

## **INITIAL REVIEW DRAFT**

### **REGULATORY IMPACT REVIEW/ INITIAL REGULATORY FLEXIBILITY ANALYSIS**

For a proposed Amendment to the  
Fishery Management Plan for the Groundfish Fishery of the Bering Sea  
and Aleutian Islands

# **Adjustment of the MLOA on BSAI Freezer Longline LLP Licenses**

(previously referred to as a Vessel Replacement action)

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## EXECUTIVE SUMMARY

This document is a Regulatory Impact Review/Initial Regulatory Flexibility Analysis (RIR/IRFA) to change criteria to allow owners of Bering Sea / Aleutian Islands (BSAI) freezer longline (hook-and-line catcher processor) vessels that fish for Pacific cod, to replace or rebuild their vessels to a length greater than that specified under the restrictions of the License Limitation Program (LLP) and the American Fisheries Act (AFA). Specifically, the Council proposes, first, to adjust the maximum length overall (MLOA) specified on the License Limitation Program (LLP) license assigned to these freezer longline vessels, to accommodate larger replacement vessels. Originally implemented in 2000, each LLP license is endorsed for management areas, catcher vessel and/or catcher processor operation type, and the Pacific cod fixed gear target fishery, and specifies an MLOA for licensed vessels. The MLOA for the license was based on the length of the vessel initially receiving the license.

Secondly, the Council also proposes to allow freezer longline replacement vessels that exceed 165 feet in length, or more than 750 gross tons, or with engines capable of producing more than 3,000 shaft horsepower to enter the groundfish fishery. Regulations at 46 U.S.C. 12106(c)(6) limit vessels greater than 165 feet in length, or more than 750 gross registered tons, or with engines capable of producing more than 3,000 shaft horsepower from entering fisheries unless the vessel carried a fisheries endorsement prior to September 25, 1997, or the Council has recommended and the Secretary of Commerce has approved a conservation and management measure to allow the vessel to be used in fisheries under its authority.

### **Problem Statement**

The Council revised the problem statement for this action at the December 2011 meeting, as follows:

*Vessel length restrictions, included with LLP licenses and the AFA, established to maintain fleet capacity, inhibit the BSAI freezer longline fleet from replacing or rebuilding their vessels. Modifying or removing vessel length restrictions for BSAI freezer longline vessels to allow owners to rebuild or replace their vessels with larger vessels would allow for improved vessel safety, meet international class and loadline requirements that would allow a broader range of onboard processing options, and improve the economic efficiency of their vessels.*

### **Description of the Alternatives**

In December 2011, the Council approved the following alternatives and options for this action.

**Alternative 1:** No Action. Under this alternative, the BSAI Pacific cod hook and line catcher processor vessel length, horsepower, and tonnage restrictions currently in place would continue to apply.

**Alternative 2:** For those LLP licenses with catcher processor and hook-and-line Pacific cod endorsements for the BS or AI, with an MLOA of less than 150', increase the MLOA of the LLP license 20 percent, not to exceed a MLOA of 150'.

Option 2.1: Any vessel replaced under this program would not be eligible to be designated on an FFP or an LLP.

Option 2.2: Replaced vessels may not be used to replace other BSAI hook and line catcher processor vessels.

**Alternative 3:** The MLOA requirements on LLP licenses with catch processor and hook-and-line Pacific cod endorsements for the BS or AI would not apply and the Council recommends that vessels named on these LLP licenses be authorized for use in the EEZ under the

jurisdiction of the North Pacific Fishery Management Council, which is intended to clarify that these vessels are eligible to receive a certificate of documentation consistent with 46 U.S.C. 12102(c) and MARAD regulations at 46 C.F.R. 356.47.

Option 3.1: Any vessel replaced under this program would not be eligible to be designated on an FFP or an LLP.

Option 3.2: Replaced vessels may not be used to replace other BSAI hook and line catcher processor vessels.

Option 3.3: Any replaced vessel may not exceed 220' LOA.

Option 3.4: The MLOA requirements on LLP licenses with catcher processor and pot cod endorsements would continue to apply when the LLP is used in BS or AI fishery pot cod fishery.

### **Alternatives 1, 2, and 3**

Three alternatives, including no action, are included in this analysis. Under Alternative 1, the no action alternative, freezer longline vessel length restrictions would continue to apply. Vessel owners can currently replace their vessels at any time, and move their LLP license to the replacement vessel, so long as the vessel length does not exceed the MLOA of the LLP license with which the vessel is used. In addition, freezer longline vessels that are (1) greater than 165 feet in length, (2) exceed 750 gross tons, or (3) 3,000 shaft horsepower or greater, which do not already have a federal fisheries endorsement, cannot receive a federal fisheries endorsement, and, therefore, cannot be used to replace an existing BSAI freezer longline vessel.

Alternative 2 would adjust the MLOA on all qualifying LLP licenses upwards by 20 percent, although not to exceed 150' MLOA. In order to qualify, the LLP license must have a Pacific cod hook-and-line catcher processor endorsement for the Bering Sea or Aleutian Islands, and an MLOA of less than 150'. Under this alternative, 7 LLP licenses would have their MLOA increased from 124' to 149', and 10 LLP licenses, with a MLOA between 125' and 149', would have their MLOA increased to 150'. Although the criteria for qualifying for this proposed change rely on whether an LLP license is endorsed for fishing Pacific cod, the change in MLOA appertains to the groundfish license, and therefore affects a vessel's participation in any groundfish target fishery. FMP and regulatory amendments would be required to implement this alternative.

Under Alternative 3, the MLOA on the 37 qualifying LLP licenses would not change, however, the restriction represented by the MLOA would be removed. In order to qualify, the LLP license must have a Pacific cod hook-and-line catcher processor endorsement for the Bering Sea or Aleutian Islands. Under this alternative, these 37 LLP licenses could be used on a vessel of any length. As with Alternative 2, this alternative proposes a change to the groundfish LLP license, and is not specific to a particular target fishery. Also, FMP and regulatory amendments would be required to implement this proposed change. Alternative 3 would also establish that any vessel named on a qualifying LLP license is eligible to receive a certificate of documentation for a federal fisheries endorsement, consistent with regulations at 46 U.S.C. 12102(c). The issuance of fishery endorsements, as regulated by 46 C.F.R 356.47, is tasked to the Department of Transportation Maritime Administration (MARAD). The statement of eligibility would be established in the FMP (i.e., through an FMP amendment), which would be referenced by MARAD when issuing a certificate of documentation.

