

**International Ice Patrol Survey
Supporting Statement for
1625-0087**

SECTION B:

Collection of Information Employing Statistical Methods

This document will address 5 OMB questions related to the design and the implementation of the International Ice Patrol (IIP) Survey. Question 1 is about describing the respondent universe as well as providing the expected response rates. Question 2 is related to the sample size determination, as well as the sampling and estimation procedures. Question 3 requests a description of the procedures used for maximizing response rates. Question 4 on the other hand requests a description of pretest activities that are planned for the survey, while Question 5 asks for the contact information of individuals consulted on the statistical aspects of the survey design.

QUESTION 1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

AGENCY'S RESPONSE

I. Survey's objectives

The International Ice Patrol survey solicits feedback from IIP's primary customers, which are defined in the Safety of Life at Sea (SOLAS) Agreement (Chapter V, Regulation 6) as ships passing through the region of icebergs in the north Atlantic Ocean in the vicinity of the Grand Banks of Newfoundland (IIP's operations area) during the ice season. The SOLAS ice season runs from 15 February through 1 July each year.

IIP wishes to answer the following broad questions concerning the limit of all know ice (LAKI), which is IIP's fundamental product:

- a) What communication method does the mariner prefer to use to receive the LAKI?
- b) How useful is the LAKI? Does it contain sufficient information to make operational decisions? Are the LAKI products accurate and timely?

c) How often does the mariner use IIP's products?

This collection has been conducted for the past three years. The survey was placed on the internet and in a line item in IIP's distributed products, mariners are asked to fill out the survey. In addition, paper copies were mailed to regional U.S. Coast Guard Sector units to be distributed to vessels making port in their operation areas. IIP also distributed surveys to a handful of vessels that were visited in the port of New York alongside the Port Meteorological Officer in the Autumn 2009.

This distribution method led to very few responses. We found that mariners are a difficult population to survey. It is best to contact them when they are at sea.

II. Description and Use of Survey Questionnaires.

IIP uses two versions of the same survey, a detailed survey and a short survey.

Detailed Survey: This survey is uses 23 questions to determine detailed information on the methods that the various ships use to receive LAKI information, LAKI accuracy and timeliness, and how useful the product is to them. Because the previous efforts of distributing this survey failed provide an adequate number of responses, IIP changed its approach to distributing the surveys. We maintain the survey on our web site. We plan to visit ships in the major east coast ports of North America (e. g., Halifax, Montreal, Boston, New York and Philadelphia) and interview the arriving mariners using the detailed survey.

Short Survey: IIP developed a shortened version of the detailed survey that can be sent via email to ships while they are at sea. It targets the mariners who have the most immediate concern for safe navigation. The objective of this survey is to gather basic information on how the mariner is receiving and using IIP products. The survey was made very short because IIP is sensitive to the fact the email service at sea can be time consuming and very expensive.

III. Description of Respondent Universe

The target of both the detailed and short surveys is the North Atlantic mariner, IIP's primary customer. Historically, the respondent universe was comprised of any mariner transiting the region of icebergs in the North Atlantic. In an attempt to maximize the number of respondents, IIP will now define the respondent universe to only include engaged vessels, as defined by those vessels that make weather and/or ice reports to IIP. Respondents are stratified into two groups, regular users and non-regular users. Regular users are defined by IIP as ships that pass through the IIP OpArea at least 3 different months during the five-month SOLAS ice season. Non-regular users are ships that pass through at least once, but less often than regular users. The estimates in Table 1 are based on two methods. First, IIP maintains a database of ships that report ice and weather information to IIP while in the IIP Oparea. Second, IIP uses the SAILWX web site (<http://www.sailwx.info/shiptrack/shiplocations.phtml>) to monitor ships that traverse

the IIP OpArea during the ice season. Table 1 shows the target population sizes of both the detailed and short surveys.

