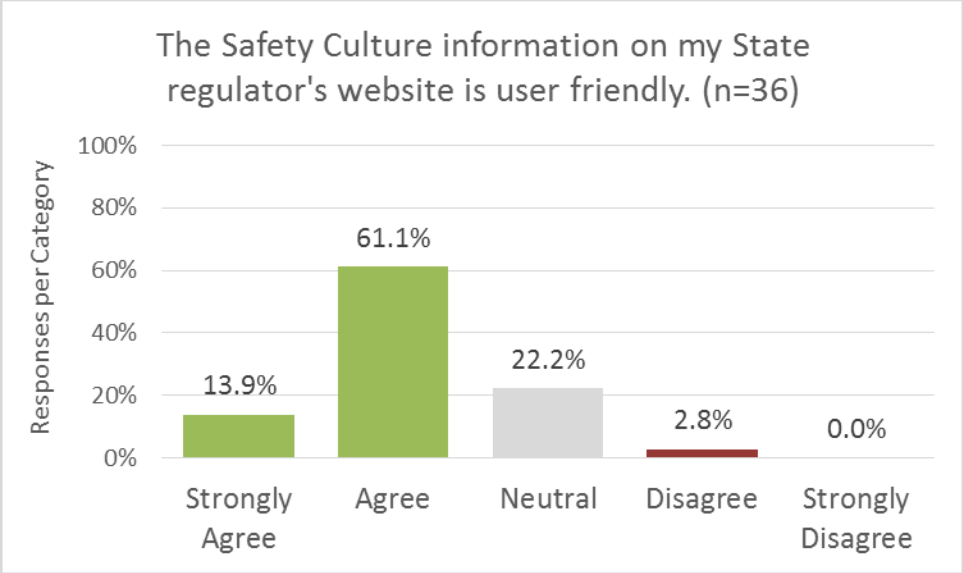


Figure 198: State Regulator's Website Is Easy to Find

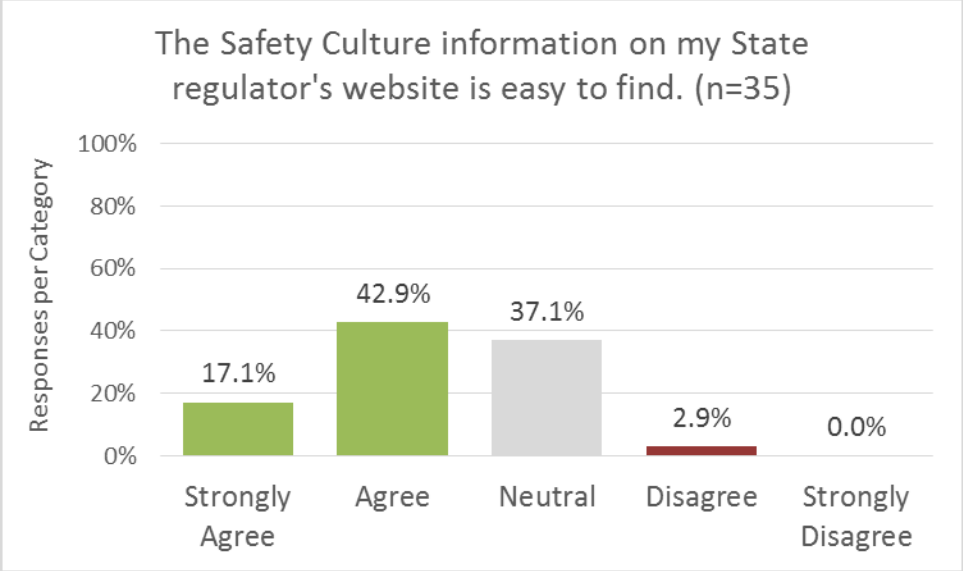


Figure 199: State Regulator's Website Is Up-to-Date

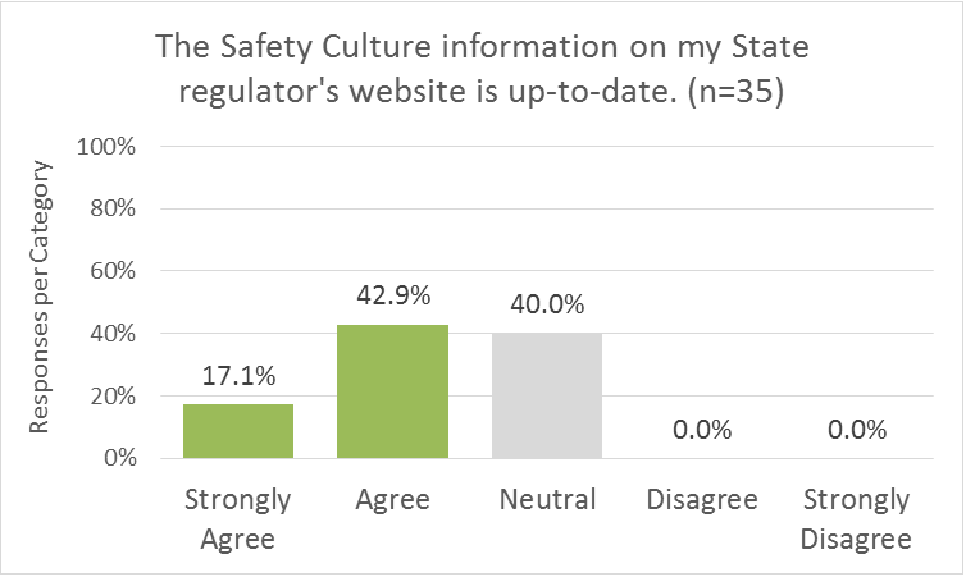
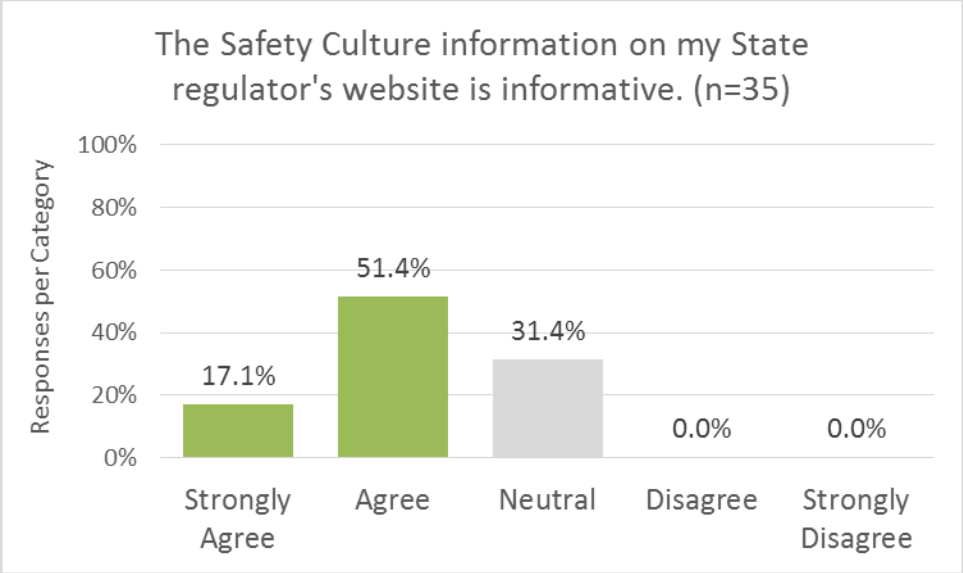


Figure 200: State Regulator's Website Is Informative



Of the 80 Washington state respondents, 35 answered questions pertaining to the State regulator's website. Majority of respondents, over 70%, found their State regulator's website to be user friendly. Over 60% of respondents agreed or strongly agreed the State regulator's website was informative, up-to-date, and easy to find. The respondents replied neutral to all statements (20%-40%) which indicates some improvement is possible for the Washington State regulator's website. One respondent compared the federal website to that of the State regulator in the following account:

> *"Washington state's Safety Culture material is directly accessible from the Radioactive Materials page. Supporting documents and regulations are also more easily accessible than on the federal website due to website layout. Like the federal brochure, the radiation Safety Culture brochure material is nearly identical to corporate policy. The state brochure is better laid-out than the federal brochure with the Definition, Policy Statement and Traits being the first things seen when the brochure is opened. The Traits of Positive Nuclear Culture being very prominent when viewed on the website and when the flyer is opened."*

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 201: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, over 58% of respondents replied favorably. When combining the neutral and unfavorable responses, over 41% of respondents were indifferent or not satisfied. This indicates room for improvement. Few respondents remarked "This survey is the first we have heard of it." One respondent suggested "periodic reminders and updates, signup for the notification of Safety Culture and Policy changes."

Figure 202: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, nearly 60% responded favorably, over 31% indicated neutral and nearly 10% responded unfavorably. Concerning quality of communications, there is some significant room for improvement.