Additionally, under each alternative, the Council has identified options. For each alternative, the Council may choose some or all of the relevant options. The options are described below.

## **Replacement vessel options under Alternatives 2 and 3 – Options 2.1, 2.2, 3.1, 3.2**

Alternatives 2 and 3 both have two identical options that impose restrictions on how vessels that are named on the qualifying LLP licenses may be used once replaced. Under Option 2.1, if the vessel that is named on a qualifying LLP license is replaced, the replaced vessel may not be designated on any other Federal Fisheries Permit (FFP) or LLP. That is, the replaced vessel may no longer be used for groundfish or crab fishing in the BSAI or the Gulf of Alaska Federal fisheries. Option 2.2 also restricts how the vessel that is named on a qualifying LLP license is used when it is replaced, by requiring that the replaced vessel not be used to replace another vessel associated with a qualifying LLP license. That is, a replaced vessel could not be used to replace a different vessel within the freezer longline sector. Although the Council could choose both options to Alternative 2, Option 2.2 is subsumed in Option 2.1.

Under the options as written, the agency would need to implement a tracking system for the qualifying LLP licenses under either Alternative 2 or Alternative 3, implemented with one of these options. The vessel that is associated with the LLP license on the effective date of the amendment would be considered the original vessel, and if the LLP license is moved to a different vessel, it would be considered a replacement vessel. NMFS must then track both the original vessel, and any replacement vessels that are again replaced, to ensure that they are no longer used as a BSAI groundfish hook-and-line catcher processor (Options 2.2, 3.2) or no longer designated on any groundfish or crab FFP or LLP.

**The Council may wish to consider whether their intent for these provisions is met with this language.** Under these options as written, the Council would be imposing very restrictive conditions on the LLP licenses that are affected by these alternatives. The LLP would be linked with the vessel on which it is used at the effective date of the amendment, and if the LLP is moved to a different vessel, the original vessel will no longer be eligible to be used either in the sector (Option 2.2, 3.2), or in the groundfish or crab fisheries (Option 2.1, 3.1). This would apply to any movement of an LLP from one vessel to another, for whatever reason (e.g., a newly-built replacement vessel entering the fishery, a reorganization of LLP licenses among multiple vessels owned by a single company, or an LLP holder choosing to exit the Pacific cod fishery).

The Council may have intended that this provision only apply to vessels that are replaced with newly-built (or rebuilt) vessels. This distinction is not possible with the language as written, however, because the action alternatives modify LLP licenses, and the options restrict vessel usage. In order for the options to work with the alternative, their proposed restriction needs to be interpreted relative to the LLP license.

The Council should also consider whether these options meet the Council's problem statement. The intent of this action is to facilitate vessel replacement to improve both vessel safety and economic efficiency of vessels. It may be that the operations that choose to build new vessels are not those that are the least efficient or safe. In that case, by allowing those replaced vessels to replace yet other vessels in the fishery, the Council would be promoting safety and efficiency across a broader range of the fleet.

**At the June meeting, the Council may wish to articulate specifically what its intent is with the vessel replacement provisions. This could then be used as a basis to identify the best regulatory option to meet this intent.**

### **Option 3.3 under Alternative 3 – maximum size limit**

Option 3.3, under Alternative 3, would set a maximum size limit for vessels associated with the 37 qualifying LLPs. The LLP could not be used with a vessel exceeding 220' LOA. **Administratively, if the Council chooses both Alternative 3 and Option 3.3, it would be more straightforward to re-designate the MLOA on qualifying licenses as 220'.** The implementation of Alternative 3 without this

option will require NMFS to develop a tracking system for the 37 qualifying LLPs, to exempt them from the constraints of the MLOA. Implementing Option 3.3 with Alternative 3, as written, will also require NMFS to develop a separate tracking system for these LLPs, constrained by the maximum vessel length. The same end can be achieved through the existing LLP management system, without any additional administrative burden, if the Council accedes that the implementation of Alternative 3 with Option 3.3 can be achieved through changing the MLOA on qualifying licenses.

#### **Option 3.4 under Alternative 3 – Pacific cod pot gear endorsement**

Option 3.4 limits the proposed change in Alternative 3 with respect to qualifying LLP licenses that also have a Pacific cod pot gear catcher processor endorsement. Under Alternative 3 with this option, the restriction represented by the LLP license's MLOA would be removed for all groundfish fishing activity, except when the vessel is fishing in the Bering Sea or Aleutian Islands pot cod fishery, when the LLP license's MLOA restriction will be enforced. Three of the 37 qualifying LLP licenses under Alternative 3 also have a Pacific cod pot gear catcher processor endorsement.

If the Council chooses Alternative 3, Option 3.3, and Option 3.4 simultaneously, the suggestion discussed under Option 3.3 above, to streamline the administrative implementation of the alternative and Option 3.3 together, is problematic. Under Option 3.4, the original MLOA is needed in order to restrict vessels that are fishing in the BSAI Pacific cod pot fishery. In the case that the Council recommends Alternative 3 with both Options 3.3 and 3.4, **NMFS suggests that the Council consider adding a provision that would require LLP holders to make a one-time election** of whether to retain their original MLOA, which would allow them to continue fishing in the Pacific cod pot fishery but would limit them to their original MLOA in terms of vessel replacement, or whether to increase the MLOA on their LLP to 220' but thereby surrendering their Pacific cod pot gear catcher processor endorsement. Additionally, if the Council chooses to include this provision, NMFS recommends that there be a time limit associated with the LLP holder's choice.

#### ***Potential Effects of the Alternatives***

**Alternative 1**, the status quo alternative, will likely continue to present an impediment to vessel replacement for the freezer longline fleet. While some vessel owners will still choose to build replacement vessels, overall the alternative will limit improvements in vessel safety, processing efficiency, hold design, and engine efficiency for the fleet.

**Alternative 2**, relative to status quo, provides an opportunity for holders of freezer longline LLP licenses to receive an adjustment to their MLOA, to either 149' or 150' LOA. This would give those LLP holders the opportunity to replace existing vessels with somewhat larger ones. Having this ability may improve production efficiency, while at the same time allow for increased vessel safety. At the same time, the limitations on vessel replacement length for this alternative could limit the incentive for vessels to take advantage of vessel replacement, if improvements in economic efficiency are insufficient to justify the cost of a new vessel.