Table 1

| Type of respondent | Definition | Number of respondents |
|---------------------------|---|------------------------------|
| Regular | Unique vessels that traverse the IIP OpArea during three different months of SOLAS ice season | 20 |
| Non-regular | Vessels that traverse the IIP OpArea at least once during SOLAS ice season | 200 |
| Total | | 220 |

QUESTION 2. Describe the procedures for the collection of information including:

- ◆ **Statistical methodology for stratification and sample selection,**
- ◆ **Estimation procedure,**
- ◆ **Degree of accuracy needed for the purpose described in the justification,**
- ◆ **Unusual problems requiring specialized sampling procedures, and**
- ◆ **Any use of periodic (less frequently than annual) data collection cycles to reduce burden.**

AGENCY'S RESPONSE:

Historically, the majority of IIP's previous collection efforts were passive. The survey is made available on the IIP webpage and the link is provided to all customers that receive our products as a line in the ice bulletin which reads:

ADDITIONAL ICE PRODUCTS AND A SURVEY REGARDING IIP'S SERVICES ARE AVAILABLE AT WWW.USCG-IIP.ORG.

Active information collection efforts focus on known trans-Atlantic shipping vessels. As resources are available, IIP makes visits to arriving vessels at major east coast ports of North America (e. g., Halifax, Montreal, Boston, New York and Philadelphia) and provides surveys to vessel masters. IIP also contacts transatlantic shipping company agents to ask survey questions over the phone.

IIP's statistical methodology will be to attempt to maximize the number of respondents by seeking information from IIP's more engaged customers. By identifying the respondent universe as those vessels that send reports to IIP and stratifying that group into regular and non-regular users, the intent is to increase the sample size (the number of vessels that respond to the survey).

Figure 1, found at the end of this document, takes the IIP survey and divides into blocks. Below, the estimation procedure and desired statistics are briefly outlined for each block of the survey.

- a) Block 1: Each answer to the questions in this section will be added up in bar chart format to look at the mode and minimum responses.
- b) Block 2: Each response has been assigned a numerical value, and for each question, the responses will be plotted in a histogram to evaluate the distribution of responses.
- c) Block 3: Each answer to the questions in this section will be added up in bar chart format to look at the mode and minimum responses.
- d) Block 4: Each response has been assigned a numerical value, and for each question, the responses will be plotted in a histogram to evaluate the distribution of responses.
- e) Block 5: Each answer to the questions in this section will be added up in bar chart format to look at the mode and minimum responses.
- f) Block 6: Each response has been assigned a numerical value, and for each question, the responses will be plotted in a histogram to evaluate the distribution of responses.
- g) Block 7: The rank of each response will be considered a value, all the values will be added for each of the six responses. The summation statistic will be a measure of the relative usefulness of each product.

From 3 Feb – 12 Mar 2010, 27 e-mails were sent out to engaged vessels (as previously defined), 12 reports have been received back. This timely sampling method has resulted in a much higher response rate than that achieved by providing the survey link at the bottom of the IIP product. Passive sampling has yielded zero responses from 2007-2009. The lesson learned was that vessels are much more apt to respond while in the operating area of interest because they are more engaged, since they are already reporting weather and iceberg positions to IIP.

At a minimum, data should be collected from each respondent every SOLAS ice season, because year to year ice conditions vary greatly, which directly reflects in how our customers are utilizing our product. The simplistic approach of directly corresponding with vessels while in our operating area is a new initiative, and will be the focus of the study for 2010. In the future, a more sophisticated sampling approach would be to survey engaged vessels three times during the season, to learn how their behavior changes based on changing ice conditions within a single season.

QUESTION 3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

AGENCY'S RESPONSE:

Based on previous experience, direct and timely contact with individual respondents yields the highest percentage of response rates. There is no method in place to deal with

issues of non-response. The sample size of respondents is initially small and all feedback is considered valuable. The information collected is used to ensure IIP product distribution efforts are focused to align with how the mariner prefers to receive IIP products.

QUESTION 4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.

AGENCY'S RESPONSE:

A three year procedural test has revealed that distributing the full survey via internet resulted in zero responses, a complete failure. We have begun to test a different method of delivering the survey. The intended course is to deliver the survey via face-to-face encounters with shipping agents and vessel masters at regional large ports. In addition, a subset of five questions from the long survey that meet the survey objectives have been placed into an email to send to vessels that already report weather and ice to IIP. By using the premise that vessels already sending operational reports to IIP are engaged customers, IIP hopes to reach out to engaged customers and receive feedback from a larger quantity of respondents. Thus far, from 1 Feb 2010 – 15 Mar 2010, 27 subset-surveys have been emailed out, and 12 responses have been received.

