

**Phase I Commercial Opportunity Screening Approach
Results For The
AN/AQS-14A (V1) and MK-105 (Mod 2/4)**

**Study Prepared For The Acquisition Reform Office
And PMS 210**

**By
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Executive Summary

The Department of Defense (DOD) acquisition reform initiative emphasizes finding Best Value alternatives to support systems and sub-systems over their lifecycle. The Navy Acquisition Reform Office (ARO) is engaged through Program Assist Visits and in other undertakings to provide guidance on this subject. The AN/AQS-14A (V1) and MK-105 Mods 2 and 4 systems have been selected to be reviewed as candidates for Alternative Logistic Support (ALS) under the Best Value Acquisition Process. As part of the support and guidance, ARO tasked Unified Industries Inc. (UII) (via Atlantic Management Consultants) to use the NAVICP developed Best Value Opportunity Screening Process (BVOSP) on these systems and to provide a recommendation based on the results of the BVOSP. If pursuit of commercial support is indicated by the BVOSP, a Business Case Analysis (BCA) would be conducted to further evaluate the commercial support opportunities.

This report represents the findings for Phase I of the NAVICP BVOSP. Phase I consists of using the Commercial Support Screening Tool (CSST) to screen specific systems/sub-systems for the potential to provide alternative logistic support through commercial sources. Essentially, this tool provides a method to analyze whether or not pursuit of commercial logistic support makes sense.

The initial steps of the CSST revealed that the Navy organic infrastructure currently supports the AN/AQS-14A and MK-105 (Mods 2 and 4) and there are no external statutory regulations that mandate organic support (e.g. core requirements, environmental issues). Therefore, UII conducted the Best Value Opportunity Index (BVOI), which is the final step in the CSST process. The BVOI is a survey executed by gathering expert opinions and plotting the input on a quadrant based analytical model to provide an indication of whether or not contractor logistics support should be pursued.

Two BVOI surveys were developed, one survey for the AN/AQS-14A (V1) and one survey for the MK-105 Mod 2/4. The results for each survey were compiled separately, but both surveys yielded similar results.

Based on the results of the BVOI, the use of organic logistics support is recommended for both the AN/AQS-14A (V1) and the MK-105 Mod 2/4 System Families. Both systems' analyses indicate a minimal desire by industry in supporting the systems and a strong desire for DOD to support the systems organically.

CSST Flowchart Findings

The CSST consists of a flowchart (See [Figure 1](#)) that considers questions regarding the nature of the system configurations being studied; the AN/AQS-14A (V1) and the MK-105 Mods 2 and 4. The CSST begins with defining the system configuration being examined. Given the system configuration definition, research must be conducted

regarding whether DOD support currently exists for the same or similar systems. Since similar/same systems are currently supported for both the AN/AQS-14A and MK-105 Mods 2 and 4, a determination had to be made as to whether there is an alternative support candidate for each of the systems. No current alternative support candidate was found, so each system was reviewed to determine whether or not there was a statutory requirement that would prevent using commercial support. No statutory requirements were found to prohibit exploration of a commercial support opportunity. Thus, the CSST concludes with the performance of the BVOI.

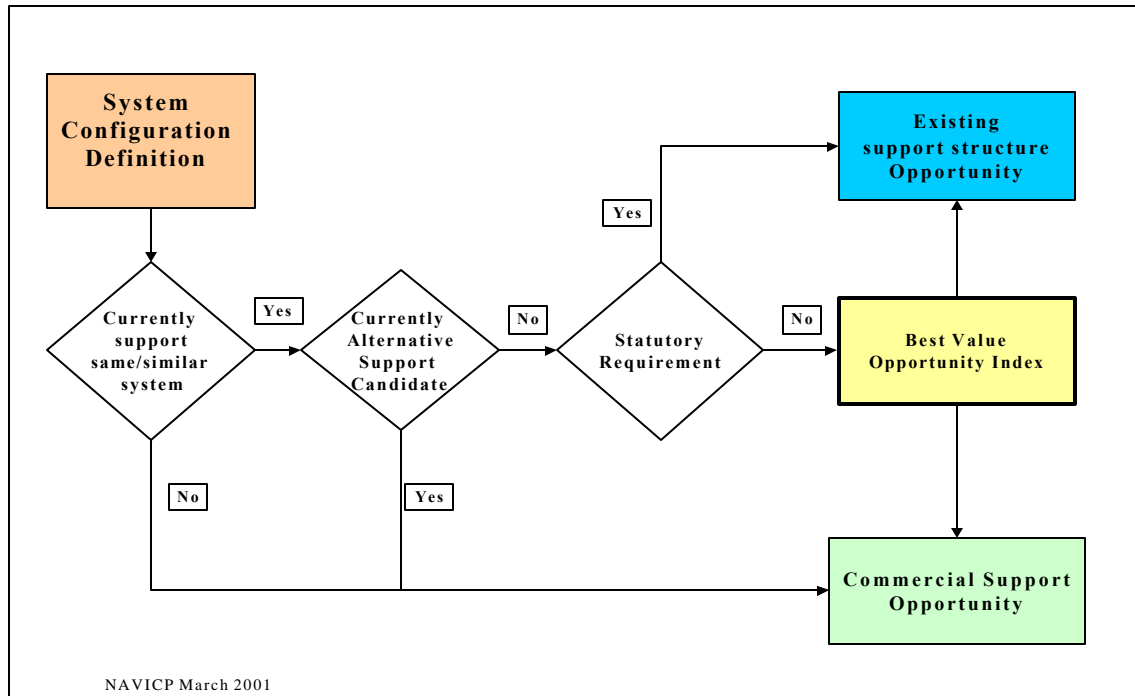


Figure 1 - CSST Flowchart

BVOI Process

with guidance whether or not to further pursue commercial The BVOI is a quadrant model that provides the decision authority or program office with guidance concerning whether or not to further pursue commercial support for a subject system. The BVOI quadrant model, [Figure 2](#) shown below, compares the commercial sector's desire to provide support of a system (vertical axis) against the DOD's desire for Commercial contractor support of the subject system (horizontal axis).

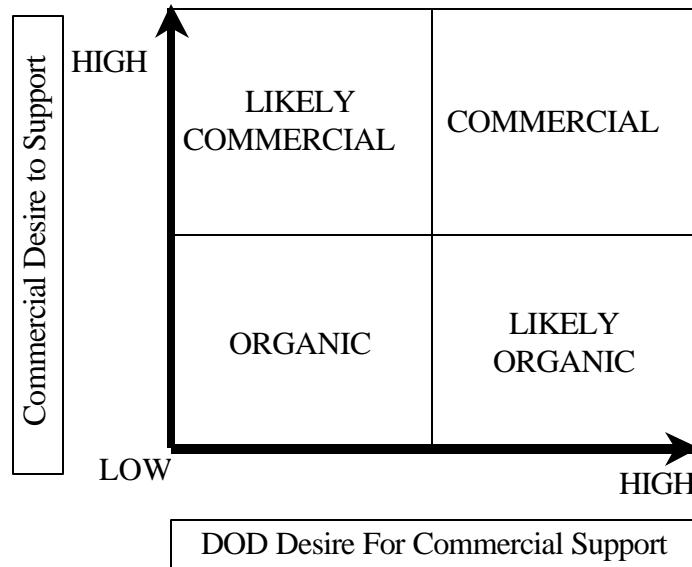


Figure 2 - BVOI Quadrant Model

Both the AN/AQS-14A (V1) and the MK-105 Mod 2/4 were rated on the basis of four 'decision drivers' referred to as "elements". The elements rated were: (1) uniqueness, (2) facility investment, (3) maintenance resources/investment, and (4) system stability/technology change/reliability.

The elements were evaluated by means of a Best Value Opportunity Survey. Questions were developed to rate the elements. Subject Matter Experts (SME's) in each of the subject systems were invited to reply to the surveys. Responses were collected and statistics were compiled. A review of the survey response data was conducted and BVOI quadrant models were created using the survey response data.

Finally, this report provides the basis for a recommended course of action for each of the systems under evaluation.

BVOI Survey Development

In consultation with PMS 210, it was determined that two (2) BVOI surveys would be developed. The first survey was developed to evaluate the AN/AQS-14A (V1) system (ATTACHMENT 1). The second survey was to evaluate the MK-105 Mod 2 and Mod 4 systems together (ATTACHMENT 2). With regard to the MK-105, PMS 210 determined that the Mod 2 and Mod 4 systems are so similar that a survey for each of them would not yield any additional value to the decision process.