Summary of Quality Feedback:

- Some respondents reported that they did not receive the information, were unaware or that the information was not needed since they have their own program and policies
- "Radiation safety program is well managed and other areas of safety, are beginning to review to see if it can be duplicated"
- "Washington State Provides Regular Bulletins and Updates. Company policy requires regular review and update of the on-site Radiation Safety Manual and associated training of personnel"
- "As a large research University the topic of laboratory safety and everyone's attitude about safety is high priority. We appreciate the NRC and State's reinforcement that safety is important every day and always"
- 'The Safety Culture information is helpful because it is in a concise format that states clearly what is expected. It is helpful when training new employees to enforce the principles of accountability, work processes and a questioning attitude"
- "Just because NRC/Agreement State also promotes a Safety Culture, it does not have an additional effect but just reinforces all of the other positive messages on safety. We also have engineered our equipment with multiple safety interlocks and have a great record of no mishaps in over twenty years. We also consistently show nearly zero exposure year after year."
- "Safety Culture has to start with upper management, and rolling it out takes years to do, as you need to actually change how people think and work"
- "The brochure about Safety Culture is short and well organized, and easy to find on the DOH.WA.Gov site"
- "My organization has created a non-threatening Safety Culture whereby employees are willing to communicate radiation safety issues without fear of retribution. This has helped to promote radiation risk awareness and responsibility. Both basic and self-directed safety compliance systems have been developed (radiation safety training programs and procedures and processes to comply with regulations) to improve the quality and effectiveness of radiation safety. Good radiation safety practices

and positive achievements (i.e., inspections with no items of non-compliance; decreased exposure doses to staff; purchasing needed radiation safety equipment; support of the Radiation Safety Officer) are recognized across the organization, making this culture a part of everyday life from the top down"

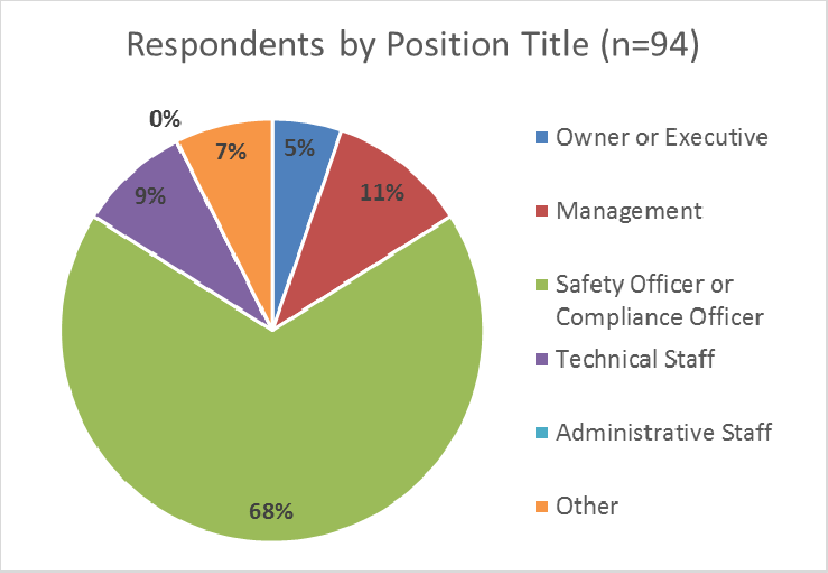
- Easy access, prompt response if there is questions and overall easy to understand
- "Safety Culture has not to my knowledge been part of recent communication with WA State"
- "We feel that communication materials to employees regarding Safety Culture from Federal and State Agencies let our employees know that they have a voice, and that they are an integral part of the safety community"
- 'It is a little wordy. Also, the business-speak (stakeholders, policy statement, etc.) tend to make scientists comatose, and those are the people I generally want to reach. My facility is small enough that admin lets me handle the Radiation Safety issues and does not try to implement changes that would adversely affect the program, but they are already aware of the importance of maintaining the program as stringently as possible."
- Needs specific examples, "as it would apply to the portable nuclear gauge industry"
- I find it extremely difficult to navigate if you are not familiar with what you are looking for. Especially when it comes to finding license renewal/application information/forms.

Appendix I: Data Analysis Findings – Wisconsin

Demographics of Respondents

This set of questions would identify respondents by the organization/state they are a licensee of, job position, and license(s) held. This information helps organize and analyze respondents by subpopulation.

Figure 203: Respondents by Position Title



There were a total of 96 survey respondents who identified themselves as Wisconsin licensees. Within that population, there were 64 Safety and Compliance Officers, 35 Portable Gauge License holders, and 19 Medical Use License holders.

Table 7: Survey Respondents by License Type

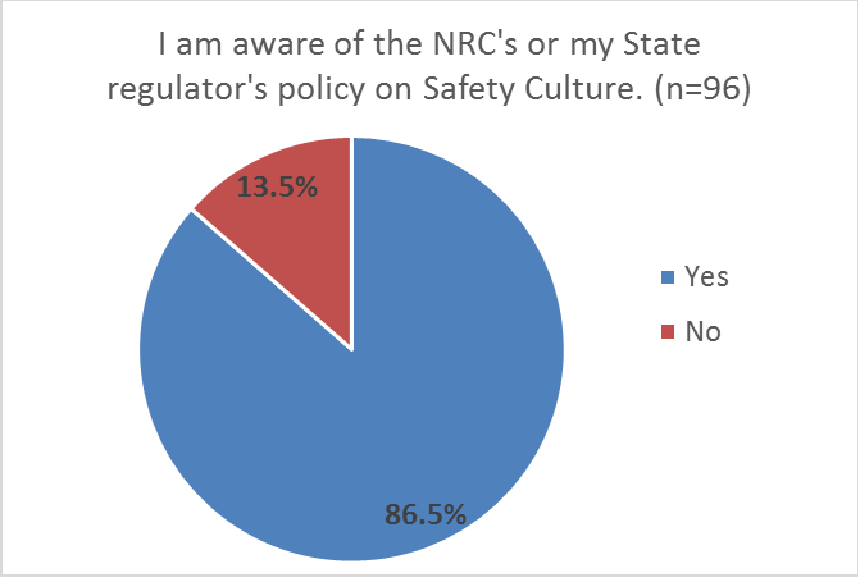
Subpopulation by License Type*	Number of Respondents
Portable Gauge Licensee	35
Fixed Gauge Licensee	10
Industrial Radiography/Logging Licensee	7
Irradiator Licensee	1
Master Materials Licensee	2
Medical Use Licensee	19
Broad Scope Licensee	6
Research and Development, Gas Chromatographs, and X-Ray Fluorescence Licensee	4
Exempt Distribution Licensee	1
Possession License for Manufacturing and Distribution	3
Commercial Radiopharmacy Licensee	5
Service Provider Licensee	1
License for Special Nuclear Material of Less Than Critical Mass	0
Spent Fuel Storage Licensee	0
Fuel Cycle Facility Licensee	1
Other	5

*(*As some licensees may hold multiple license types, above subpopulations are not mutually exclusive)*

Awareness of Safety Culture

Awareness of Safety Culture survey questions sought to identify the respondents' cognizance and knowledge of the NRC Safety Culture Policy Statement and educational and outreach materials on NRC's website. With knowledge of these materials, respondents are educated on where to go for information. Three questions were asked to collect information on awareness (Survey Questions 4-6). The first question asks about self-awareness of the safety culture policy and the subsequent two questions ask for the respondent's perception of management and staff awareness.

Figure 204: Respondent Awareness of Safety Culture Policy



A large majority of the respondents (86.5%) is aware of the NRC or their Agreement State's policy on Safety Culture. This presents positive feedback overall in that the population surveyed is receiving some type of communication concerning the NRC's or their State regulator's policy.