QUESTION 5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency

AGENCY'S RESPONSE:

LT Kellee Nolan
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Please indicate the organization you are affiliated with. _____

Employment: (Please check one):

- Ship Captain/Crew Vessel Name _____ Call Sign _____ Home Port _____
- Shipping Agent Insurance Company Agent Member of Scientific Community
- Employee of Government Agency Specify _____
- Routing Service Other _____

Please check all the following communications equipment that you have access to:

- INMARSAT-A HF Facsimile Internet Access
- INMARSAT-C HF Radio Transceiver
- INMARSAT-M VHF Radio Transceiver

BLOCK 1

Which IIP products do you keep available for reference in the pilothouse or operations center? (Select all that apply.)

- IIP SafetyNET Bulletin IIP SITOR Bulletin IIP NAVTEX Bulletin
- IIP HF Facsimile IIP Safeties IIP Web Site Products None

Please respond to the questions below by circling the appropriate answer.

| | never | | sometimes | | always |
|--|-------|---|-----------|---|--------|
| Do you attempt to receive IIP's SafetyNET Bulletin? | 1 | 2 | 3 | 4 | 5 |
| Do you attempt to receive IIP's SITOR Bulletin? | 1 | 2 | 3 | 4 | 5 |
| Do you attempt to receive IIP's NAVTEX Bulletin? | 1 | 2 | 3 | 4 | 5 |
| Do you attempt to receive IIP's HF Facsimile Chart? | 1 | 2 | 3 | 4 | 5 |
| Do you attempt to record the Limits of All Known Ice from voice broadcasts? (list radio stations received from _____) | 1 | 2 | 3 | 4 | 5 |
| Do you access IIP's products via the Internet? | 1 | 2 | 3 | 4 | 5 |
| Do you alter your course to pass outside the Limit of All Known Ice? | 1 | 2 | 3 | 4 | 5 |
| Does your voyage require that you pass within the Limit of All Known Ice? (i.e., required trips to St. John's, Newfoundland) | 1 | 2 | 3 | 4 | 5 |

BLOCK 2

What information do you plot on your navigational charts? (Select all that apply.)

- Limit of All Known Ice Area of Many Bergs Sea Ice Limit
 Individual icebergs and radar targets None

BLOCK 3

What method do you use to make reports to IIP? (Select all that apply.)

- INMARSAT Phone Fax Radio
 Telex Internet/Email Other: _____ No reports made

Please circle the choice that is closest to how you would answer the questions below. Please use the blank lines below each section to provide any additional input or comments.

Are IIP's products useful to you?

BLOCK 4

Do you find IIP's products accessible?

Do IIP's products reach you in a timely manner?

| | not very | | moderate | | very |
|---|----------|---|----------|---|------|
| Are IIP's products useful to you? | 1 | 2 | 3 | 4 | 5 |
| Do you find IIP's products accessible? | 1 | 2 | 3 | 4 | 5 |
| Do IIP's products reach you in a timely manner? | 1 | 2 | 3 | 4 | 5 |

Based on your experience, how accurate is the Limit of All Known Ice?

- Extremely Accurate (icebergs never seen outside the LIMIT)
 Very Accurate (icebergs rarely seen outside the LIMIT)
 Somewhat Accurate (icebergs occasionally seen outside the LIMIT)
 Never Accurate (icebergs always seen outside the LIMIT)

BLOCK 5

BLOCK 6

How often do you use IIP's products?

How often do you get ice information from routing services?

How often do you report icebergs to IIP?

How often do you send weather and/or sea surface temperature reports?

How often do you detect or observe icebergs?

| | never | few times a year | every month | every week | every day |
|---|-------|------------------|-------------|------------|-----------|
| How often do you use IIP's products? | 1 | 2 | 3 | 4 | 5 |
| How often do you get ice information from routing services? | 1 | 2 | 3 | 4 | 5 |
| How often do you report icebergs to IIP? | 1 | 2 | 3 | 4 | 5 |
| How often do you send weather and/or sea surface temperature reports? | 1 | 2 | 3 | 4 | 5 |
| How often do you detect or observe icebergs? | 1 | 2 | 3 | 4 | 5 |

Please rank the following IIP products according to usefulness (1 = least important, 6 = most important)

- IIP SafetyNET Bulletin IIP SITOR Bulletin IIP NAVTEX Bulletin
 IIP HF Facsimile IIP Safeties IIP Web Site Products

BLOCK 7