**Alternative 3**, relative to the other alternatives, provides the greatest opportunity for owners of freezer longline vessels to replace their vessels with larger vessels. The absence of vessel length restrictions allows vessel owners to design more efficient and safer replacement freezer longline vessels. While by regulation the vessel length would be unrestricted, there appear to be efficiency limitations that would likely limit vessel length in replacement vessels. An unrestricted replacement vessel program could allow some expansion of effort into other current fisheries and unperceived future fisheries, but this factor alone is unlikely to create a sufficient incentive for vessel owners to incur the cost of a replacement vessel.

## 1.0 REGULATORY IMPACT REVIEW

### 1.1 Introduction

The purpose of the proposed action is to change criteria to allow owners of Bering Sea / Aleutian Islands (BSAI) freezer longline (hook-and-line catcher processor) vessels that fish for Pacific cod, to replace or rebuild their vessels to a length greater than that specified under the restrictions of the License Limitation Program (LLP) and the American Fisheries Act (AFA). Specifically, the Council proposes, first, to modify the maximum length overall (MLOA) specified on the License Limitation Program (LLP) license assigned to these freezer longline vessels, to accommodate larger replacement vessels. Originally implemented in 2000, each LLP license is endorsed for management areas, catcher vessel and/or catcher processor operation type, and the Pacific cod target fishery, and specifies an MLOA for licensed vessels. The MLOA for the license was based on the length of the vessel initially receiving the license. Secondly, the Council also proposes to allow freezer longline replacement vessels that exceed 165 feet in length, or more than 750 gross tons, or with engines capable of producing more than 3,000 shaft horsepower to enter the groundfish fishery. Regulations at 46 U.S.C. 12106(c)(6) limit vessels greater than 165 feet in length<sup>1</sup>, or more than 750 gross registered tons, or with engines capable of producing more than 3,000 shaft horsepower from entering fisheries unless the vessel carried a fisheries endorsement prior to September 25, 1997, or the Council has recommended and the Secretary of Commerce has approved a conservation and management measure to allow the vessel to be used in fisheries under its authority.

This action would affect vessels that are part of the longline catcher/processor subsector, as defined in the Consolidated Appropriations act of 2005, section 219(A)(6), which states:

LONGLINE CATCHER PROCESSOR SUBSECTOR.—The term “longline catcher processor subsector” means the holders of an LLP license that is noninterim and transferable, or that is interim and subsequently becomes noninterim and transferable, and that is endorsed for Bering Sea or Aleutian Islands catcher processor fishing activity, C/P, Pacific cod, and hook and line gear.

LLP licenses are issued to an individual person or entity. They are not vessel-specific; they can be transferred from vessel to vessel, and can be “stacked” so that a single vessel may operate more than one LLP license. Thus there is not a fixed group of vessels that will be impacted by this action. Because it is anticipated that there will be very little transference of LLP licenses among vessels, however, the vessels that currently possess an LLP license, meeting the definition above, are considered the impacted entities. There are currently 37 LLP licenses, associated with 33 vessels, in the universe of impacted entities.

There are other longline catcher/processers fishing other targets in the BSAI, or fishing exclusively in the GOA, which do not meet this definition and are not directly affected by this action.

#### 1.1.1 What is a Regulatory Impact Review?

This RIR is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735, September 30, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement for the order:

*In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and*

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<sup>1</sup> Measured at the waterline

*benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

EO 12866 further requires that the Office of Management and Budget review proposed regulatory programs that are considered to be “significant.” A significant regulatory action is one that is likely to—

- Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive Order.

### **1.1.2 History of this Action**

At its February 2011 meeting, the Council tasked staff to prepare a discussion paper on vessel replacement provisions for BSAI freezer longliner fleet. The request originated from a proposal presented by an industry representative. The Council tasked staff to prepare a discussion paper using the problem statement, and proposed vessel replacement alternatives for BSAI freezer longline fleet, provided in the industry proposal. The discussion paper was originally scheduled for the October meeting, but the Council postponed review of the paper, and rescheduled the action as an initial review analysis to be prepared for the December meeting. In December 2011, the Council reviewed the initial review draft, and revised the problem statement and alternatives.

### **1.1.3 Statutory authority for this action**

NMFS manages the U.S. groundfish fisheries in the portion of its exclusive economic zone within the BSAI according to the Fishery Management Plan (FMP) for Groundfish of the Bering Sea and Aleutian Islands Management Area. This FMP were prepared by the North Pacific Fishery Management Council (Council) under the authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

## **1.2 Regulations affecting vessel replacement in the BSAI freezer longline fleet**

Under current regulations, vessel owners within the freezer longline sector are allowed to replace their vessels, within the constraints of the LLP and the AFA. These constraints are as described below.

### **1.2.1 License Limitation Program**

The License Limitation Program became effective on January 1, 2000. The program limits the number, size, and specific operation of vessels fishing groundfish and crab in the BSAI and GOA, based on historical participation. Licenses are endorsed for separate management areas (Bering Sea (BS), Aleutian

Islands (AI), Western GOA (WGOA), Central GOA (CGOA), and Southeast Outside), and operation type (catcher vessel (CV) or catcher/processor (CP)). Since 2003, BSAI groundfish LLP licenses have also been endorsed for Pacific cod<sup>2</sup>. Fixed gear vessels  $\geq 60'$ , participating in the BSAI Pacific cod fishery, must qualify for Pacific cod endorsements, by gear type (longline or pot) and operation type (catcher vessel or catcher/processor).

LLP licenses also specify a maximum length overall (MLOA) for licensed vessels, which constrains the license from being used with a vessel whose LOA exceeds the MLOA listed on the LLP. The MLOA for a qualifying vessel was first calculated as part of the vessel moratorium action that preceded the development of the LLP (NPFMC 1994). The Council's objective with the moratorium was to freeze the number of vessels participating in the groundfish, crab, and halibut fisheries, and control continued growth in fishing capacity while the Council developed a comprehensive long-term management plan for the fisheries under its jurisdiction. At the moratorium's inception, a "twenty percent rule" was adopted for qualifying vessels less than 125 ft, such that the MLOA was determined to be 1.2 times the LOA, or 125 ft (whichever is less). For vessels with an LOA of greater than 125 ft, the MLOA was calculated as equivalent to the LOA of the qualifying vessel. The twenty percent rule was intended to allow some flexibility for vessels less than 125 ft to accommodate ongoing modifications in operations, while only allowing marginal increases in overall catching capacity and capitalization. The LLP continued the MLOA requirement as a provision of the license. The LLP also established three vessel length classes (less than 60' LOA, greater than or equal to 60' but less than 125' LOA, or greater than 125' LOA), noting that a vessel length upgrade under the 20 percent rule could not exceed the length constraint of their vessel class.