Figure 205: Management Awareness of Safety Culture Policy

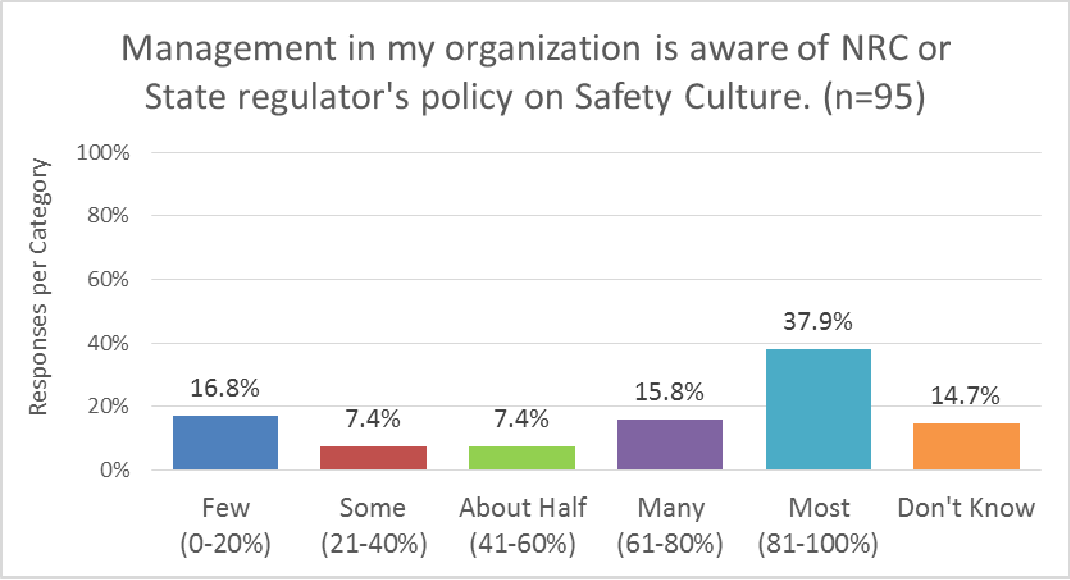
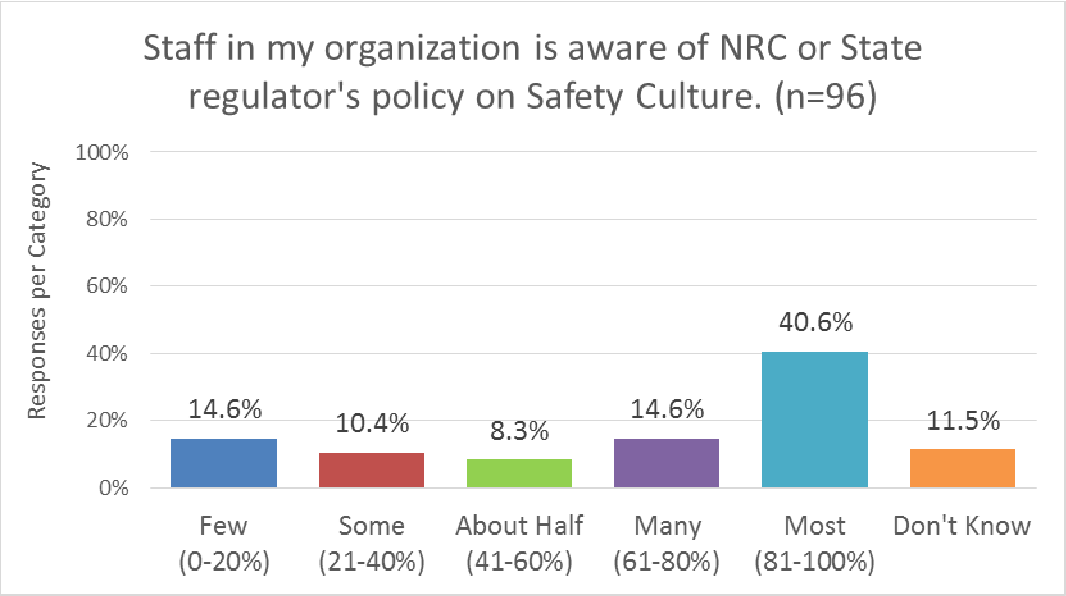


Figure 206: Staff Awareness of Safety Culture Policy W License Type



In general, respondents perceived management and staff awareness at their organizations similarly. Over half of respondents felt many or most of the management and staff at their organizations were aware of safety culture policy. Conversely, nearly 25% of respondents perceived that only a few or some of the staff and management at their organization to be aware. There is a large discrepancy when what the survey respondents state their own awareness to be is compared to their perception of staff and management awareness at their organizations. This may indicate that safety culture awareness is not readily discussed and therefore respondents assume others are unaware as a result.

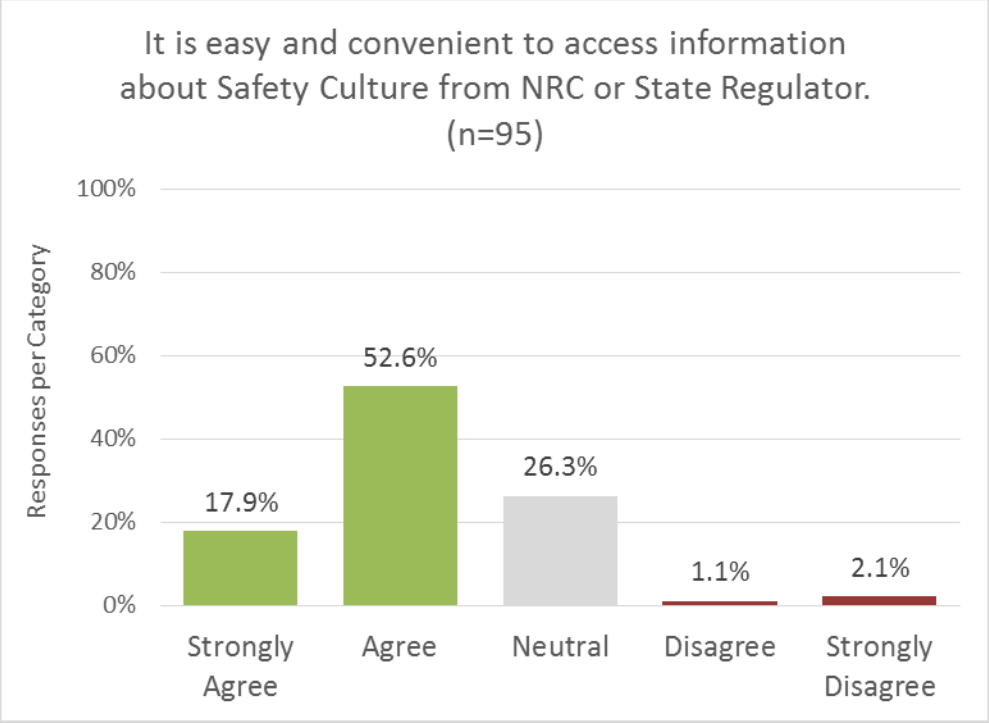
Distribution of NRC Safety Culture Products

The distribution survey questions helped to understand how organizations access the NRC safety culture educational and outreach materials and help to understand how useful respondents find the NRC materials. Respondents were asked four questions concerning distribution to identify the methods by which their organizations receive safety culture information, determine how accessible safety culture information is, and how useful they find that information. This feedback can determine which methods are working as well as identify potential areas of improvement.

Figure 207: Methods by Which Organizations Received Safety Culture Information

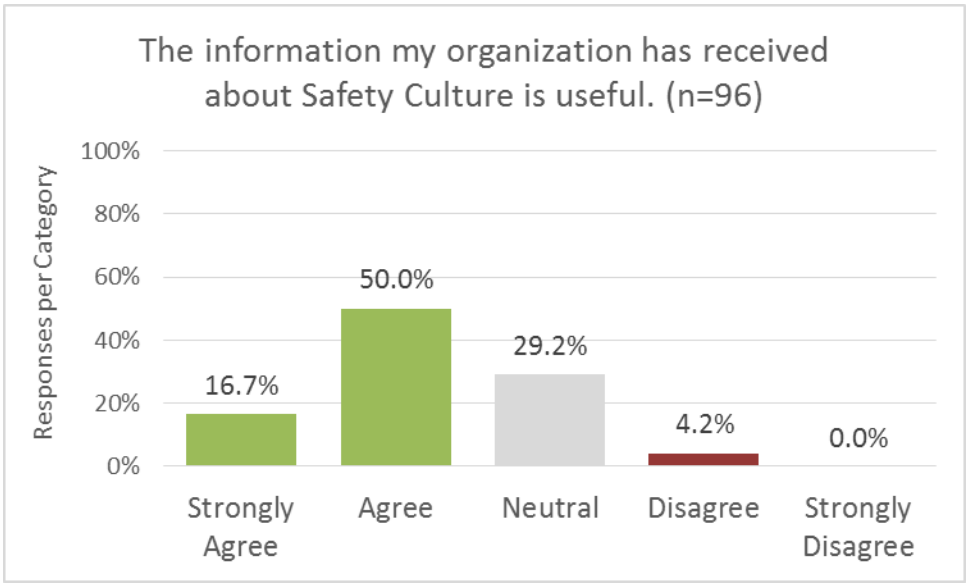
Survey respondents noted most frequently that correspondence (such as emails and letters), inspections, and the State regulator's website were the methods by which their organizations received safety culture information. One respondent commented positively on the inspection personnel saying "It is always helpful when an inspector or licenseeing staff guide you in Safety Culture in a positive manner."

Figure 208: Ease and Convenience of Accessing Safety Culture Information



Respondents determined their agreement level with the statement "It is easy and convenient to access information about Safety Culture from NRC or my State regulator." Over 70% of respondents agreed or strongly agreed. One respondent noted the "State regulators are easy to contact when you have questions or concerns." Over one-quarter of respondents were either neutral or did not find it easy and convenient to access safety culture information.