A system description sheet with specific information regarding the system being studied in the survey was developed to support each of the two BVOI surveys. The pertinent system description sheet was provided with the respective system survey as a reference for the survey respondent. Copies of the system descriptions used can be found in Attachment 3.

Each survey was developed to evaluate several decision drivers that guide the activity in the commercial opportunity screening process decision point – Pursue Commercial Support (Go/No Go). These decision drivers evaluated are called ‘Elements’ and are described below.

Survey Elements

The surveys were designed to test several elements crucial to determining whether a commercial support opportunity exists. The elements were selected because they represent decision drivers that would be grounds for selecting/not selecting commercial contractor support. The following elements were selected as key to determining whether or not there is a commercial opportunity for each of the systems being reviewed. Uniqueness, Current Investment (Facilities/Maintenance), and System Stability/Reliability.

Uniqueness

The element of Uniqueness addresses the commonality of the system being evaluated with existing systems within the DOD and Commercial Sectors. The lower the system commonality with existing DOD systems and the greater the support within the commercial logistics sector, the greater the likelihood that the DOD can benefit by having the system supported commercially.

Current Investment-Facilities and Maintenance

Current Investment is divided into two sub-elements: Facilities Investment and Maintenance Investment. Facilities investment includes depots, intermediate maintenance activities, training buildings, etc. Maintenance investment includes labor, trainers, equipment, and etc. needed to perform maintenance above the O (organizational) level. A lack of investment in either of these sub-elements would suggest that new investment might be required to support the system. A high investment implies that a large infrastructure already exists that could support the system under review.

System Stability/Technology/Reliability

The element of System Stability/Reliability measures the propensity of the subject system to change due to technological change, reliability issues, and other factors. The model assumes that the DOD desires organic support for stable systems with a low propensity for technological change. The commercial perspective assumes that there is an incentive to provide commercial support if the system has low reliability.

SME Objective and Invitation to Participate in Survey

SMEs were defined as persons with extensive, practical knowledge of the subject systems in disciplines such as, but not limited to the Operation, Engineering, Manufacturing, Maintenance, Program Management, and Logistics. SMEs typically define performance objectives, determine acceptable performance, determine how tasks are to be performed and in what order.

Targets were established for SME responses. The targets were based upon previous NAVICP experience gained in two previous surveys. The following targets were identified:

1. The SME response rate was targeted to fall between 41 to 72 %.
2. It is desirable to receive an equal number of Commercial Sector and Government Sector SMEs survey responses to mitigate any bias between the two groups. Therefore, an equal number of DOD and Commercial sector SMEs were targeted to receive the initial survey package (invitation to participate).
3. Targeted areas of SME expertise included, but were not limited to engineering, manufacturing, fleet personnel, service technicians, program managers, maintenance facility operations, trainers, users, contractors, and logisticians.
4. For statistical purposes, the target for completed surveys was between 26 to 30.

A request was made for PMS 210 to provide a list of SMEs that meet the above objectives for each of the systems to be evaluated [MK-105 Mod 2/4 and the AN/AQS-14A/(V1)]. UII received a list of SMEs from PMS 210 via e-mail. PMS 210 sent an e-mail to each of the SMEs invited to participate in the survey, explaining that the input they provide is of great assistance in PMS 210's future support decision making process.

In hopes of instilling a 'need to respond', UII sent each SME a survey package via a personal, direct e-mail asking for their participation in completing the survey(s). The survey package referenced the e-mail previously distributed by PMS 210.

Survey Process and Components

The surveys sent to the SMEs consisted of several components sent to the SME in a pre-determined order. The steps were performed as follows:

1. Survey Kick-Off Memo from Program Office
A Survey Kick-Off Memo from the PMS 210 Program Office was sent to all SMEs about 48 hours prior to the actual survey. The memo explained that the Program Office is currently engaged in a future support decision process and it asked the SMEs to assist by completing the survey when received by mail. A copy of the Survey Kick-Off Memo is provided at Attachment 4.
2. E-mail from UII with the following content:
 - a. Introduction
The introduction presented the SME with the purpose of the survey and requested the SME's participation.
 - b. Survey Instructions
The instructions asked the survey respondent to review the system description, provide a response to each question, and return the survey responses to UII directly via fax or e-mail. The instructions invited the respondent to forward the survey to others who may be knowledgeable on the particular system.
 - c. Survey
Each of the two surveys contained a total of 8 questions in four different test elements: Uniqueness, Facilities and Maintenance Investment, and Stability.
 - d. System Description
This component of the Survey packet provided the respondent with descriptive information applicable to the system(s) being evaluated. The system descriptions were included as an attachment to the e-mail.
3. Collect Survey Responses
Survey responses were returned to UII via E-mail and facsimile. Survey responses to each question were compiled. SMEs who did not respond to the survey by previously established due dates were sent ticklers emphasizing the importance of their input.
4. Statistics
The data compiled from the responses was used to produce a series of statistical information such as the response Mode, Mean, and Median, and the BVOI Quadrant Plotting Points.

Information Regarding Response Statistics

Budget constraints generally limit the total number of system SME's surveyed. In addition, a large number of SME's surveyed does not necessarily increase the accuracy of the survey.

The survey response data was compiled and evaluated using several statistical methods. For each question, the frequency, median, mode, and geometric mean of the responses were calculated. These statistical methods provide different views of the data collected, thus lending multiple perspectives on the response data.

The MAX and MIN values provide a measure of dispersion; how widely the responses for each question are spread.

The FREQUENCY of a value selected provides a look at how many respondents chose a particular value for each question.

The MODE measures the single most frequent response for each question.

The MEDIAN provides us with the response value that lies in the middle of the total responses received for a question. This represents the value that lays half way between the set of values received.

The GEOMETRIC MEAN provides us with the 'central tendency' of the individual response values and provides a more conservative figure than the arithmetic mean. Unlike the arithmetic mean, the geometric mean is not heavily influenced by the extreme/outlying responses. Therefore, there is no need to subjectively eliminate outlying or extreme responses.

In this BVOI process, all survey responses are included in the calculation of the geometric mean and the geometric mean was used as the plotting point in the BVOI Quadrant Model.

BVOI RESULTS for AN/AQS-14A (V1)

UII sent the AN/AQS-14A (V1) BVOI surveys to a total of 38 SME's. Over the course of the response period, a total of 28 COMPLETED surveys were received, including responses from 7 additional SMEs who had received the survey from one or more of the original SMEs. UII experienced a response rate of 73.3%. We believe the high response rate can be attributed to the PMS 210 e-mail that solicited the SME's participation in the survey.

The inclusion of seven additional SME responses mentioned above brought the overall response rate to 62.2% (28 out of 45), which meets the targeted rate of return of 41 to 72%.

Responses were divided between DOD and commercial SMEs as follows:

DOD Responses Received	16	57.1%
Commercial Responses Received	12	42.9%
TOTAL RESPONSES RECEIVED	28	100%

The SME's AN/AQS-14A (V1) survey responses were based on their knowledge of any/all variants in the -14A Family, not just the (V1) variant. To confirm, UII sent a follow-up question to the SME's who had returned the completed AN/AQS-14A (V1) surveys asking them to confirm that their responses were based on all variants of the AN/AQS-14A. A copy of the follow up e-mail can be found in Attachment 5.

The responses received were reflective of a broad range of functional areas of expertise as seen in the chart below. The most predominant expertise listed by the respondents included in order of prevalence: Maintenance, Training, User/Operator, and Contractor. Note: several SMEs indicated multiple areas of expertise; thus the numbers below are not to be confused with the number of SME respondents.