## **1.2.2 Fishery endorsement provisions in the AFA that affect vessel replacement**

Important in the proposed action, the American Fisheries Act (AFA) made two amendments to fishery endorsement provisions that affect vessel replacement. First, section 208(g) contains specific vessel replacement provisions that are applicable to vessels eligible to fish in the directed pollock fishery in the Bering Sea. Since the vessels currently identified on the LLPs of the freezer longline catcher processor fleet are not eligible for the directed pollock fishery, that section does not apply to this fleet. The second provision affecting vessel replacement prohibits vessels exceeding certain length, tonnage, and horsepower limits from entering fisheries<sup>3</sup> and from obtaining a fishery endorsement unless specific conditions are met (see 46 U.S.C. 12102(c)(6) and corresponding regulations at 46 C.F.R 356.47). Specifically, vessels greater than 165 feet in length<sup>4</sup>, of more than 750 gross registered tons, or with engines capable of producing more than 3,000 shaft horsepower, are prohibited from obtaining a fishery endorsement, unless the vessel carried a fisheries endorsement prior to September 25, 1997 or the regional fishery management council has recommended (and the Secretary of Commerce has approved) a conservation and management measure to allow the vessel to be used in fisheries under its authority, since enactment of the AFA. Since the Council has adopted no such measure for the freezer longline catcher processor sector<sup>5</sup>, any freezer longline catcher processor that does not already have a fishery endorsement, and is greater than 165 feet in length or that exceeds 750 tons, or 3,000 horsepower, cannot receive a fishery endorsement at this time.

The issuance of fishery endorsements, as regulated by 46 C.F.R 356.47, is tasked to the Department of Transportation Maritime Administration. NOAA General Counsel and MARAD staff concur that if the

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<sup>2</sup> Similar provisions are now required in the GOA, beginning in 2012.

<sup>3</sup> Other than the directed pollock fishery in the Bering Sea, where vessel replacement is regulated by the AFA provision in section 208(g)

<sup>4</sup> Note, for the purposes of this regulation, vessel length is measured at the water level, and does not constrain length overall.

<sup>5</sup> The Council recently recommended provisions for allowing replacement vessels in the Amendment 80 program, and clarified that an Amendment 80 replacement vessel that exceeds the AFA specifications is eligible to receive a fishery endorsement.

Council chooses to allow new vessels exceeding these thresholds to participate in the fisheries, such a measure would best be accomplished through an FMP amendment. The amendment would specify that hook-and-line catcher processor replacement vessels may exceed the length, horsepower and tonnage requirements in regulation at 46 C.F.R 356.47 when participating in fisheries (other than the BSAI directed pollock fishery) that are under the Council's authority. MARAD staff have stated that they would request documentation from NMFS of the Secretary's approval of any such FMP amendment prior to issuing a fishery endorsement to a hook-and-line catcher processor replacement vessel.

### 1.3 Council Problem Statement

The Council revised the problem statement for this action at the December 2011 meeting, as follows:

*Vessel length restrictions, included with LLP licenses and the AFA, established to maintain fleet capacity, inhibit the BSAI freezer longline fleet from replacing or rebuilding their vessels. Modifying or removing vessel length restrictions for BSAI freezer longline vessels to allow owners to rebuild or replace their vessels with larger vessels would allow for improved vessel safety, meet international class and loadline requirements that would allow a broader range of onboard processing options, and improve the economic efficiency of their vessels.*

### 1.4 Alternatives

In December 2011, the Council approved the following alternatives and options for this action.

**Alternative 1:** No Action. Under this alternative, the BSAI Pacific cod hook and line catcher processor vessel length, horsepower, and tonnage restrictions currently in place would continue to apply.

**Alternative 2:** For those LLP licenses with catcher processor and hook-and-line Pacific cod endorsements for the BS or AI, with an MLOA of less than 150', increase the MLOA of the LLP license 20 percent, not to exceed a MLOA of 150'.

Option 2.1: Any vessel replaced under this program would not be eligible to be designated on an FFP or an LLP.

Option 2.2: Replaced vessels may not be used to replace other BSAI hook and line catcher processor vessels.

**Alternative 3:** The MLOA requirements on LLP licenses with catcher processor and hook-and-line Pacific cod endorsements for the BS or AI would not apply, and the Council recommends that vessels named on these LLP licenses be authorized for use in the EEZ under the jurisdiction of the North Pacific Fishery Management Council, which is intended to clarify that these vessels are eligible to receive a certificate of documentation consistent with 46 U.S.C. 12102(c) and MARAD regulations at 46 C.F.R. 356.47.

Option 3.1: Any vessel replaced under this program would not be eligible to be designated on an FFP or an LLP.

Option 3.2: Replaced vessels may not be used to replace other BSAI hook and line catcher processor vessels.

Option 3.3: Any replaced vessel may not exceed 220' LOA.

Option 3.4: The MLOA requirements on LLP licenses with catcher processor and pot cod endorsements would continue to apply when the LLP is used in BS or AI fishery pot cod fishery.

### **Alternatives 1, 2, and 3**

Three alternatives, including no action, are included in this analysis. Under Alternative 1, the no action alternative, freezer longline vessel length restrictions would continue to apply. Vessel owners can currently replace their vessels at any time, and move their LLP license to the replacement vessel, so long as the vessel length does not exceed the MLOA of the LLP license with which the vessel is used. In addition, freezer longline vessels that are (1) greater than 165 feet in length, (2) exceed 750 gross tons, or (3) 3,000 shaft horsepower or greater, which do not already have a federal fisheries endorsement, cannot receive a federal fisheries endorsement, and, therefore, cannot be used to replace an existing BSAI freezer longline vessel.