Figure 209: Usefulness of Safety Culture Information Received

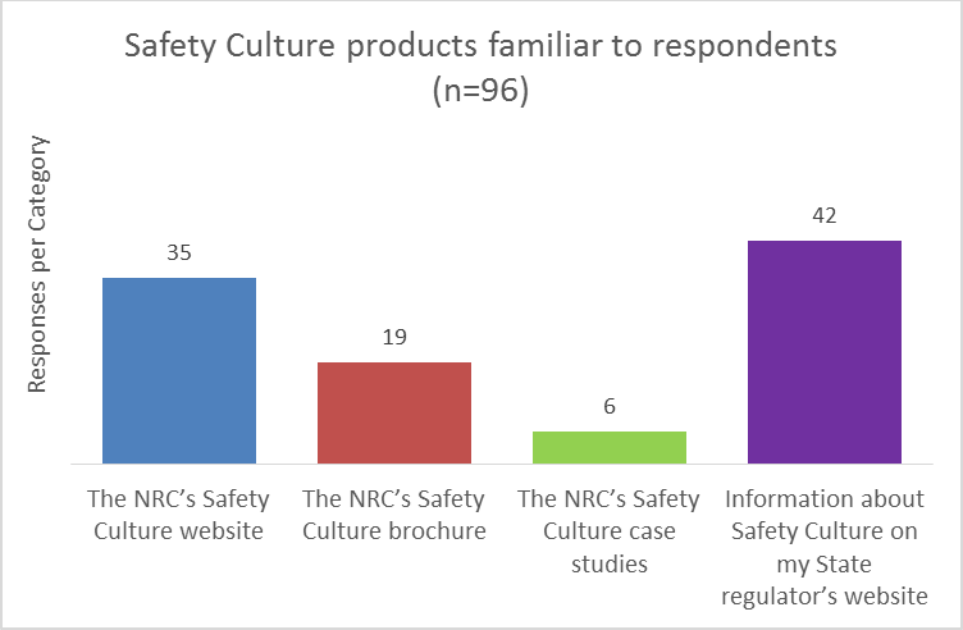


Respondents determined their agreement level with the following statement "The information my organization has received about Safety Culture is useful." The majority (over 65%) of respondents agreed or strongly agreed the information was useful. One respondent noted it provided a basis to make the technicians more readily understand the reasons of the culture and stance. Despite this positive feedback, over a third of respondents were neutral or did not find the information useful. Some respondents noted the information was not useful because it was not very specific and found the information "very vague with no clear guidelines." Multiple respondents said they had not received any materials or information on the safety culture until this survey.

Products for NRC Safety Culture Education and Outreach

These questions focus on understanding respondents' familiarity with various NRC safety culture educational and outreach materials, as well as how respondents rate certain characteristics of the products. Data was collected on several NRC specific products, including the NRC Safety Culture website, brochure, and case studies; as well as safety culture information available on the State regulator's website.

Figure 210: Safety Culture Products Familiar to Respondents



When asked what safety culture products they were familiar with, respondents noted their State regulator's website most frequently followed by the NRC's Safety Culture website.

NRC Safety Culture Website

Figure 211: NRC Safety Culture Website Is User Friendly

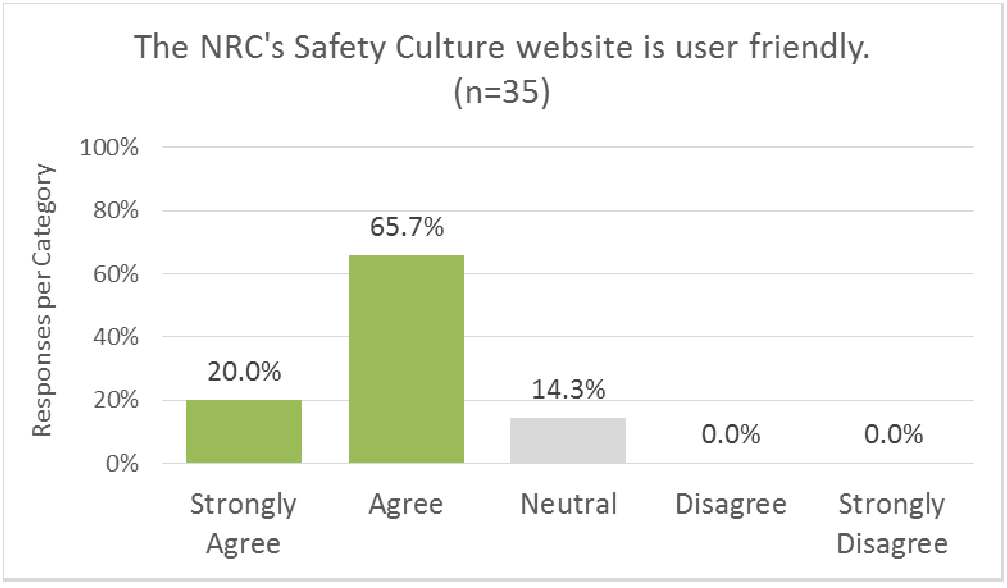


Figure 212: NRC Safety Culture Website Is Easy to Find

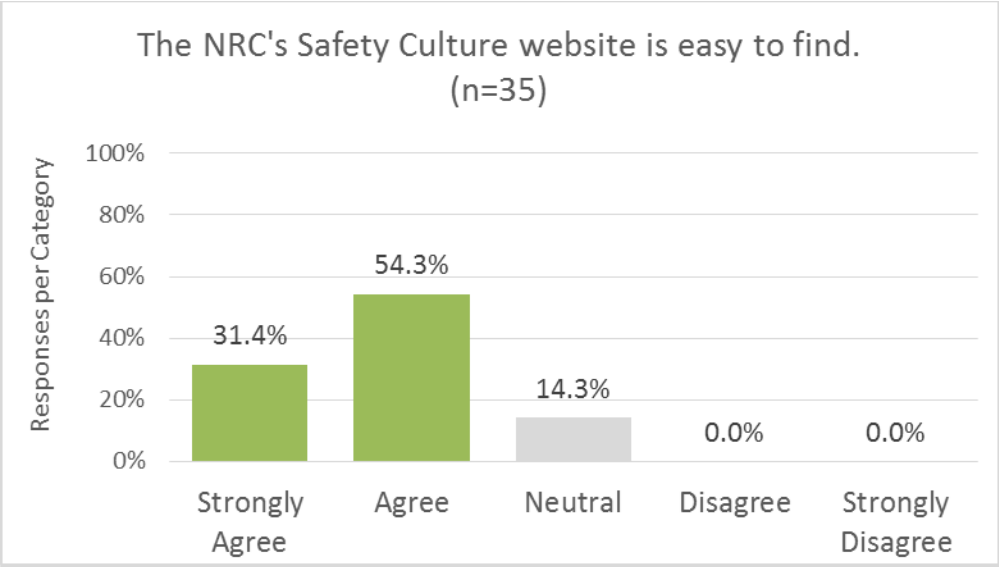


Figure 213: NRC Safety Culture Website Is Up-to-Date

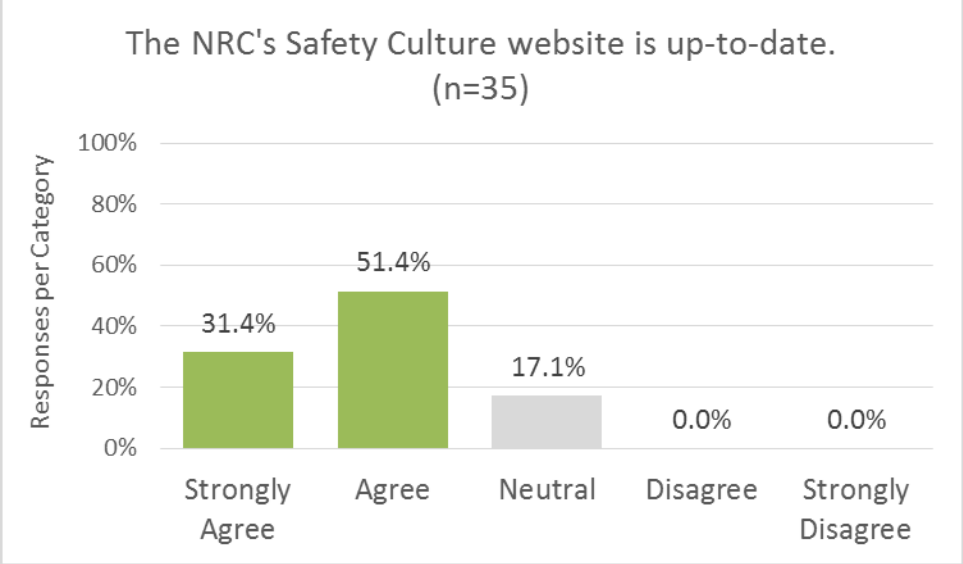
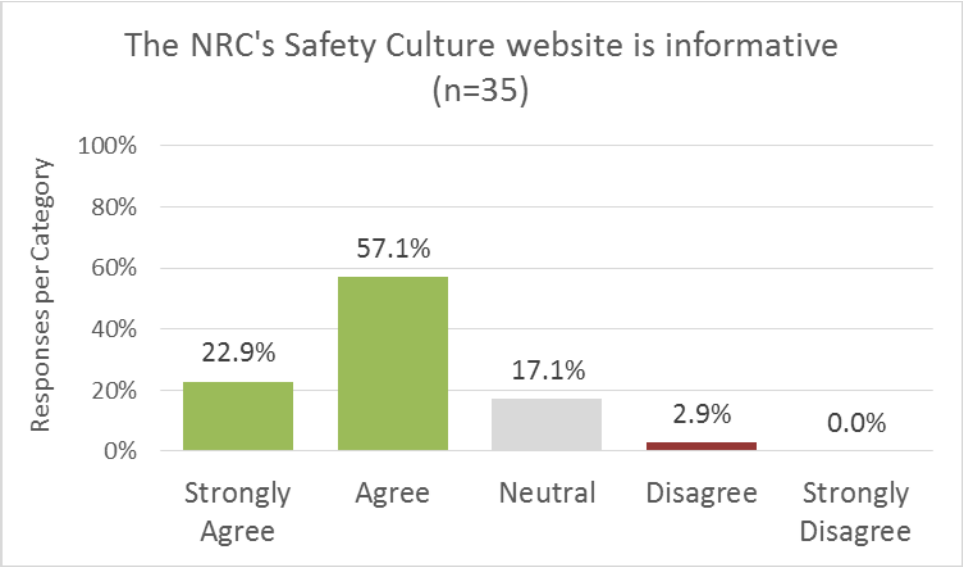


Figure 214: NRC Safety Culture Website Is Informative



Of the 96 Wisconsin licensees that participated in the survey, 35 responded to questions concerning the NRC's Safety Culture website. The majority of respondents (over 80%) found the NRC website to be user friendly, easy to find, up-to-date, and informative.