<i>AN/AQS-14A (V1) Survey Respondent's Areas of Expertise</i>	
Maintenance	19
Training	12
Contractor	11
User/Operator	12
Supply	5
Engineer	6
DOD Logistics Operations	3
Commercial Logistics Operations	2
Management	4
Technical Manual Quality Assurance	1
Acquisition and Operation Logistics	1

Survey responses were compiled and are summarized in the table presented on [page 13](#). An analysis of the data and statistics indicates that:

- Each survey question received at least 21 responses.
- Question 3 received the most normal distribution of responses (Mean=Mode=Median)
- Question 2 has the smallest range of response values: Min=1, Max=6. This suggests that the SME community surveyed is most consistent in their view of the degree of commonality of the AN/AQS-14A with other systems in the Commercial sector.
- Questions 5 and 6, regarding the element of Maintenance Investment, had responses ranging the whole response spectrum, which may indicate that greater uncertainty exists within the AN/AQS-14A SME community regarding the amount of DOD and Commercial investment in maintenance.
- Question 7 and 8 regarding incentives to improve system reliability suggest that some uncertainty exists among SMEs with regard to system design stability/technological change/reliability.
- Question 8, was most affected by the outlying responses as suggested by the difference between the Geometric Mean (4.17) and the Arithmetic Mean (5.39). Yet, this difference does not materially impact the results of the BVOI.
- While Commercial SME views differ from the views held by DOD SMEs, we did not detect a significant bias in either sector that significantly skewed each Element's resulting plot on the BVOI Quadrant. There appeared to be only a marginal bias with regard to Commercial vs. DOD SME respondents.

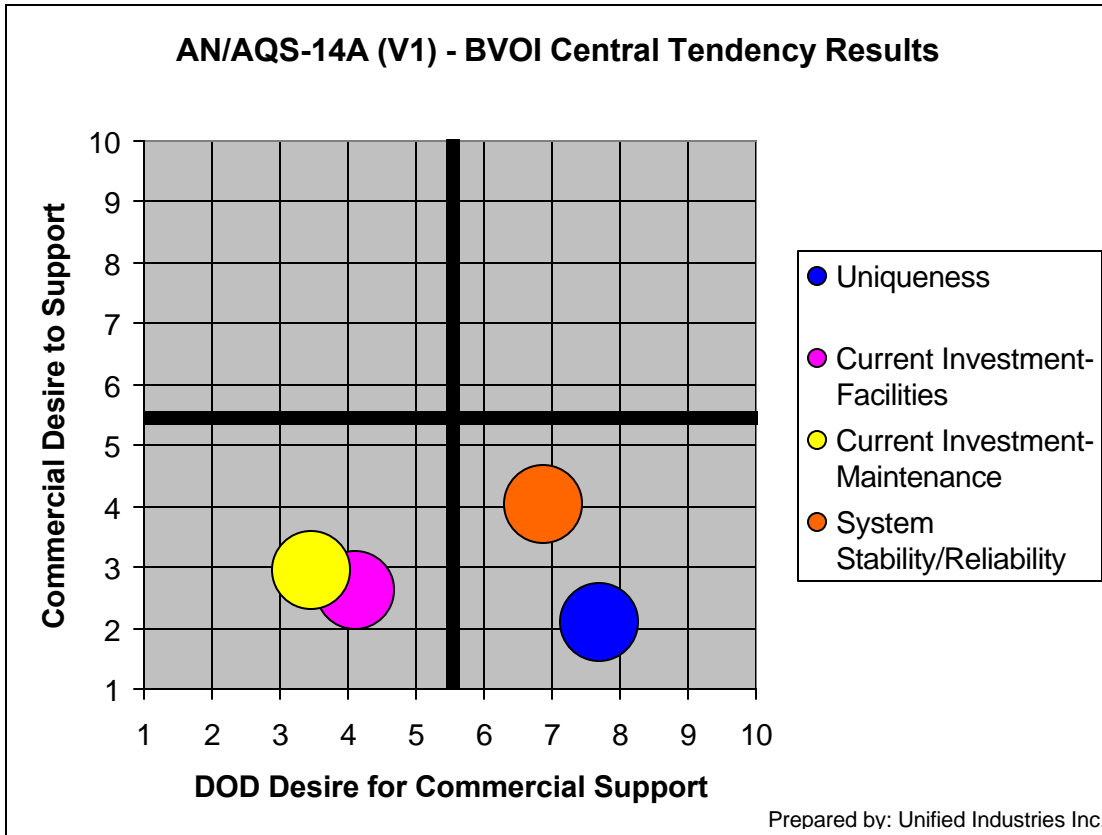
AN/AQS-14A (V1) Response Statistics

ELEMENTS:	Current Investment							
	Uniqueness		DOD Facility	Commercial Facility	DOD Maintenance	Commercial Maintenance	DOD Incentive to Improve	Commercial Incentive to Improve
	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8
Number of responses to the question	27	26	25	23	25	22	25	23
Frequency of Responses = "1"	0	12	2	8	3	6	0	5
Frequency of Responses = "2"	0	3	2	1	3	2	1	0
Frequency of Responses = "3"	3	2	4	4	4	2	1	2
Frequency of Responses = "4"	0	1	5	1	5	2	1	2
Frequency of Responses = "5"	1	6	2	5	5	4	1	3
Frequency of Responses = "6"	2	2	3	3	1	2	3	1
Frequency of Responses = "7"	2	0	3	1	3	1	6	1
Frequency of Responses = "8"	7	0	2	0	0	2	5	5
Frequency of Responses = "9"	4	0	0	0	0	0	4	3
Frequency of Responses = "10"	8	0	1	0	1	1	3	1
Geometric Mean	7.43	2.07	4.06	2.58	3.51	3.09	6.80	4.17
MODE = Most frequent Response	10.00	1.00	4.00	1.00	4.00	1.00	7.00	8.00
Median = Equal # of Responses Above & Below	8.00	2.00	4.00	3.00	4.00	4.00	7.50	5.00
Highest Response Received	10.00	6.00	10.00	7.00	10.00	10.00	10.00	10.00
Lowest Response Received	3.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Arithmetic Average	7.85	2.69	4.71	3.30	4.12	4.05	7.20	5.39

Demographic Comparison	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8
DOD Geometric Mean	8.15	1.51	3.84	2.45	3.66	3.03	7.03	5.24
Commercial Geometric Mean	6.50	3.18	4.44	2.81	3.26	3.16	6.41	2.92

Plotting the geometric mean of the responses relating to each of the Elements (decision drivers) onto the BVOI Quadrant Model suggests how each of the elements impacts the overall possibility of pursuing CLS.

The data, as plotted on the BVOI Quadrant Model below, shows that there is low **Commercial Desire to Support** the AN/AQS-14A. The **DOD Desire for Commercial Support** varies between **Organic** and **Likely Organic** with relation to the elements (decision driver) being observed.



AN/AQS-14A (V1) BVOSP Summary and Recommendation

The AN/AQS-14A (V1) BVOI indicates that (1) there is low commercial interest in supporting the system and a low DOD desire for commercial support, (2) there are few incentives for commercial sector to support these systems, and (3) that there are minimal commercial applications for this system. Therefore, based on the BVOSP Process, the pursuit of commercial logistic support is NOT warranted.

BVOI RESULTS for MK-105 MOD 2/4

UII sent the MK-105 MOD 2/4 BVOI Surveys to a total of 35 SME's. Over the course of the response period, a total of 26 COMPLETED surveys were received, including responses from 7 additional SMEs who had received the survey from one or more of the original SMEs. UII experienced a response rate of 74.3%. Again we believe the high response rate can be attributed to the PMS210 e-mail that solicited the SME's participation in the survey.

The inclusion of the seven additional responses mentioned above brought the overall response rate to 61.9% (26 out of 42), which meets the expected rate of return of 41-72%.

The survey responses were divided between DOD and Commercial SMEs as follows:

DOD Responses Received	15	57.7%
Commercial Responses Received	11	42.3%
TOTAL RESPONSES RECEIVED	<u>26</u>	<u>100%</u>

Again, the responses received were reflective of a broad range of functional areas of expertise as seen in the chart below. The most predominant expertise listed by the respondents included in order of prevalence; Maintenance, User/Operator, Training, Contractor. Note: several SMEs indicated multiple areas of expertise; thus the numbers below are not to be confused with the number of SME respondents.

<i>MK-105 MOD 2/4 Survey Respondent's Areas of Expertise</i>	
Maintenance	16
Training	11
Contractor	9
User/Operator	13
Supply	6
Engineer	5
DOD Logistics Operations	4
Commercial Logistics Operations	2
Management	1
Technical Manual Quality Assurance	1
Acquisition and Operation Logistics	1

The MK-105 MOD 2/4 survey responses were compiled and are summarized in the table presented on [page 18](#). An analysis of the data indicates that:

- Each survey question received at least 23 responses.
- Question 5 possessed the most normal distribution of survey responses (Geometric Mean=Mode=Median).
- Question 2 which concerned the degree to which the MK-105 MOD 2/4 is common with other systems in the commercial sector has the tightest range of responses: Min=1, Max =4. This suggests that the SME community surveyed is most consistent in their view of the degree of commonality of this system with other systems in the commercial sector.
- Question 7 was most impacted by outlying plot points, yet the marginal difference between the Geometric Mean and the Arithmetic mean is nominal and does not significantly impact the BVOI Quadrant Model results.
- While Commercial SME views differ from the views held by DOD SMEs, there is no significant bias toward either sector to skew each Element's resulting plot on the BVOI Quadrant. There appears to be only a marginal bias with regard to Commercial vs. DOD respondents.