Alternative 2 would adjust the MLOA on all qualifying LLP licenses upwards by 20 percent, although not to exceed 150' MLOA. In order to qualify, the LLP license must have a Pacific cod hook-and-line catcher processor endorsement for the Bering Sea or Aleutian Islands, and an MLOA of less than 150'. Under this alternative, 7 LLP licenses would have their MLOA increased from 124' to 149', and 10 LLP licenses, with a MLOA between 125' and 149', would have their MLOA increased to 150'. Although the criteria for qualifying for this proposed change rely on whether an LLP license is endorsed for fishing Pacific cod, the change in MLOA appertains to the groundfish license, and therefore affects a vessel's participation in any groundfish target fishery. FMP and regulatory amendments would be required to implement this alternative.

Under Alternative 3, the MLOA on the 37 qualifying LLP licenses would not change, however, the restriction represented by the MLOA would be removed. In order to qualify, the LLP license must have a Pacific cod hook-and-line catcher processor endorsement for the Bering Sea or Aleutian Islands. Under this alternative, these 37 LLP licenses could be used on a vessel of any length. As with Alternative 2, this alternative proposes a change to the groundfish LLP license, and is not specific to a particular target fishery. Also, FMP and regulatory amendments would be required to implement this proposed change. Alternative 3 would also establish that any vessel named on a qualifying LLP license is eligible to receive a certificate of documentation for a federal fisheries endorsement, consistent with regulations at 46 U.S.C. 12102(c). The issuance of fishery endorsements, as regulated by 46 C.F.R 356.47, is tasked to the Department of Transportation Maritime Administration (MARAD). The statement of eligibility would be established in the FMP (i.e., through an FMP amendment), which would be referenced by MARAD when issuing a certificate of documentation.

Additionally, under each alternative, the Council has identified options. For each alternative, the Council may choose some or all of the relevant options. The options are described below.

### **Replacement vessel options under Alternatives 2 and 3 – Options 2.1, 2.2, 3.1, 3.2**

Alternatives 2 and 3 both have two identical options that impose restrictions on how vessels that are named on the qualifying LLP licenses may be used once replaced. Under Option 2.1, if the vessel that is named on a qualifying LLP license is replaced, the replaced vessel may not be designated on any other Federal Fisheries Permit (FFP) or LLP. That is, the replaced vessel may no longer be used for groundfish or crab fishing in the BSAI or the Gulf of Alaska Federal fisheries. Option 2.2 also restricts how the vessel that is named on a qualifying LLP license is used when it is replaced, by requiring that the replaced vessel not be used to replace another vessel associated with a qualifying LLP license. That is, a replaced

vessel could not be used to replace a different vessel within the freezer longline sector. Although the Council could choose both options to Alternative 2, Option 2.2 is subsumed in Option 2.1.

Under the options as written, the agency would need to implement a tracking system for the qualifying LLP licenses under either Alternative 2 or Alternative 3, implemented with one of these options. The vessel that is associated with the LLP license on the effective date of the amendment would be considered the original vessel, and if the LLP license is moved to a different vessel, it would be considered a replacement vessel. NMFS must then track both the original vessel, and any replacement vessels that are again replaced, to ensure that they are no longer used as a BSAI groundfish hook-and-line catcher processor (Options 2.2, 3.2) or no longer designated on any groundfish or crab FFP or LLP.

**The Council may wish to consider whether their intent for these provisions is met with this language.** Under these options as written, the Council would be imposing very restrictive conditions on the LLP licenses that are affected by these alternatives. The LLP would be linked with the vessel on which it is used at the effective date of the amendment, and if the LLP is moved to a different vessel, the original vessel will no longer be eligible to be used either in the sector (Option 2.2, 3.2), or in the groundfish or crab fisheries (Option 2.1, 3.1). This would apply to any movement of an LLP from one vessel to another, for whatever reason (e.g., a newly-built replacement vessel entering the fishery, a reorganization of LLP licenses among multiple vessels owned by a single company, or an LLP holder choosing to exit the Pacific cod fishery).

The Council may have intended that this provision only apply to vessels that are replaced with newly-built (or rebuilt) vessels. This distinction is not possible with the language as written, however, because the action alternatives modify LLP licenses, and the options restrict vessel usage. In order for the options to work with the alternative, their proposed restriction needs to be interpreted relative to the LLP license.

The Council should also consider whether these options meet the Council's problem statement. The intent of this action is to facilitate vessel replacement to improve both vessel safety and economic efficiency of vessels. It may be that the operations that choose to build new vessels are not those that are the least efficient or safe. In that case, by allowing those replaced vessels to replace yet other vessels in the fishery, the Council would be promoting safety and efficiency across a broader range of the fleet.

**At the June meeting, the Council may wish to articulate specifically what its intent is with the vessel replacement provisions. This could then be used as a basis to identify the best regulatory option to meet this intent.**

### **Option 3.3 under Alternative 3 – maximum size limit**

Option 3.3, under Alternative 3, would set a maximum size limit for vessels associated with the 37 qualifying LLPs. The LLP could not be used with a vessel exceeding 220' LOA. **Administratively, if the Council chooses both Alternative 3 and Option 3.3, it would be more straightforward to re-designate the MLOA on qualifying licenses as 220'.** The implementation of Alternative 3 without this option will require NMFS to develop a tracking system for the 37 qualifying LLPs, to exempt them from the constraints of the MLOA. Implementing Option 3.3 with Alternative 3, as written, will also require NMFS to develop a separate tracking system for these LLPs, constrained by the maximum vessel length. The same end can be achieved through the existing LLP management system, without any additional administrative burden, if the Council accedes that the implementation of Alternative 3 with Option 3.3 can be achieved through changing the MLOA on qualifying licenses.

### **Option 3.4 under Alternative 3 – Pacific cod pot gear endorsement**

Option 3.4 limits the proposed change in Alternative 3 with respect to qualifying LLP licenses that also have a Pacific cod pot gear catcher processor endorsement. Under Alternative 3 with this option, the restriction represented by the LLP license's MLOA would be removed for all groundfish fishing activity, except when the vessel is fishing in the Bering Sea or Aleutian Islands pot cod fishery, when the LLP license's MLOA restriction will be enforced. Three of the 37 qualifying LLP licenses under Alternative 3 also have a Pacific cod pot gear catcher processor endorsement.