NRC Safety Culture Brochure

Figure 215: NRC Safety Culture Brochure Is Clear, Logical, and Easy to Follow

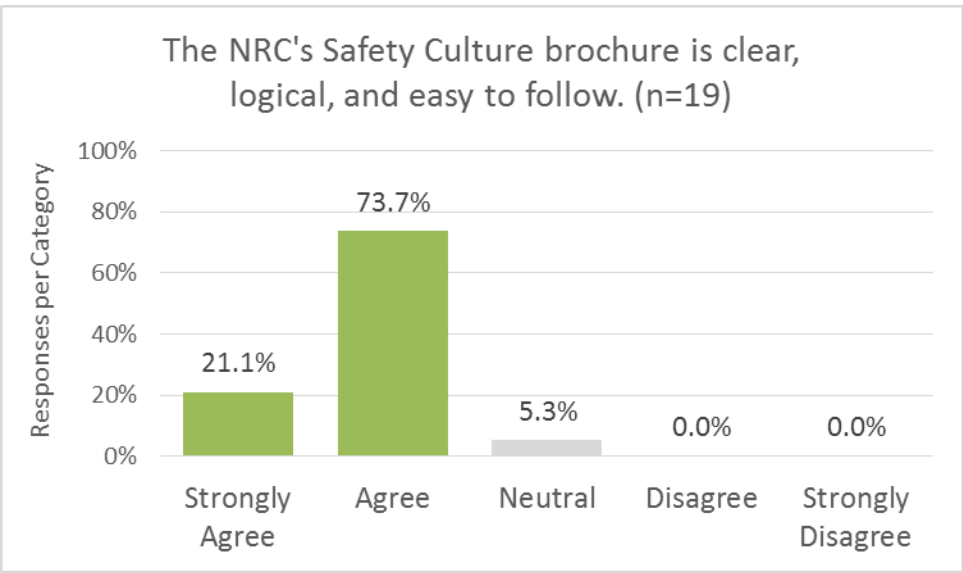


Figure 216: NRC Safety Culture Brochure Is Easy to Find

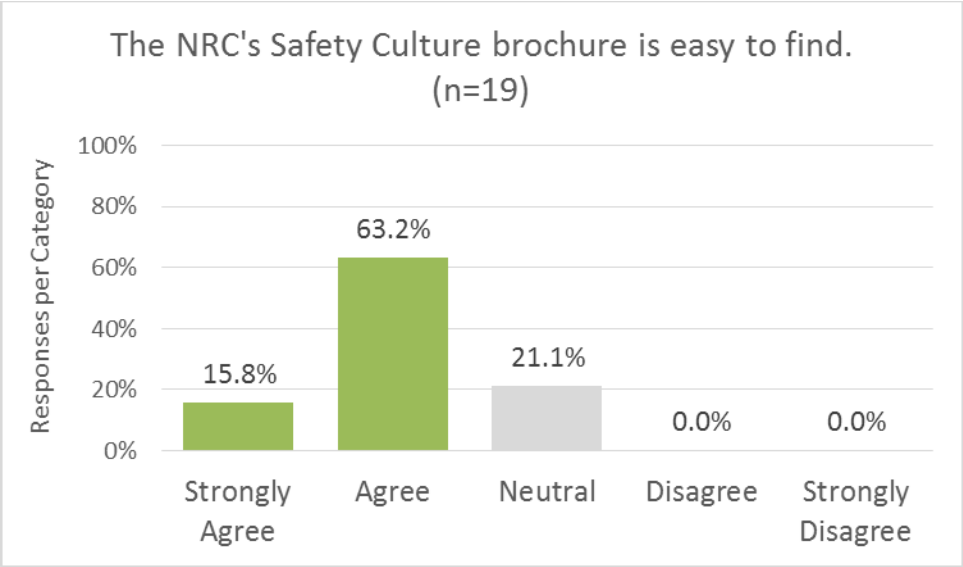


Figure 217: NRC Safety Culture Brochure Is Informative

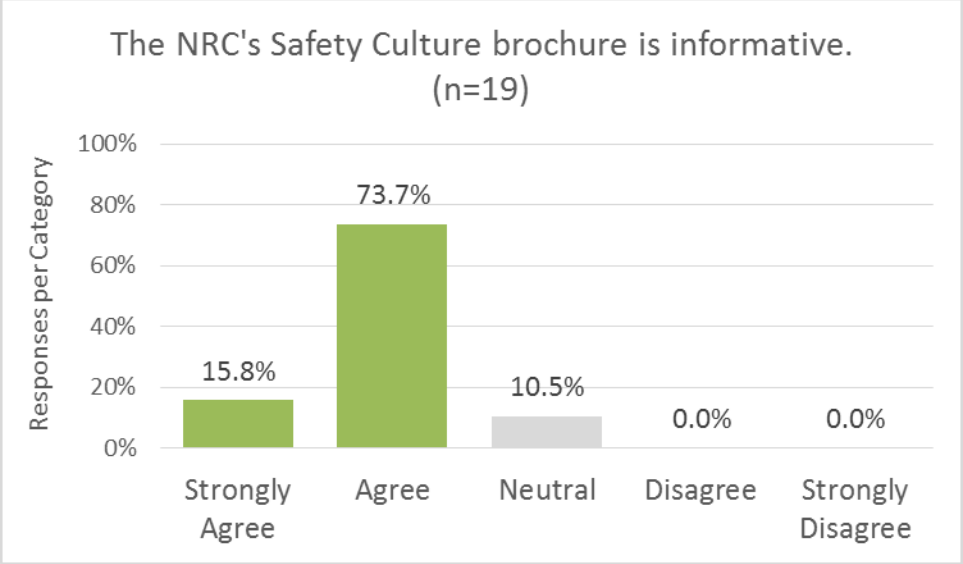


Figure 218: NRC Safety Culture Brochure Is Appropriately Detailed

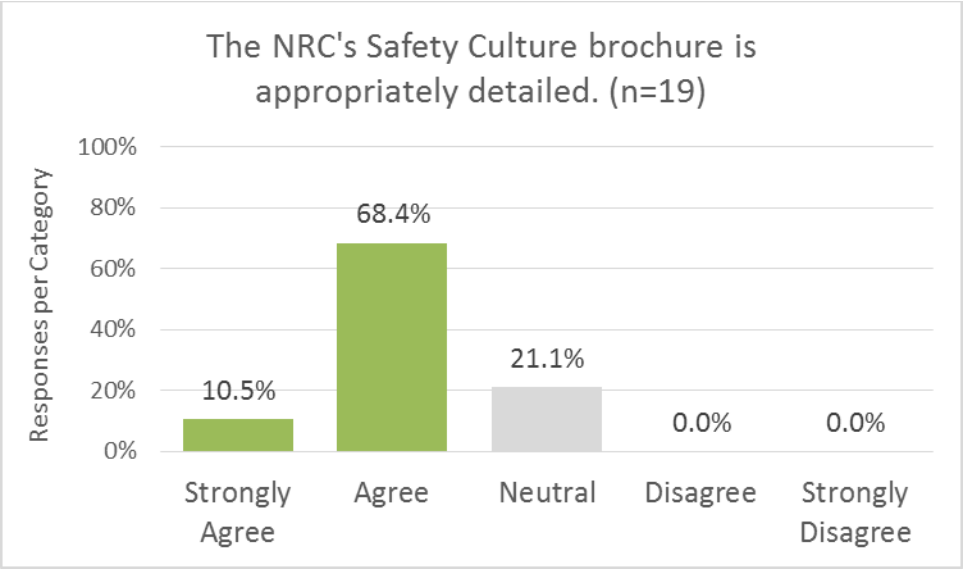


Figure 219: NRC Safety Culture Brochure Is Engaging

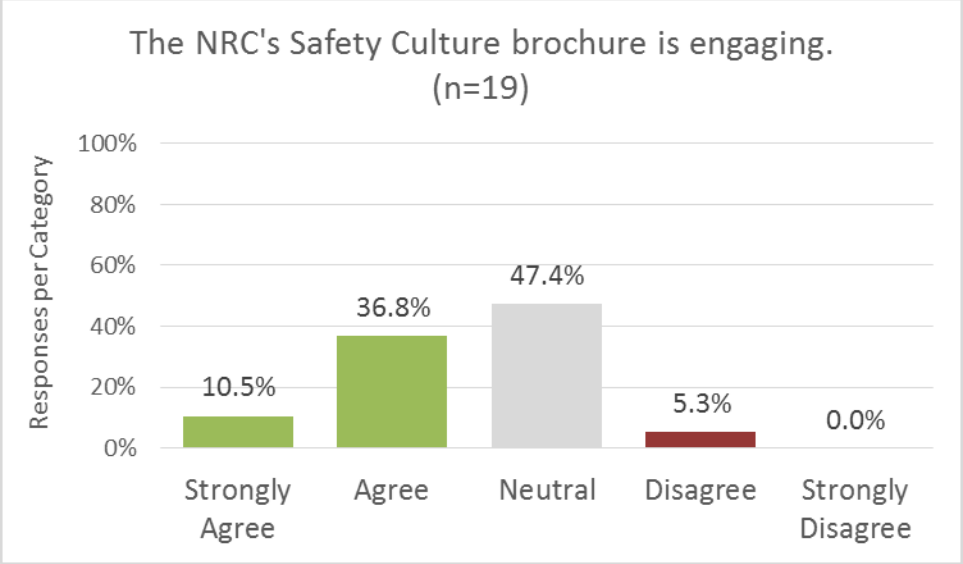
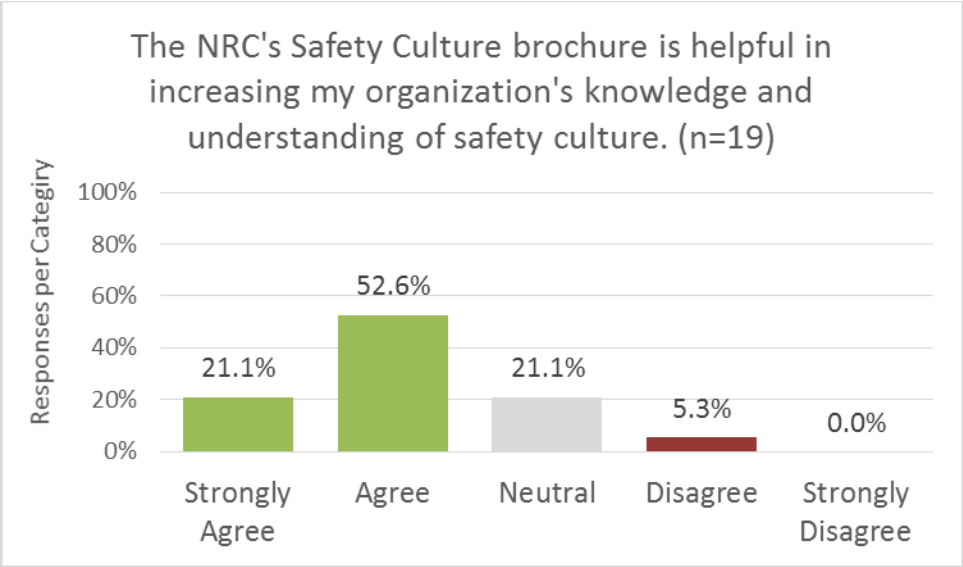


Figure 220: NRC Safety Culture Brochure Is Helpful



Of the 96 Wisconsin licensees that participated in the survey, 19 responded to questions concerning the NRC's Safety Culture brochure. Most respondents reported that the NRC safety brochure was helpful, appropriately detailed, informative, easy to find, and clear, logical, and easy to follow. Respondents consistently noted the brochure was utilized for various meetings and training purposes. One respondent stated "As written, [the brochure] is complete and easy to understand…[It] can be used during the rad safety training sessions." Nearly 95% of respondents found the brochure clear, logical, and easy to follow. Despite this, a few respondents reported the brochure needed more explanation and/or simplification. One, in particular, stated "It is a bit too wordy…The policy statement should be short and concise so people will read it." The same respondent did go on to compliment the brochure saying "the Trait box is very clear and easy to read." The one factor will scored less favorably was how engaging the respondents found the brochure. Less than half of the respondents agreed while over 47% felt neutral on the subject.

NRC Safety Culture Case Studies

Figure 221: NRC Safety Culture Case Studies Are Clear, Logical, and Easy to Follow