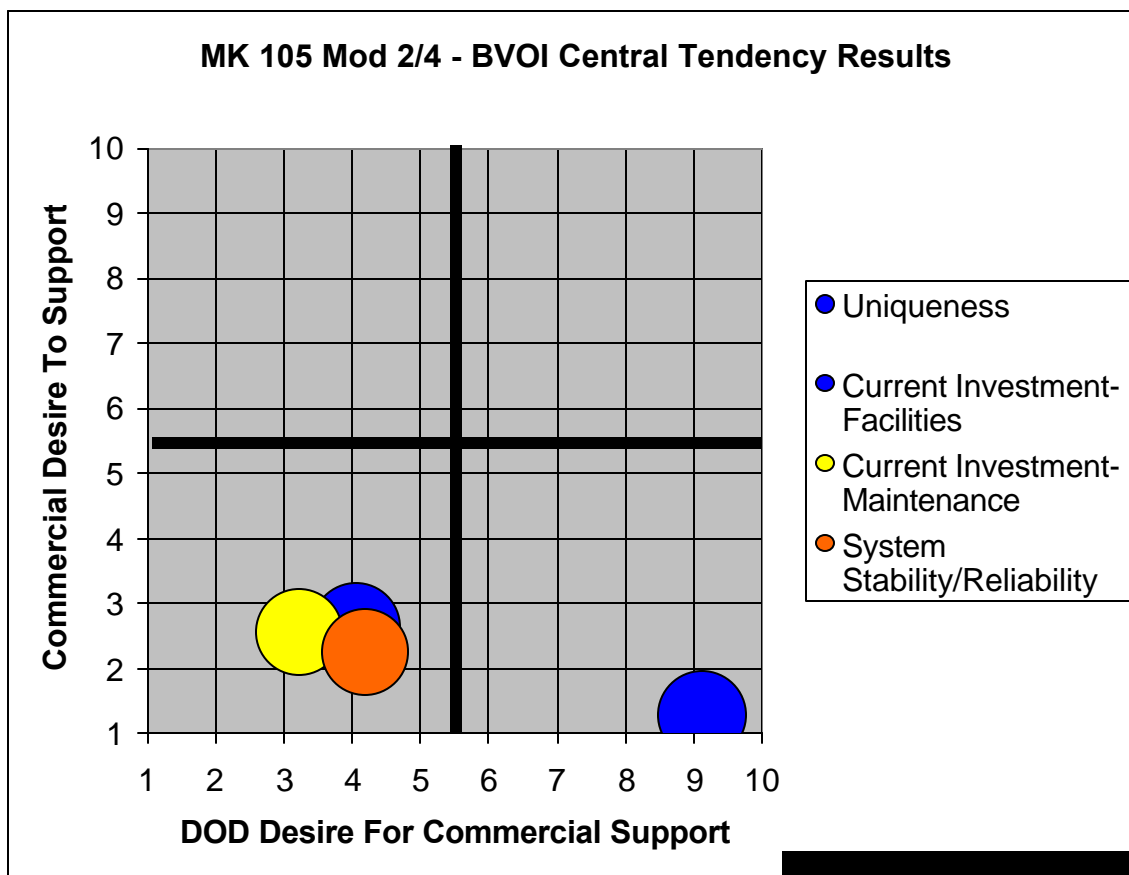
MK 105 Mod 2/4 Response Statistics

ELEMENTS:	Current Investment							
	Uniqueness		DOD Facility	Commercial Facility	DOD Maintenance	Commercial Maintenance	DOD Incentive to Improve	Commercial Incentive to Improve
	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8
Number of responses to the question	26	25	24	23	23	24	23	22
Frequency of Responses = "1"	0	19	4	7	4	8	4	10
Frequency of Responses = "2"	0	3	1	4	2	4	2	3
Frequency of Responses = "3"	1	2	6	3	7	1	1	1
Frequency of Responses = "4"	0	1	1	2	3	4	2	0
Frequency of Responses = "5"	0	0	1	4	0	2	2	1
Frequency of Responses = "6"	0	0	2	0	2	2	3	3
Frequency of Responses = "7"	0	0	4	0	4	0	2	1
Frequency of Responses = "8"	3	0	4	0	0	1	2	1
Frequency of Responses = "9"	4	0	0	3	0	1	4	1
Frequency of Responses = "10"	18	0	1	0	1	1	1	1
Geometric Mean	9.16	1.25	3.84	2.59	3.22	2.59	4.20	2.34
MODE = Most frequent Response	10.00	1.00	3.00	1.00	3.00	1.00	1.00	1.00
MEDIAN = Equal # of Responses Above & Below	10.00	1.00	4.50	3.00	3.00	2.50	6.00	2.00
MAXIMUM Response Received	10.00	4.00	10.00	9.00	10.00	10.00	10.00	10.00
MINIMUM Response Received	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Arithmetic Average	9.35	1.40	4.79	3.43	3.96	3.50	5.35	3.45

Demographic Comparison	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8
DOD Response Geometric Mean	9.04	1.22	3.01	2.90	2.76	2.78	4.15	3.34
COMMERCIAL Response Geometric Mean	9.32	1.30	5.38	2.17	4.11	2.33	4.27	1.25

Plotting the geometric mean of the responses relating to each of the Elements (decision drivers) onto the BVOI Quadrant Model suggests how each of the elements impacts the overall possibility of pursuing CLS.

The data, as plotted on the BVOI Quadrant Model below, shows that there is low *Commercial Desire To Support* the MK-105 Mod 2/4. The *DOD Desire for Commercial Support* varies between Organic and Likely Organic with relation to the elements (decision driver) being observed.



MK-105 Mod 2/4 BVOSP Summary and Recommendation

The MK-105 Mod 2/4 BVOI indicates that (1) there is low commercial interest in supporting the system and a low DOD desire for commercial support, (2) there are few incentives for commercial sector to support these systems, and (3) that there are minimal commercial applications for this system. Therefore, based on the BVOSP Process, the pursuit of commercial logistic support is NOT warranted.

ATTACHMENT 1

AN/AQS-14A (V1) Best Value Opportunity Survey

AN/AQS-14A (V1) - Best Value Opportunity Survey

You are being asked to participate in this survey that will be used to determine future support for the AN/AQS-14A (V1) Sonar/Laser Detecting Set. Please answer all questions to the best of your knowledge. All responses will be kept strictly confidential. The survey should take approximately 7-10 minutes.

To record your response, circle the number from 1 to 10 that best represents your knowledge on the question. If you are unsure of a particular response, please take an educated guess. If you do not have a response for a particular question, please circle "NO RESPONSE" and explain in the comment section at the end of the questionnaire. If you do not feel qualified to participate in this survey, please e-mail the survey to someone who may be better suited to answer these questions. We request that you forward this survey to anyone who may be considered a Subject Matter Expert on the AN/AQS-14A (V1).

Space is provided at the end of the survey for comments or suggestions. We do request you provide your name and phone number in the unlikely event follow-up clarification is required. Personal information will be kept strictly confidential.

Point of Contact for this survey is Brian Tilton, Unified Industries Inc., Phone # (703) 922-9800 ext. 225

Demographic Information

Name: _____

Email Address: _____

Phone Number: _____

Activity or Company Name: _____

Area of Expertise (Select all that apply):

- | | |
|----------------|------------------------------------|
| 1. Engineer | 5. Contractor |
| 2. Maintenance | 6. DoD Logistics Operations |
| 3. Supply | 7. Commercial Logistics Operations |
| 4. Training | 8. User/Operator |

Enter area of expertise if not listed above: _____

AN/AQS-14A (V1) - Best Value Opportunity Survey
(cont)

COMMONALITY/UNIQUENESS: This element focuses on the common or commercial characteristics of the equipment being evaluated (system, sub-system, or component) and the existence of military and/or commercial logistics support infrastructure.