If the Council chooses Alternative 3, Option 3.3, and Option 3.4 simultaneously, the suggestion discussed under Option 3.3 above, to streamline the administrative implementation of the alternative and Option 3.3 together, is problematic. Under Option 3.4, the original MLOA is needed in order to restrict vessels that are fishing in the BSAI Pacific cod pot fishery. In the case that the Council recommends Alternative 3 with both Options 3.3 and 3.4, **NMFS suggests that the Council consider adding a provision that would require LLP holders to make a one-time election** of whether to retain their original MLOA, which would allow them to continue fishing in the Pacific cod pot fishery but would limit them to their original MLOA in terms of vessel replacement, or whether to increase the MLOA on their LLP to 220' but thereby surrendering their Pacific cod pot gear catcher processor endorsement. Additionally, if the Council chooses to include this provision, NMFS recommends that there be a time limit associated with the LLP holder's choice.

## **1.5 Description of the BSAI freezer longline sector**

The vessels in this sector are catcher processors, from 107' to 180' LOA, using longline gear in the BSAI to target Pacific cod and other species. Since January 1, 2003, freezer longliners have been required to have a Pacific cod hook-and-line catcher processor endorsement on their LLP license to target BSAI Pacific cod with longline gear and process it onboard. The Consolidated Appropriations Act of 2005 (Section 219(a)(1)) defined eligibility in the longline catcher processor sector as the holder of an LLP license that is transferable, or becomes transferable, and that is endorsed for BS or AI catcher processor fishing activity, Pacific cod, and longline gear.

The primary target species in the freezer longline fisheries are Pacific cod, sablefish, and Greenland turbot. In addition, longline vessels also may retain incidentally caught species such as skates, rockfish, arrowtooth flounder, and pollock.

Most vessels were converted to this class from some other use, and were not necessarily fishing vessels before being converted. Only a small number of vessels have a long history in this class, and they tend to be smaller. The vessels that entered the class most recently tend, generally, to be larger, and were designed to specifically target Pacific cod in the BSAI. Larger vessels in this class can operate in the BSAI and GOA during most weather conditions.

Longline gear is set on the sea floor with baited hooks, or gangions, attached. Each longline can be several miles in length, and have thousands of hooks. A longline vessel typically sets several lines for varying amounts of time. The lines are retrieved with hydraulic power over a roller, mounted on the side of the vessel. Fishing trips tend to range in length from 2 to 3 weeks.

Only 10 percent of the vessels bait hooks by hand; the others use an automatic baiting system. Vessels with an automatic baiter travel about 7 miles per hour when setting gear, which is roughly the speed at which the baiting machine can keep up. The amount of gear set depends on sea conditions and how long the operators want to fish before they pick up the gear. The length of set varies from 3 miles to 30 miles.

Vessels pick up gear more slowly than when they set it, with the pickup rate governed by how fast they can handle the catch. Fish hauled onboard are immediately shaken loose and thrown into a trough. A crewmember known as a “bleeder” bleeds the fish as soon as possible. Fish are then headed and gutted by hand or by machine. Fish are sorted by size/weight, packed, and frozen. Product is offloaded to cold storage in port or onto a tramper at sea. The majority of the freezer longline product is marketed overseas, with price determining where product is sold.

All vessels in this sector are required to have observer coverage at least some of the time. Under current regulations, vessels that are under 125’ LOA must have an observer on board for 30% of fishing days, by quarter. Vessels that are 125’ LOA or larger must have an observer onboard 100% of the time. With the implementation of the restructured observer program, currently targeted for January 1, 2013, all catcher processors will be required to have an observer onboard 100% of the time, regardless of vessel LOA.

### 1.5.1 Number of LLP licenses in the freezer longline sector, and length of vessels

Table 1 shows the number of LLP licenses that are potentially affected by this action, categorized by their MLOA, and whether they have Pacific cod hook-and-line endorsements for both the Bering Sea and Aleutian Islands. The table also shows the difference between the actual vessel length of the vessel on which the LLP license is currently used, and the MLOA on the LLP. There are 37 LLP licenses with catcher processor hook-and-line endorsements for Pacific cod in the Bering Sea, which could be affected this action. Thirty-five of those also have an Aleutian Islands endorsement. Seventeen of the qualifying LLP licenses have an MLOA of under 150’.

**Table 1 Number of LLP licenses with Bering Sea and Aleutian Islands hook-and-line catcher processor Pacific cod endorsements, by maximum length overall (MLOA); and difference between vessel length and MLOA**

MLOA	Number of licenses	Pacific cod hook-and-line catcher/processor endorsement		Difference between vessel length and MLOA*			
		Bering Sea	Aleutian Islands	0	1' to 6'	11' to 25'	>40'
124'	7	7	7	5	1	1	
125' to 149'	10	10	10	5	4	1	
150' to 174'	10	10	8	7	2	1	
175' to 185'	6	6	6	4		1	1
185' to 199'	3	3	3			1	2
200' to 220'	1**	1	1				
<b>TOTAL</b>	<b>37</b>	<b>37</b>	<b>35</b>	<b>21</b>	<b>7</b>	<b>5</b>	<b>3</b>

\*For the vessel currently named on the LLP. The vessel length is as listed on the vessel's Federal Fisheries Permit.

\*\*This is LLP is not currently associated with any vessel. It has been submitted to NMFS as part of the buyback program.  
Source: NMFS Restricted Access Management data, compiled by AKFIN, May 2012.

There are three LLPs, identified in Table 1, which have a difference between the vessel length and MLOA of greater than 45’. These three LLPs are stacked on smaller vessels within the sector. Additionally, there is one qualifying LLP, with the largest MLOA in the fleet, which is not currently associated with a vessel. As a result, there are only 33 vessels that are currently active in the freezer longline sector in the BSAI.

### 1.5.2 Age of vessels in the freezer longline sector

Table 2 shows the age of vessels in the freezer longline fleet, categorized by the MLOA on the qualifying LLP. As there are three vessels that are each named on 2 LLPs, the final row shows the number of unique vessels in each age category. A third of the vessels in the freezer longline sector were built before 1976, mostly before 1946. Only two vessels in the fleet have been built since 1996. The average age of the vessels in the fleet is 39 years.

**Table 2 Build year of vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses, by maximum length overall (MLOA)**

MLOA	Build year of the vessel currently named on the LLP					Total
	1936-1945	1966-1975	1976-1985	1986-1995	1996-2005	
124'	1		3	2	1	7
125' to 149'			3	7		10
150' to 174'	5	1	3	1		10
175' to 185'	4		1		1	6
185' to 199'	1			1	1	3
200' to 220'						1*
<b>Total by LLP</b>	<b>11</b>	<b>1</b>	<b>10</b>	<b>11</b>	<b>3</b>	<b>37</b>
<b>Total of unique vessels**</b>	<b>10</b>	<b>1</b>	<b>10</b>	<b>10</b>	<b>2</b>	<b>33</b>

\*This LLP is not currently associated with any vessel. It has been submitted to NMFS as part of the buyback program.