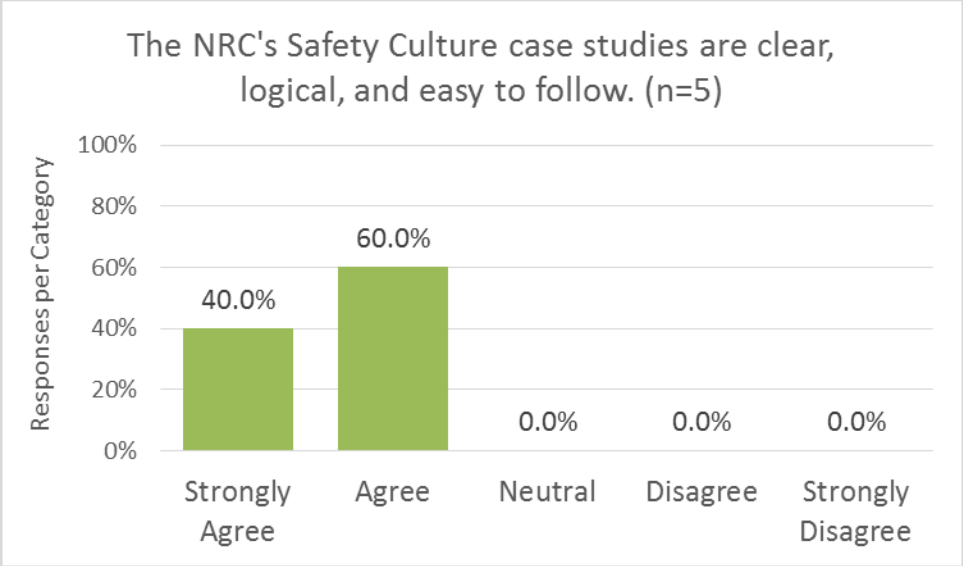


Figure 222: NRC Safety Culture Case Studies Are Easy to Find

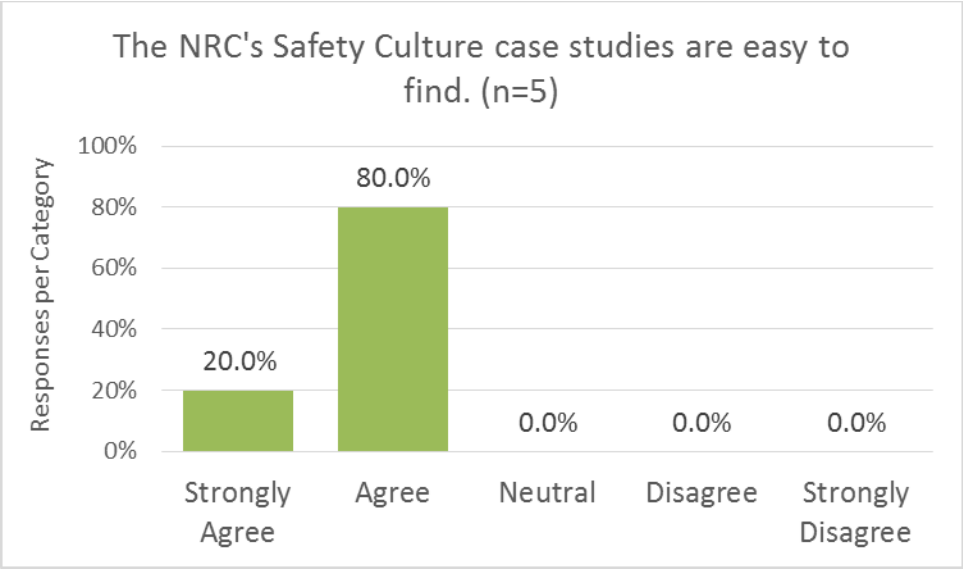


Figure 223: NRC Safety Culture Case Studies Are Informative

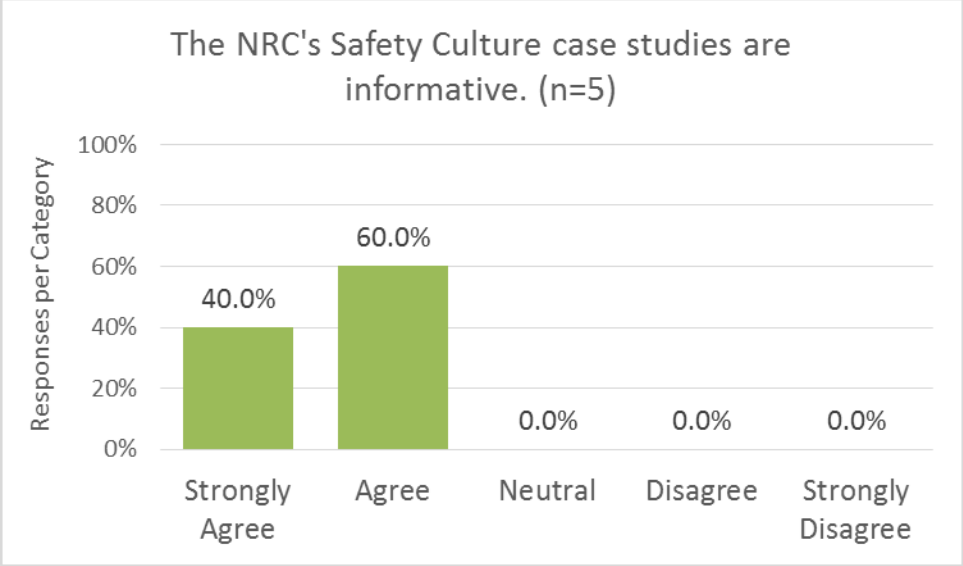


Figure 224: NRC Safety Culture Case Studies Are Appropriately Detailed

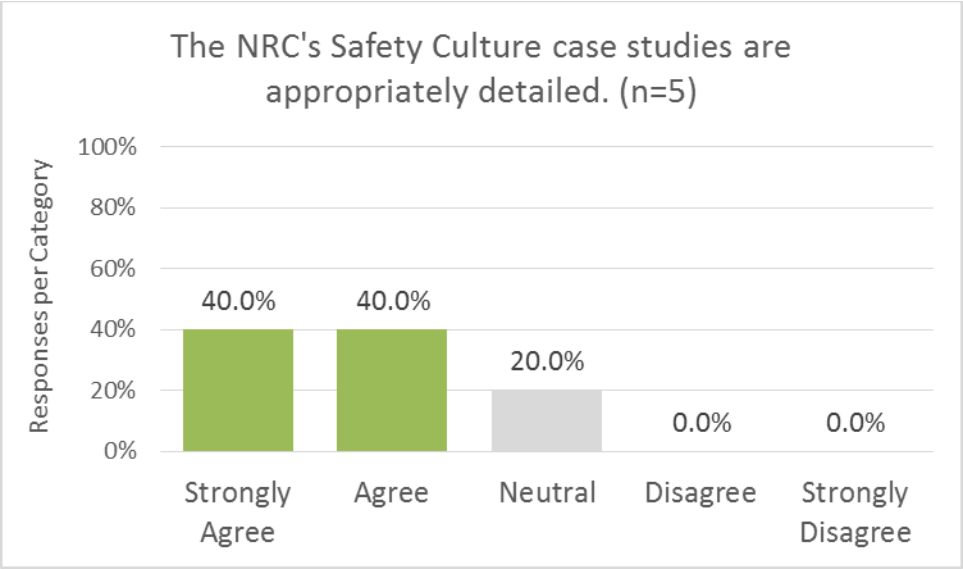


Figure 225: NRC Safety Culture Case Studies Are Engaging

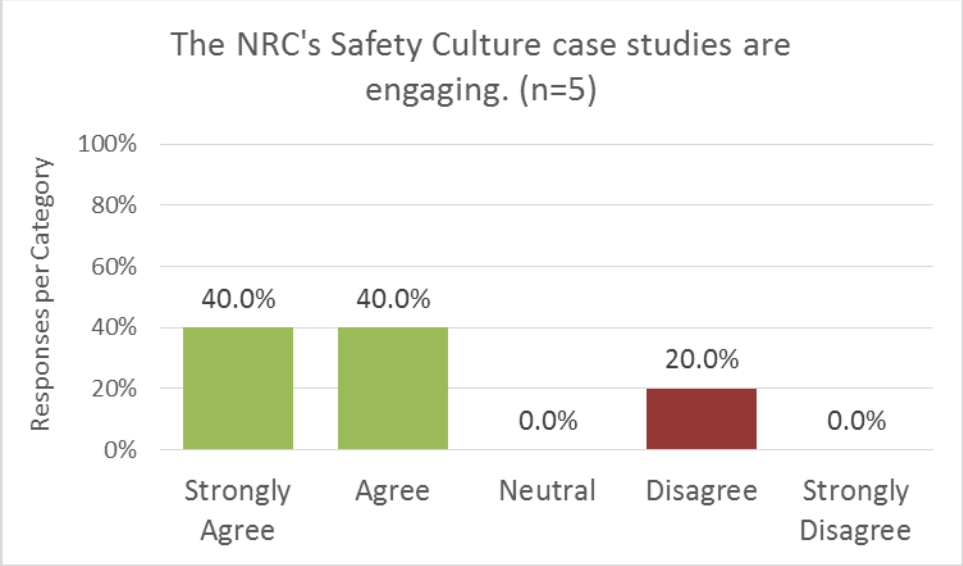


Figure 226: NRC Safety Culture Case Studies Are Practical

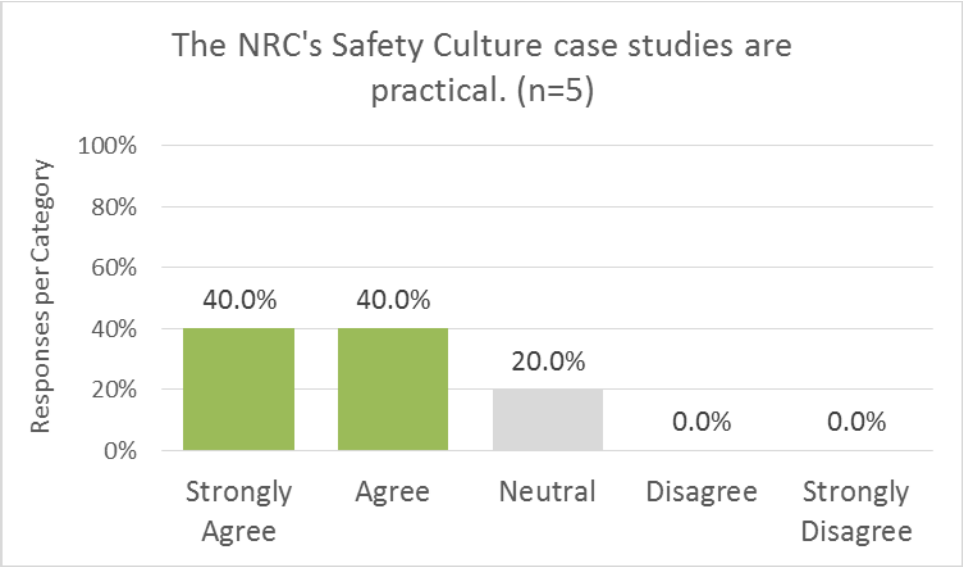
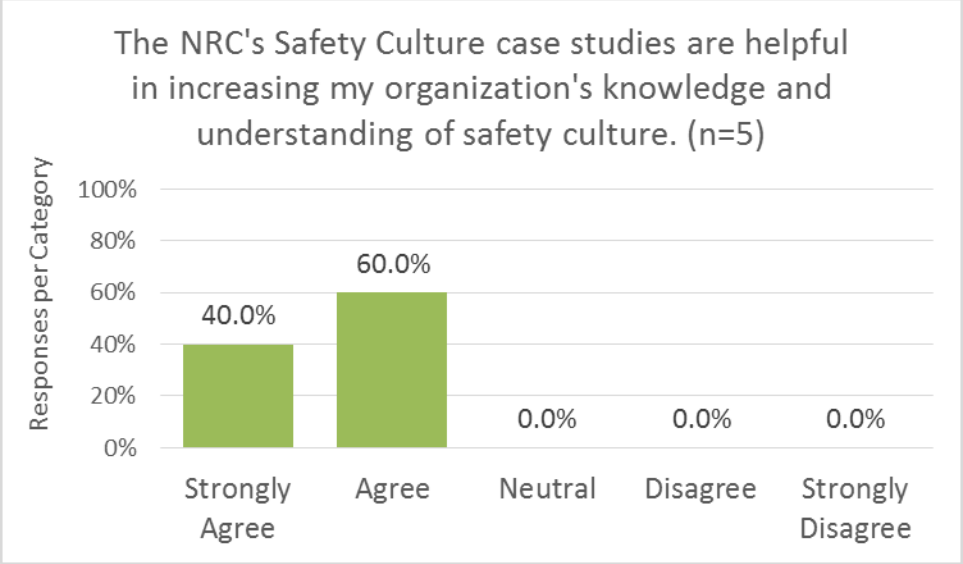


Figure 227: NRC Safety Culture Case Studies Are Helpful



Of the 96 Wisconsin licensees that participated in the survey, only five responded to questions concerning the NRC Safety Culture case studies. All respondents replied favorably (either strongly agreed or agreed) when asked if the case studies were helpful, easy to find, informative, and clear, logical, and easy to follow. 80% of respondents found the case studies appropriately detailed, engaging, and practical. There was only one unfavorable response received concerning case studies being found engaging.