1. Within DoD, what is the degree of commonality with other systems? (Rate from 1 to 10, with 10 the highest degree of commonality. If this system is unique to DoD, assign a rating of 1).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

2. Within the commercial sector, what is the degree of commonality with other systems? (Rate from 1 to 10, with 10 the highest degree of commonality).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

CURRENT INVESTMENT: This element will be used to evaluate the degree of government or commercial commitment. A greater investment may indicate the work is more core to the facility.

3. What is the current DoD expenditure for FACILITIES to support this system? Consider training facilities, maintenance areas, and warehouses. (Rate from 1 to 10, with 10 the highest investment).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

4. What is the current commercial expenditure for FACILITIES to support this system? Consider training facilities, maintenance areas, and warehouses. (Rate from 1 to 10, with 10 the highest investment).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

5. What is the current DoD expenditure for MAINTENANCE capability and capacity in support of this system? Include planning, tasks, and support equipment for I (Intermediate) and D (Depot) levels of maintenance. (Rate from 1 to 10, with 10 the highest investment).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

6. What is the current commercial expenditure for MAINTENANCE capability and capacity in support of this system? Include planning, tasks, and support equipment for I (Intermediate) and D (Depot) levels of maintenance. (Rate from 1 to 10, with 10 the highest investment).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

ATTACHMENT 2

MK-105 MOD 2/4 Best Value Opportunity Survey

MK-105 Mod 2/4 - Best Value Opportunity Survey

You are being asked to participate in this survey that will be used to determine future support for the MK-105 Mod 2/4. Please answer all questions to the best of your knowledge. All responses will be kept strictly confidential. The survey should take approximately 7-10 minutes.

To record your response, circle the number from 1 to 10 that best represents your knowledge on the question. If you are unsure of a particular response, please take an educated guess. If you do not have a response for a particular question, please circle "NO RESPONSE" and explain in comment section at the end of the questionnaire. If you do not feel qualified to participate in this survey, please e-mail the survey to someone who may be better suited to answer these questions. We request that you forward this survey to anyone who may be considered a Subject Matter Expert on the MK-105 Mod 2/4.

Space is provided at the end of the survey for comments or suggestions. We do request you provide your name and phone number in the unlikely event follow-up clarification is required. Personal information will be kept strictly confidential.

Point of Contact for this survey is Brian Tilton, Unified Industries Inc., Phone # (703) 922-9800 ext. 225

Demographic Information

Name: _____

Email Address: _____

Phone Number: _____

Activity or Company Name: _____

Area of Expertise (Select all that apply):

- | | |
|----------------|------------------------------------|
| 1. Engineer | 5. Contractor |
| 2. Maintenance | 6. DoD Logistics Operations |
| 3. Supply | 7. Commercial Logistics Operations |
| 4. Training | 8. User/Operator |

Enter area of expertise if not listed above: _____

MK-105 Mod 2/4 - Best Value Opportunity Survey
(cont)

COMMONALITY/UNIQUENESS: This element focuses on the common or commercial characteristics of the equipment being evaluated (system, sub-system, or component) and the existence of military and/or commercial logistics support infrastructure.

1. Within DoD, what is the degree of commonality with other systems? (Rate from 1 to 10, with 10 the highest degree of commonality. If this system is unique to DoD, assign a rating of 1).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

2. Within the commercial sector, what is the degree of commonality with other systems? (Rate from 1 to 10, with 10 the highest degree of commonality).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

CURRENT INVESTMENT: This element will be used to evaluate the degree of government or commercial commitment. A greater investment may indicate the work is more core to the facility.

3. What is the current DoD expenditure for FACILITIES to support this system? Consider training facilities, maintenance areas, and warehouses. (Rate from 1 to 10, with 10 the highest investment).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

4. What is the current commercial expenditure for FACILITIES to support this system? Consider training facilities, maintenance areas, and warehouses. (Rate from 1 to 10, with 10 the highest investment).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

5. What is the current DoD expenditure for MAINTENANCE capability and capacity in support of this system? Include planning, tasks, and support equipment for I (Intermediate) and D (Depot) levels of maintenance. (Rate from 1 to 10, with 10 the highest investment).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

6. What is the current commercial expenditure for MAINTENANCE capability and capacity in support of this system? Include planning, tasks, and support equipment for I (Intermediate) and D (Depot) levels of maintenance. (Rate from 1 to 10, with 10 the highest investment).

10 9 8 7 6 5 4 3 2 1 No Response (Explain below)

ATTACHMENT 3
System Descriptions

BVOI System Definition		
Element	System Under Review	Same or Similar System Currently Supported
	AN/AQS-14A MH-53H	
System Description: AN/ASQ-14A WUC/LSACN: 92A9100, 92A9S00, 92A9700, 92A9800, 92A9A00, 92A9B00, 92A9C00, 92A9D00, 92A9E00, 92A9F00, 92A9G00, 92A9H00, 92A9J00, 92A9M00, 92A9Q00	The AN/ASQ-14A is a high resolution, side looking sonar detection system that is streamed, towed, and recovered from the MH-53E helicopter. The AN/AQS-14A components are divided into three major groups: Airborne Electronic Assembly, Tow Cable Assembly, and Sonar Towed Body. The AN/AQS-14A is rapidly deployable system provides real-time sonar images to locate and identify both bottom and moored mines, while providing a high rate of area coverage.	
Percent of NSN Commonality	n/a	
Departure from Commercial Std (%)	80% (?)	
Physical Characteristics		
Weight:	929 Lbs.	
Cube:	Roughly 1,824 Cu. Ft.	
Dimension:	Varies per unit (6 nits in system)	
Existing ALS Opportunities		
Statutory Requirements:		
(Safety, Environmental, HAZMAT, Misc.)		
Population:		
Navy:	Roughly 33 units	
Commercial:	n/a	

Physical Characteristics	Television Monitor	
Weight:	75 Lbs.	
Cube:	3.3 Cu. Ft.	
Dimension:	19.59"(D)x20.25"(W)x16.08"(H)	
	Control Processor	
Weight:	100 Lbs.	
Cube:	3.7 Cu. Ft.	
Dimension:	22.50"(D)x20.25"(W)x16.08"(H)	
	Recorder-Reproducer	
Weight:	75 Lbs.	
Cube:	2.8 Cu. Ft.	
Dimension:	30.00"(D)x20.25"(W)x8.00"(H)	
	Power Supply	
Weight:	125 Lbs.	
Cube:	3.7 Cu. Ft.	
Dimension:	22.50"(D)x20.25"(W)x16.08"(H)	
	Tow Cable Assemble	
Weight:	400 Lbs.	
Cube:	n/a	
Dimension:	950' deep tow, 400' shallow tow	
	Towed Body, Sonar	
Weight:	554 Lbs.	
Cube:	192.4 Cu. Ft.	
Dimension:	128.00"(D)x66.50"(W)x40.00"(H)	

AN/AQS-14A SONAR DETECTING SET WRA and SRA breakdown:

- Television Monitor IP-1428A/AQS-14
 - WRA-1 is comprised of 4 SRAs

- Control-Processor CD-107/AQS-14A
 - WRA-2 is comprised of 11 SRAs

- Recorder-Reproducer, RD-507A/AQS-14
 - WRA-4 is comprised of 5 SRAs

- Power Supply PP-7835A/AQS-14
 - WRA-5 is comprised of 12 SRAs

- Tow Cable Assembly, Unit 6
 - WRA-6 is comprised of 2 SRAs

- Towed Body, Sonar TB-22A/AQS-14
 - WRA-7 is comprised of 9 SRAs and 69 SSRAs

- Interconnect Cable Assembly, W1
 - WRA-8
- Interconnect Cable Assembly, W2
 - WRA-9
- Interconnect Cable Assembly, W3
 - WRA-10
- Interconnect Cable Assembly, W4
 - WRA-11
- Interconnect Cable Assembly, W5
 - WRA-12
- Interconnect Cable Assembly, W6
 - WRA-13
- Interconnect Cable Assembly, W7
 - WRA-14
- Interconnect Cable Assembly, W10
 - WRA-15
- Interconnect Cable Assembly, W13
 - WRA-16
- Cable, Ground, W14
 - WRA-17
- Cable, Ground, W15
 - WRA-18