\*\*There are 3 vessels that are each named on 2 LLPs, which have been subtracted from the LLP total as appropriate.

Source: AKFIN Vessel Table and NMFS Restricted Access Management data, compiled by AKFIN, May 2012.

### 1.5.3 Vessels in the freezer longline sector that exceed “large vessel” criteria

Regulations at 46 U.S.C. 12106(c)(6) limit vessels greater than 165 feet in length<sup>6</sup>, or more than 750 gross registered tons, or with engines capable of producing more than 3,000 shaft horsepower from entering fisheries unless the vessel carried a fisheries endorsement prior to September 25, 1997, or the Council has recommended, and the Secretary of Commerce has approved, a conservation and management measure to allow the vessel to be used in fisheries under its authority. There are currently nine vessels within the freezer longline sector that exceed at least one of the thresholds identified (Table 3). Although these vessel owners are allowed to replace vessels under current regulations, they could not replace them with a vessel of comparable capacity. Table 3 also identifies that six additional vessels, currently associated with qualifying LLP licenses, are within 10% of the identified thresholds.

**Table 3 Length, tonnage and horsepower of vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses, compared to AFA/MARAD restrictions**

Restriction	Number of vessels exceeding threshold	Number of vessels within 10% of threshold	Build year				
			1936-1945	1966-1975	1976-1985	1986-1995	1996-2005
>165'	6	5					
>750 gross tons	8	2					
>3,000 shaft horsepower	0	0					
Total number of unique vessels	9	6*	6		2		1
			3	1	1	1	

\*Note, total represents unique vessels in addition to those already exceeding a threshold.

Source: AKFIN Vessel Table and NMFS Restricted Access Management data, compiled by AKFIN, May 2012.

### 1.5.4 Pacific cod catch by the freezer longline sector

Since 1994, the BSAI Pacific cod ITAC<sup>7</sup> has been allocated among sectors. The BSAI Pacific cod longline catcher processor sector has had a direct allocation of Pacific cod since 2000. In 2003, a Pacific cod endorsement for the LLP license was implemented (under BSAI Groundfish FMP Amendment 67),

<sup>6</sup> Measured at the waterline

<sup>7</sup> ITAC is equal to the total allowable catch (TAC) minus the 10.7% community development quota (CDQ) allocation. Note also that a 3% percent deduction from acceptable biological catch (ABC) is made before calculation of the TAC, to accommodate the State of Alaska Aleutian Islands Pacific cod GHL.

restricting fixed gear vessels  $\geq 60'$  participating in the BSAI Pacific cod fishery to those that qualified for a Pacific cod endorsement on their LLP license, based on historical participation, and specifying gear type (longline or pot) and operation type (catcher vessel or catcher processor). Since 2008, the freezer longline sector has been allocated 48.7% of the BSAI Pacific cod ITAC (approved through BSAI Groundfish FMP Amendment 85). Table 4 shows the sector's allocation and catch from 2004-2012. In years preceding 2008, the freezer longline sector regularly received rollovers from other sectors that were unable to take their full allocation. One objective of Amendment 85 was to respecify the cod sector allocations to accurately reflect the proportion of quota that was annually harvested by the different sectors.

Table 4 also summarizes information on the number of vessels participating in the Pacific cod target fishery over the years 2004 to 2012 (through April 29, 2012), and the proportion of Pacific cod that was retained by the fleet, both in the target and CDQ fisheries. The number of vessels that fished Pacific cod on one of the 37 LLPs that comprise the sector, ranged between 30 in 2011, and 33 in the years 2007 through 2010. For years for which a complete year of data is available, retained harvests range from about 80,000 mt in 2007 to about 135,000 mt in 2011. About half of the vessels in the sector also fish Pacific cod for the CDQ groups. Since the implementation of BSAI Amendment 49 in 1998, there has been a 100% retention requirement for Pacific cod in the BSAI, regardless of how or where it is caught. Only fish not fit for human consumption can be legally discarded.

**Table 4 BSAI Pacific cod allocation and catch data for vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses**

Year	Pacific cod catch in BSAI catcher processor hook-and-line target				Pacific cod catch in CDQ target by BSAI hook-and-line catcher processors		
	Sector allocation <sup>1</sup>	Number of vessels	mt	% retained	Number of vessels	mt	% retained
2004	80,930	31	93,439	98.3%	16	12,999	97.8%
2005	77,344	31	101,225	97.6%	15	12,499	97.9%
2006	71,218	32	91,074	98.2%	16	13,232	97.2%
2007	64,030	33	80,476	98.1%	16	11,473	97.5%
2008	73,844	33	93,671	98.4%	16	16,846	97.9%
2009	76,375	33	103,818	98.3%	16	17,041	97.2%
2010	73,000	33	98,560	98.1%	14	17,874	97.7%
2011	98,733	30	134,921	98.4%	13	20,198	98.3%
2012 <sup>2</sup>	113,106	28	64,226	98.7%	9	8,918	99.0%

<sup>1</sup>At beginning of year, does not include rollovers.

<sup>2</sup>Catch through April 29, 2012

Source: NMFS Catch Accounting data, compiled by AKFIN, May 2012.