State Regulator Website Safety Culture Information

Figure 228: State Regulator's Website Is User Friendly

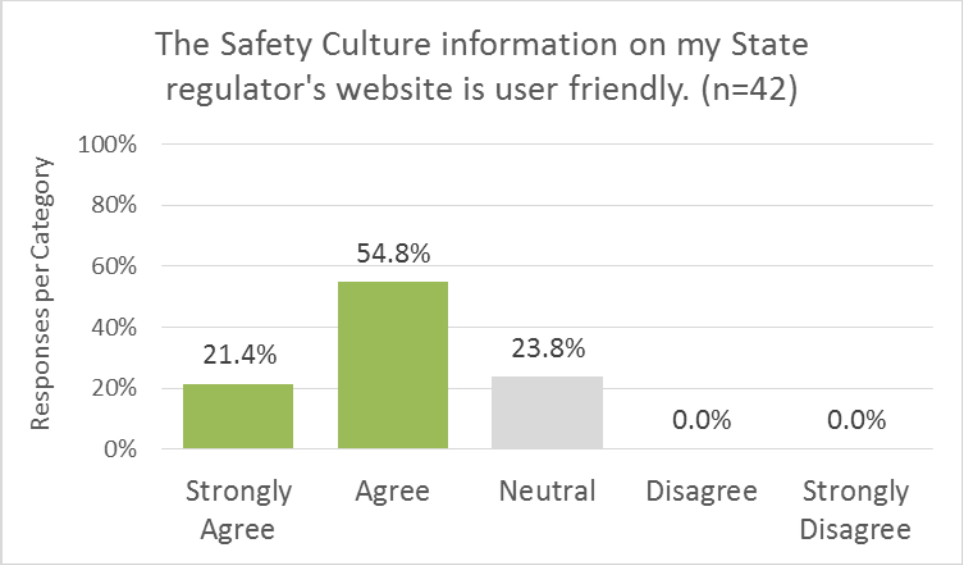


Figure 229: State Regulator's Website Is Easy to Find

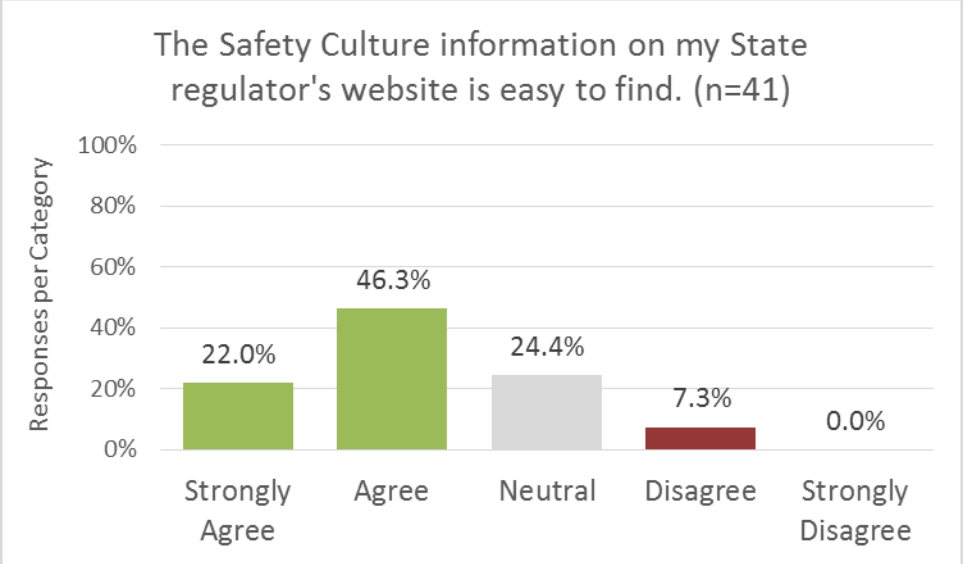


Figure 230: State Regulator's Website Is Up-to-Date

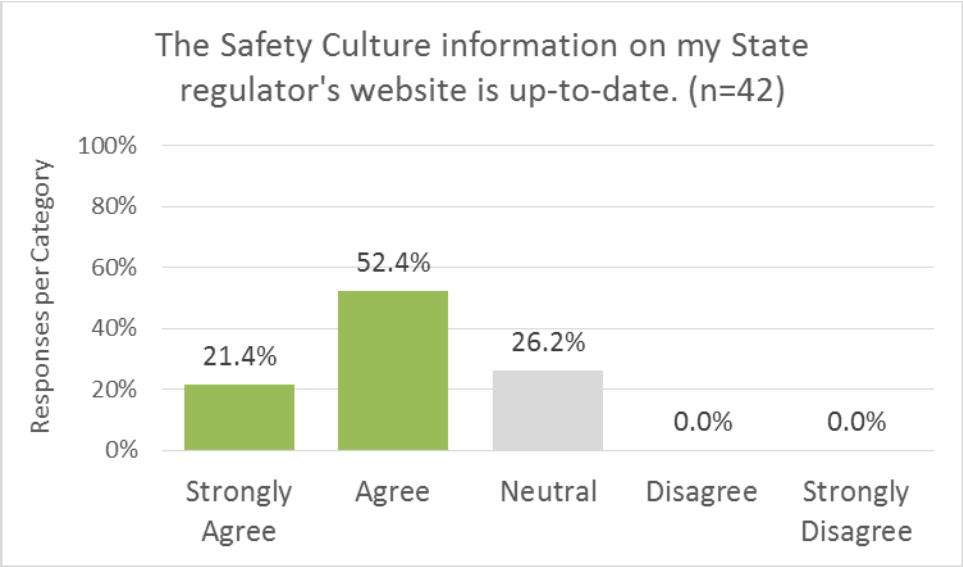
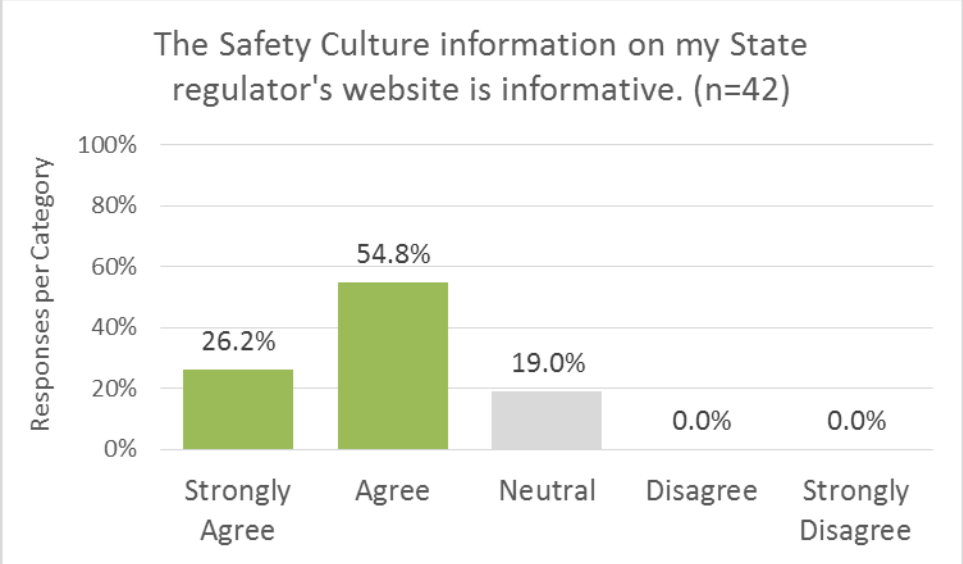


Figure 231: State Regulator's Website Is Informative



Of the 96 Wisconsin licensees, 42 answered questions pertaining to the State regulator's website. Majority of respondents, found their State regulator's website to be up-to-date, user friendly, easy to find, and informative. Despite the positive feedback, one respondent noted that "over the last few years Wisconsin has made multiple changes to its website making [it] sometimes difficult to find information that may have been easily acceptable in a previous version of their website."

NRC Communications Support

This set of questions help assess whether organizations are satisfied with the level and quality of NRC communications and how NRC or the State regulator can improve communications (for example with additional tools or information could be beneficial) for enhancing Safety Culture. Three questions were included to obtain data concerning NRC support.

Figure 232: Level of Satisfaction with Level of Communications

When asked overall if the respondent's organization is satisfied with the level of communications that it has received concerning Safety Culture and the Safety Culture Policy Statement, over 61% of respondents replied favorably. When combining the neutral and unfavorable responses, nearly 40% of respondents were indifferent or not satisfied. This indicates room for improvement. Few respondents remarked "This survey is the first we have heard of it." One respondent suggested "periodic reminders and updates, signup for the notification of Safety Culture and Policy changes."

Figure 233: Level of Satisfaction with Quality of Communications

Respondents were also asked their level of satisfaction with the quality of communications received about Safety Culture and the Safety Culture Policy Statement. Remaining consistent with the above mentioned survey question, over 62%% responded favorably, over 25% indicated neutral and 12.6% responded unfavorably. Concerning quality of communications, there is some room for improvement.

Summary of Qualitative Feedback:

- Information was not provided, unaware of Safety Culture website, information was not very specific, information seems vague with no clear guidelines
- Share the information with staff and technicians to establish and maintain a positive Safety Culture, useful in our annual refresher training, found the website very useful
- "Could use more direct contact i.e. newsletter or emails"
- "Over the last few years Wisconsin has made multiple changes to its website making sometimes difficult to find information that may have been easily acceptable in a previous version of their website"
- "It is always helpful when an inspector or licensee staff guide you in Safety Culture in a positive manner"
- "We have found Safety Culture to be very useful in our organization and most of our employees now know about Safety Culture"
- "The examples presented in the literature we received provided us with a guideline for our organization to implement a Safety Culture within our companies handbook"
- Posted safety posters with our other notifications/license(s) on our employee board, the NRC brochure is very wordy
- "The company itself has a very well developed plan for the Safety Culture. We have been owned by this particular company for 10 years and with it came our EHS program with commitment cards which state a lot of the responsibilities you noted in your presentation. The Safety Culture is not new to me or my employees"
- "The information has aided our organization in its ability to maintain a level of security and awareness during the operation, transportation and storage of our portable hand held device, which keeps everyone safe"
- Like the NRC website, easy to use, especially "Trait Talks"
- State Wisconsin's website is useful and adequate, website difficult to navigate
- Website's usage should be promoted, suggest workshops, seminars and videos
- "Self-assessments have always helped in the updating of policies. Using this tool reminds us to update the safety policies."
- "Continue your outreach program. It is one of the best ways to engage people from multiple locations"