BVOI System Definition	
Element	System Under Review
	AN/AQS-14A (V1) MH-53H
<p>System Description: AN/ASQ-14A (V1) WUC/LSACN: 92A9100, 92A9S00, 92A9700, 92A9800, 92A9A00, 92A9B00, 92A9C00, 92A9D00, 92A9E00, 92A9F00, 92A9G00, 92A9H00, 92A9J00, 92A9M00, 92A9Q00</p>	<p>This revision incorporates Laser Line Scan to the AN/AQS-14A (V1) Sonar Detecting Set. This modification enables the system to collect, display and record real-time laser imagery data to ground units for analysis. The AN/ASQ-14A (V1) is a high resolution, side looking sonar and laser line scan detecting system that is streamed, towed, and recovered from the MH-53E helicopter. The AN/AQS-14A (V1) components are divided into three major groups: Airborne Electronic Assembly, Tow Cable Assembly, and Sonar/Laser Towed Body. The AN/AQS-14A (V1) is rapidly deployable system provides real-time sonar/laser images to locate and identify both bottom and moored mines, while providing a high rate of area coverage.</p>
Percent of NSN Commonality	n/a
Departure from Commercial Std (%)	n/a
Physical Characteristics	
Weight:	1,515 Lbs.
Cube:	Roughly 2,898 Cu. Ft.
Dimension:	Varies per unit (7 units in system)
Existing ALS Opportunities	
Statutory Requirements:	
(Safety, Environmental, HAZMAT, Misc.)	
Population:	
Navy:	Roughly 7 units modified currently, for a total 33 units to be modified
Commercial:	n/a

Physical Characteristics	Television Monitor
Weight:	75 Lbs.
Cube:	3.3 Cu. Ft.
Dimension:	19.59"(D)x20.25"(W)x16.08"(H)
	Control Processor
Weight:	100 Lbs.
Cube:	3.7 Cu. Ft.
Dimension:	22.50"(D)x20.25"(W)x16.08"(H)
	Sensor-Processor
Weight:	105 Lbs.
Cube:	5.2 Cu. Ft.
Dimension:	30.00"(D)x20.25"(W)x16.08"(H)
	Recorder-Reproducer
Weight:	75 Lbs.
Cube:	2.8 Cu. Ft.
Dimension:	30.00"(D)x20.25"(W)x8.00"(H)
	Power Supply
Weight:	125 Lbs.
Cube:	3.7 Cu. Ft.
Dimension:	22.50"(D)x20.25"(W)x16.08"(H)
	Tow Cable Assemble
Weight:	400 Lbs.
Cube:	n/a
Dimension:	950' deep tow, 400' shallow tow
	Towed Body, Sonar
Weight:	635 Lbs.
Cube:	217.8 Cu. Ft.
Dimension:	144.00"(D)x66.50"(W)x40.00"(H)

AN/AQS-14A (V1) SONAR DETECTING SET WRA and SRA breakdown:

- Television Monitor IP-1428A/AQS-14A
 - WRA-1 is comprised of 4 SRAs

- Control-Processor CD-107/AQS-14A (V1)
 - WRA-2 is comprised of 11 SRAs

- Sensor-Processor Assembly, AQS-14 (V1)
 - WRA-TBD is comprised of 3 SRAs

- Recorder-Reproducer, RD-507A/AQS-14 (V1)
 - WRA-4 is comprised of 5 SRAs

- Power Supply PP-7835A/AQS-14 (V1)
 - WRA-5 is comprised of 12 SRAs

- Tow Cable Assembly, Unit 6
 - WRA-6 is comprised of 2 SRAs

- Towed Body, TB-22A/AQS-14A (V1)
 - WRA-7 is comprised of 9 SRAs and 69 SSRAs

- Interconnect Cable Assembly, W1
 - WRA-8
- Interconnect Cable Assembly, W2
 - WRA-9
- Interconnect Cable Assembly, W3
 - WRA-10
- Interconnect Cable Assembly, W4
 - WRA-11
- Interconnect Cable Assembly, W5
 - WRA-12
- Interconnect Cable Assembly, W6
 - WRA-13
- Interconnect Cable Assembly, W7
 - WRA-14
- Interconnect Cable Assembly, W8
- Interconnect Cable Assembly, W9
- Interconnect Cable Assembly, W10
 - WRA-15
- Interconnect Cable Assembly, W13
 - WRA-16
- Cable, Ground, W14
 - WRA-17
- Cable, Ground, W15
 - WRA-18

BVOI System Definition		
Element	System Under Review	Same or Similar System Currently Supported
<p>System Description:</p> <p>MK-105 MOD 2 Magnetic Minesweeping System</p> <p>92A60</p>	<p>The MK-105 Mod 2 Magnetic Minesweeping System is a remotely controlled, Helicopter towed, hydrofoil mounted Airborne Mine Countermeasures System (AMCM) designed to provide a reliable and safe method of detonating influence mines. The system functions are controlled from the helicopter. Electrical current from an alternator–rectifier subsystem flows through a sweep cable array that trails from a hydrofoil platform with seawater completing the electrical circuit. The electrical current produces a magnetic field in the water that actuates magnetic influence mines. To ensure maximum sweep effectiveness and flexibility, the system is designed to produce either a constant or pulsed current output. The control programmer that is located in the helicopter controls the current output.</p> <p>Operations with the MK-105 can be conducted from aviation type surface ships (LHA, LPH, LPD, CV), ramps, docks, and prepared beaches. The system can be launched and recovered by the helicopter. Mission Interface Removables (MIR) provide the fuel and electrical interface between the MK-105 and the helicopter which consist of the following:</p> <ul style="list-style-type: none"> • Control Programmer Stand • Breakaway assembly • Multi-Winch II (Single Winch II, with level wind change, may be used as an option.) • Electrical refueling interconnecting cables <p>Supplemental Equipment is used during the mission to improve “on-station” time and to enhance mission safety, as well as system retrieval flexibility. They consist of the following:</p> <ul style="list-style-type: none"> • Air to Air Transfer • BNU-2/W with recovery buoy • Grappling Hook • MK-17 MOD 1 Magnetic Sweep Cable Assembly • Guillotine and circuit tester • Mk-16 MOD 1 Recovery System (carried on surface ships). <p>The MK-105 MOD 2 Magnetic Minesweeping System consists of the following major subassemblies: Sea-borne Equipment Platform MK-3 MOD 3 Tow and Electrical/Fuel Cable, MK-14 MOD 1</p>	<p>MK-105 MOD 4 Magnetic Minesweeping System</p>

	Countermeasures Set, AN/ALQ-60 Magnetic Sweep Array, MK-17 MOD 1	
Percent of NSN Commonality	N/A	
Departure from Commercial Std (%)	N/A	
Physical Characteristics		
Weight:	4453.5 lbs. (Approximate)	
Cube:	2826 Cu. Ft. (Estimated)	
Dimension	24 ft. x 11 ft. x 10.7 ft (Estimated)	
Existing ALS Opportunities		
Statutory Requirements:		
(Safety, Environmental, HAZMAT, Misc.)	Environmental, Noise, Shock, and Hazmat (liquids)	
Population:		
Navy:	56% (13)) units	
Commercial:	0%	

BVOI System Definition		
Element	System Under Review	Same or Similar System Currently Supported
<p>System Description: 92A60- Minesweeping Gear, Magnetic 92A6300- Platform Assy., Sea borne</p> <p>92A600, 92A633, 92A640, 92A650, 92A658, 92A664, 92A670, 92A673, 92A720, 92A730, 92A742, 92A747, 92A650, 92A658, 92A644, 92A680, 92A683, 92A686, 92A6810, 92A710, 92A6356, 92A6500, 92A640A, 92A640N, 92A640Q, 92A640S</p> <p>92A6830 - Power Pack Assy.</p> <p>92A683A, 92A7311, 22E10, 22E22C, 22E15G, 22E1D1, 22E23, 92A73A3, 92A7534, 92A6150, 92A6160, 92A7320, 92A7330, 92A6370, 92A7210, 24010, 92A7310, 24030</p> <p>92A6130 -Tow Cable Assy.</p> <p>92A612A, 92A612C</p> <p>92A7610 – Countermeasures Set, Airborne Section 1A</p> <p>92A7610, 92A7630</p> <p>92A6810 – Cable Assy., Magnetic Sweep</p>	<p>The MK-105, Mod 4 Magnetic Minesweeping System is an Upgrade of the MK-105, Mod 2 Magnetic Minesweeping System. The system is remotely controlled, Helicopter towed hydrofoil platform used in Airborne Mine Countermeasure (AMCM). It is designed to provide a reliable and safe method of detonating influence mines. All MK-105, Mod 4 Magnetic Minesweeping System Functions may be initiated and monitored in the helicopter from the control programmer. Electrical Current from and alternator-rectifier subsystem on board the platform flows through a sweep cable array that trails from the hydrofoil platform with seawater completing the electrical circuit. The electrical current produces a magnetic field in the water that detonates the magnetic influence mines. To ensure maximum sweep effectiveness and flexibility, the system is designed to produce either a constant or pulsed current output. When an Acoustic Minesweeping Device is attached to the magnetic sweep array, the resultant magnetic and acoustic influence field outputs will actuate magnetic sweep array, the resultant magnetic and acoustic influence field outputs will actuate magnetic, acoustic and combination magnetic-acoustic influence mines.</p> <p>MK-105, Mod 4 System operations can be conducted from aviation type ships (LHA, LHD, MCS, LPD, and CV); ramps; docks/piers; and prepared beaches.</p> <p>For a magnetic minesweeping mission with the MK-105 Mod 4, mission interface equipment is installed in the helicopter. This equipment consists of the following:</p> <ol style="list-style-type: none"> 1. Grappling hook 2. Multi-Winch II with MK 104 Line installed 3. Static Discharge Reel <p>The MK-105 Mod 4 System consists of the following major assemblies:</p>	<p>MK-105 MOD 2 Magnetic Minesweeping System</p>

	<ul style="list-style-type: none"> • Sea-borne Equipment Platform • Tow Cable Assembly • Magnetic Sweep Cable Assembly • Power Pack and • Helicopter Installation 	
Percent of NSN Commonality	N/A	
Departure from Commercial Std (%)	N/A	
Physical Characteristics		
Weight:	9750 lbs	
Cube:	5746 cubic feet	
Dimension	27'L x 17'W x 13'H	
Existing ALS Opportunities		
Statutory Requirements:		
(Safety, Environmental, HAZMAT, Misc.)	Environmental, Noise, Shock, and Hazmat (liquids)	
Population:		
Navy:	44% (10) units	
Commercial:	None	

ATTACHMENT 4
Survey Kick-Off Letter

Sent Via E-Mail

From: Kraft Sandra L NSSC [mailto:KraftSL@NAVSEA.NAVY.MIL]
Sent: Friday, June 29, 2001 1:31 PM
To: 'mzwolski@nsn.cmar.navy.mil'; 'tgregory@caci.com'; Stroud Marvin G
CONT DLPC; 'Bitzertb@chtwl.navy.mil'; 'Skinnerdj@chtwl.navy.mil';
'yargerm@cotf.navy.mil'; Hawkins R A (Allen) DLPC; Long James H DLPC;
Murphy Robert A LCDR DLPC; Steuwer Ronald J DLPC; Troia Brett J DLPC;
'Rtapley@dpatraining.com'; 'Iwalker@dpatraining.com';
'Glohen@edony.com'; 'Bwahlig@edony.com'; 'Hughesjl@webfld.navy.mil';
'Colendabob@knology.net'; 'Kenney@mailgsc.genscicorp.com';
'CovertAP@hml4.navy.mil'; 'ScottKD@hml4.navy.mil';
'harrillr@inchon.navy.mil'; 'menahp@inchon.navy.mil';
'Ldegrood@nsn.cmar.navy.mil'; 'Eugene_I_brown@icpmech.navy.mil';
'Gene_m_cumm@md.northgrum.com'; 'Steven_p_kennedy@mail.northgrum.com';
'Steven_a_nottingham@md.northgrum.com'; Cannon Colleen M NSSC; Etxegoien
Jon F NSSC; 'Brionburk@aol.com'; 'Harperg@tecsysint.com';
'Lewiscr@chtwl.navy.mil'; 'Rossn@tecsysint.com';
'Davisrj@navair.navy.mil'; 'Koelschap@navair.navy.mil';
'johnsro@mail.northgrum.com'; 'john_g_holmes@res.raytheon.com';
'pbranske@cts.com'
Subject:

PMS 210, through the Navy's Acquisition Reform Office (ARO), is in the process of determining the future support of the AN/AQS-14A, including V1 and Laser Line Scan configurations, and the MK 105 Mod 4.

In the very near future, ARO's independent research contractor, Unified Industries Inc., will be sending you an e-mail that includes a short survey.

The purpose of this survey is to collect preliminary information from government and industry associated with the feasibility of employing Contractor Logistics Support (CLS). The review and completion of this survey will be the first step in our analysis of the viability of CLS. If results of the survey are favorable, a complete business case analysis will be conducted to determine the risk, cost, and effectiveness of CLS which will enable us to make an informed decision concerning support for these systems.

When you receive the survey, please take a few a minutes to review and complete it. In an effort to collect timely and important data, I am asking for your support. The input your response provides is vital to the continued success of the AN/AQS-14A and MK105 Mod 4 system.

ATTACHMENT 5

AN/AQS-14A (V1) Survey Follow-Up Letter To Confirm Survey Perspective

Dear BVOI Survey Respondent:

Thank you for completing the BVOI Survey on the AN/QS-14A (V1). Your response has provided valuable information to the AMCM Program Office (PMS 210).

As some of you noted in your comments, there are several versions of the AN/QS-14A in service with newly configured variants of the system either being tested prior to delivery or in the development phase and proposed for future applications. To clarify your responses, we would appreciate your confirmation (yes or no) that the responses were based on your knowledge of the AN/QS-14A. If your survey was NOT based on the 14A, but more reflective of your interpretation of a 14A "variant" would you please complete another Survey Form (blank attached) or if it is more convenient, phone in your new responses by calling Brian Tilton at (703) 922-9800 ext 225.

Again, thank you for your participation in this survey.



Survey Questions for
AN-QS-14...

Unified Industries, Inc.
6551 Loisdale Court
Springfield, Virginia 22150-1854
Telephone: 703.922.9800 x229
Fax: 703.971.5892
<http://www.uii.com>

ATTACHMENT 6

AN/AQS-14A (V1) Survey Comments from SME's

Survey #	COMMENTS
1	Re: Question 3, what is our baseline? F14 Program (10) and the AN/3TU Program (1). Why are we using the BVOI against the AN/AQS-14A (V1) and not the AN/AQS-14A. To date we have no (V1) in the fleet and have funded the delivery of (4) (V1) in Jan.'02. This survey cannot be answered for the (V1), nobody has or knows this data to date. I answered as if it was the AN/AQS-14A.
2	As an operator, it is difficult to assess the level of government vs commercial sector competition with regard to this equipment. Having little to no acquisition background I believe I am not qualified to answer these questions.
3	None
4	Current Investment-have no knowledge of the Navy's investment or the commercial industry.
5	None
6	None
7	#1: For this question used part level of AQS-14A. At WRA level, commonality limited to monitor and some cables. At SRA level, more parts become common physically (but software to be modified). No commonality with systems in DOD other than 14A. #2: UME cards are common physically, but require S/W mods done by OEM. #3: 14AV1 is not in fleet there is no 'current' expenditure for facilities. #4: See #3 Comment. #5 & #6: Since 14AV1 not in fleet, there is no 'current' expenditure to support. Minimal effort is plan with heavy emphasis on contractor support for 4 systems procured by Navy. #7: I think PMS-210/Fleet incentive is strong with POM and congressional plus up desired. DoD incentive is yet to be determined. #8: Of course NGOS wants to improve 14A to 14AV1. It means support and production \$\$\$ to their company.
8	Commonality: Q-14A is extremely unique within the Navy (or civilian sector). There are no similar systems that share like parts. Investment: Commercial expenditure for facilities is Great (SDLM inductions require unique testing equipment and facilities for maintenance). DOD is limited to I-Level facilities requiring little space, training, and warehousing. Bldgs already exist and inexpensive to maintain. System Stability: Fleet has no incentive to upgrade. They are very satisfied with what they have and see no reason to change status quo. Commercial incentive to improve is \$\$\$ (based on money).
9	None
10	7. Incentive is to add additional capability, and new technology.
11	None
12	None
13	None
14	The amount of investment is relative to overall funding. The Q-support for 14A requires a large amount of PMS210's O&M,N total budget. The Q-14(V1)LLS does not currently have funding programmed to develop full logistics.
15	#6 & 7 Not qualified to answer.

16	Questions 3-6: Compared to what? Need additional data to be able to accurately determine this actual cost. Questions 7-8: The AQS 20 exceeds the Q-14 capabilities. Our community has always expressed the desire to improve or replace the Q-14. The Q-20 is the obvious choice. Funding constraints prevent this from happening. Therefore, every effort should be made to ensure that the Q-14 remains a viable and effective piece of equipment.
17	Questions 1-8: NO RESPONSE. I am currently assigned to AIRBORNE FLEET READINESS, Code A22, Quality Assurance. I have had no involvement with the AQS-14A (V1). Mr. Brett Troia is Code A22 Project Leader for that weapon system.
18	Side scan imagery is great. But the information that is recorded (detected) is very large. Plus the aspect (opportunity for aspect change) limits the probability of classifying mine like contacts (MILCO) accurately and reliably. CAD/CAC is unreliable as well. Plus the dedicated training pipeline for PMA is non-existent. Constantly getting novices in tactics. Need positive I.D. Capability rather than just Sonar imagery. And please send SONAR TECHS to this community. Not OS's.
19	The AN/AQS-14A (V1) is similar to commercial systems in that it is primarily a side scan sonar. However, it also includes a laser as a side scan gap filler and for identification purposes. There is no commercial AN/AQS-14A (V1) system so the questions concerning investment in facilities and maintenance in the commercial world did not seem to apply. Also, I don't have any experience with the number of side scan sonar's in use in the commercial world so any answers to such questions would be guesses.
20	None
21	#3-6: No Response-I am not associated with the fiscal (funding) aspects of this system. #7-8: No Response-This system is unique and was designed specifically for military applications. The use of this or like system (commercial) is not likely. Therefore, my response for questions 7 and 8.
22	#8: Only incentive is OEM (NGOS) for profit. Good system/ room for improvement. The AWS-20 will do more but with ILS it remains to be seen which is better.
23	No Response for #6,8. #4: Northrup Grumman. #5: Personnel Training Tech Rep. #6: Tech reps from DOD, money. This questionnaire is designed for "big Picture" managers. It is not accurate for the wrench turners to assess commercial impact on this system. Any technical representation is funded by DOD; including civilian contractors.
24	No response to #2,4,6. I am familiar with the commercial side of the AN/AQS-14A. I feel this survey is more confusing and harder than it has to be. Do I think the DOD should continue to support the AN/AQS-14A (V1)? Yes. We are already established at 'the tip of the spear' supporting the AN/AQS-14A in hostile places around the world. With a little more information from the engineers, the DOD's support could be greatly increased, reducing operating costs. With our knowledge of the basic AN/AQS-14A, only minimal training should b required to continue our support for the AN/AQS-14 (V1) an its future modifications.
25	The AN/AQS-14A is a very good system, but it lacks any forward-looking devices to keep it from damaging itself. Once this problem is addressed, and inducted into the fleet, it will become very useful to the military and civilian worlds.
26	The Q-14 system needs more test equipment I.e. very few altitude test sets remain in DOD systems. The beacon section should also be removed from the Q-14.
27	This system is available in the commercial sector, but is not expected to cover such a broad pattern.
28	Contractor should not be given configuration management function; it should be retained by the government and approved by the government because of its impact on products the fleet uses.

ATTACHMENT 7

MK-105 MOD 2/4 Survey Comments from SME's

SURVEY #	COMMENTS
1	As an operator, it is difficult to answer this survey with little to no acquisition experience.
2	None
3	In reference to (4) No Response: All handled by DoD.
4	None
5	No response to #3-6. #3: Relative to WHAT? It is the high AMCM system but much less then the helicopter. #4: The only commercially maintained facility is the Depot. #5 & #6: 90% of I Level is performed @ Navy AIMD, 10% is sent to commercial facilities. 90% of D Level is performed commercially and 10% by Naval Facilities. #1: There are no other common systems within DOD of Commercial, but many of the components and some subsystems are (common).
6	#3: No baseline provided. Compared to MK-103, there is high cost. Compared to MH-53E, it would be low. My response is compared all other AMCM systems. If I consider DOD the expenditure is nil. This system uses same or common facilities as used by MH-53 (training, maintenance areas, and storage as MH-53E. These facilities are required no matter what MCM system used. #4: Again, compared to what, FA-18 or MH-53E? #5: System uses same maintenance Cap (planning, tasking, and for most part, (unreadable) and MH-53E. #6: Most of this system is O-I Level repair 75-80%. I Level support in Navy with depot minimal as compared to Aircraft. #7: The Mod 2 is being discontinued in favor of Mod 4, which is a reliability upgrade. I think Mod 4 itself was the incentive. There are ECP to update. Some unaffected components and those are getting (PMS) 210 consideration. Note phrase: "DOD Expenditure" is very large scale. Could be cost base on MK-26 rattle bars to FA-18
7	Commonality: Nothing exists similar to MK-105 outside of DOD or Commercial Sector. Current Investment: Depot Level contractor facility is extremely expensive. DoD Facilities are limited to Hangars and there are no Warehouses required. Both DOD and Commercial Sector invest large man-hours to maintenance. System Stability: DOD has no incentive to upgrade since system was just improved. Contractors have financial incentive to reduce size while maintaining capability with DAMCM on the horizon.
8	An important item to remember with this system is that in a combat situation it is typically launched from a ship in relatively close proximity to the minefield. Bottom line - the "O" and "I" level maintainers will be on the front lines not in a rear area. Other AMCM systems (AN/AQS-14, MK 103, etc.) are called (unreadable) to the aircraft and can be sorted from a significant "over the horizon" distance.
9	None
10	None
11	None
12	None
13	#6 & 7: Not qualified to answer
14	None
15	Questions 3-6: Compared to what? Need additional data to be able to accurately determine this actual cost.

16	No Response to #5: I don't have the current knowledge of what DoD expenditures will be. However, it is imperative we deliver training, publications, and part support in conjunction with the Mod 4. (IMRL, SE, & PSE) must be available. Mod 4 is replacing the Mod 2. All reliability, long-term funding, and future upgrade issues should address the new weapon system.
17	The MK-105/106 is an old system whose time has come for decommission. Considering the A & B valves through large the system has not swept a sea mine in ten years and that surface swell was questionable (GULF WAR). Basically in today's navy, we need rapidly deployable systems that are self contained and deployed from inside the platform. The footprint for load out and support is excessively large for surface ships, i.e. Generators, Mobile Winch Drums, Drop Checks, fuel storage. Size of device, etc. Tactically open loop is dependent on seawater 22/mill. Not really sure if 2000 Amps is going in water. Sea state limited, makes deploying ship vulnerable while streaming equipment. Places deploying ship to close to threat area and possibly in vulnerable waters (From the sea and over the horizon is where we need to be!) Plus all of the manning required to service it.
18	None
19	#3-6, 8: No Response-I am not associated with the fiscal (funding) aspects of this system. #7: Technology evolution is constant, and Program Managers and executive leaders are constantly reviewing areas for improvements and enhanced capabilities. #8: I am not fully informed on the management of this program.
20	#1-2: This system is very unique to DOD. #7: System stability revolves around shielding from salt-water encrustation. The electrical system has proven the most troublesome in past years. #8: The commercial incentive is from EDO in that they make BIG \$\$ from tech reps, depot maint. and technology improvements as OEM & Sole source.
21	No Response #7, 8. #7: Mk-105 Mod 2 is currently receiving a major system reliability up-grade to a Mod 4 Configuration. #8: Future improvements in the electronics area should be considered by NAVY to further improve reliability and eliminate obsolescence.
22	The equipment, although outdated, has remained moderately efficient.
23	No Response #7: The MK-105 Mod 2 has already been replaced by the Mod 4. Both work the same, and take the same amount of maintenance. But, both of the se are 30-year-old technology, and could probably be replaced by something smaller and less expensive.
24	This survey mostly deals with COST. WE are unable to distinguish between Pros and Cons and weigh the difference in Man-hours and cost due to the limited time and short usage (or lack thereof) of the Mod-4.
25	No response to #2,8. Outsourcing proved to be an unsuccessful business transaction for the Navy. The major obstacles were the capacity for deployment using civilian manpower and the obliteration of the three level of Maintenance concept. Support and Test Equipment used for the MK-105 Mod 2 was used prior to NAVY/DOD approval. This was a problem when performing sled ops with our navy launch crew. Recommend this system stay organic to Navy Military personnel. The MK-105 is Unique because it must be released "Safe for Mission" by C.O. Designation.
26	Mod 2 is being phased out and government has a disposal/rework plan that is being put in place.