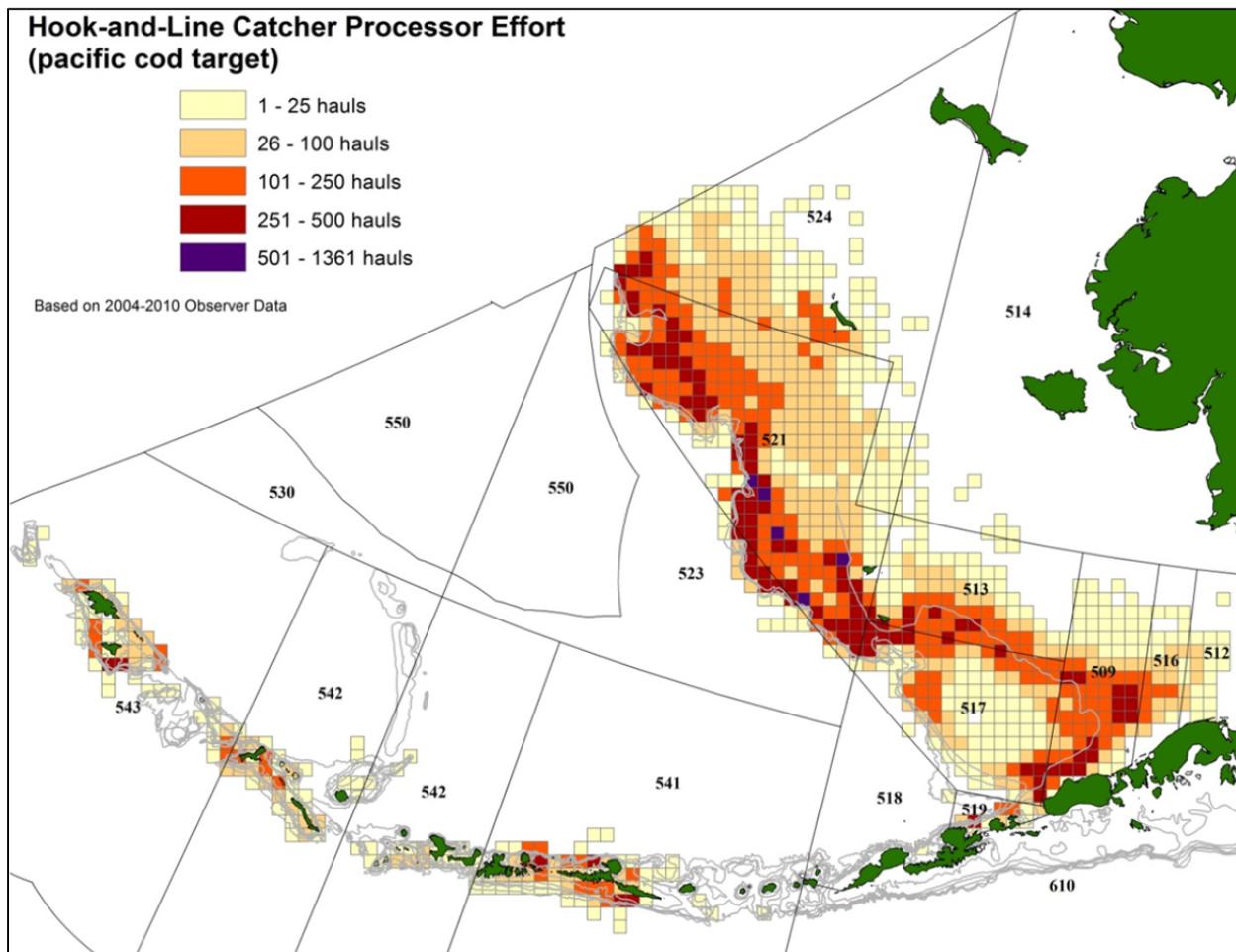
#### 1.5.4.1 Spatial and temporal distribution of freezer longline Pacific cod harvests

Most Pacific cod fishing activity in the Bering Sea and Aleutian Islands by freezer longliners occurs along the continental shelf break in the Bering Sea (Figure 1), and especially along the area of the break to the west and north of the Pribilof Islands. Figure 1 shows other activity taking place along the Aleutian Islands, although Steller sea lion protection measures that became effective in the 2011 season, limit activity in Area 541 and 542, and eliminate it in Area 543.

The BSAI target fishery is divided into two regulatory seasons, January 1 to June 10, and June 10 to December 31. In past years, the freezer longliners generally began fishing for Pacific cod on January 1, and continued until the allocation was fully harvested by February, March, or April. They then started fishing Pacific cod again from August 15, when the next halibut PSC allowance became available, through November or December. Since the implementation of the voluntary fishery cooperative, beginning with the "B" season in 2010, the seasons have remained open throughout the regulatory period,

presumably because the cooperative allows vessels to spread out harvests. Also in 2011, the harvest specifications for halibut PSC in this fleet were modified to release halibut PSC on June 10 and August 15.

**Figure 1** Locations of freezer longline hauls in the Bering Sea and Aleutian Islands for the years 2004 through 2010



#### 1.5.4.2 Pacific cod product types

The freezer longline fleet primarily produces headed and gutted products. *Sector and Regional Profiles of the North Pacific Groundfish Fisheries*, published by Northern Economics in 2001, cites the reasons for this vessel class producing only headed and gutted products as due to loadline regulations and a lack of space to accommodate additional crew and equipment. These vessels are able to produce relatively high-value products that compensate for the relatively low catch volumes associated with longline gear. Most of these vessels are steel-hulled, shelter-decked, and predominantly schooner in style. Most vessels are equipped with automatic baiting machines that enable them to bait and haul about 30,000 to 40,000 hooks per day. Below deck, these vessels are set up with heading and gutting machines, plate freezers, and lower level freezer holds for their frozen products. Generally, these vessels are not built to standards that would permit them to be loadline certified—a designation that requires certain standards for production on a vessel. Without loadline certification, a processing vessel cannot produce fillets.

Production capacity is directly related to vessel length and overall vessel design—larger vessels can accommodate larger freezer holds that allow vessels to stay at sea for longer periods. Larger vessels also allow more processing and automated baiting equipment to be installed, which can be optimally located to increase overall daily throughput.

The most important Pacific cod products processed by this fleet are frozen eastern and western cut headed-and-gutted (H&G) Pacific cod (Table 5). The table shows the different product types processed by vessels in the freezer longline sector, as well as total production by these vessels from 2003 to 2012 (through April 29). Under the 100% retention requirement, all Pacific cod that is fit for human consumption must, at a minimum, be processed into a primary product, as defined in the regulations. The product recovery rate described in the table is the NMFS estimate of the approximate proportion of total round weight represented by each product type. Over the years 2008 through 2010, eastern cut accounted for between 63 percent and 83 percent of H&G production, and western cut accounted for between 17 percent and 37 percent. Over these years, both together accounted for over 95 percent of total output weight. Other primary products included whole or bled Pacific cod, and ancillary products such as roe, pectoral girdles, heads, cheeks, chins, belly flaps, milt, stomachs, and “other” products.

**Table 5 Pacific cod production, by product type, for the combined years 2003 to 2012, for the vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses**

Product type		NMFS product recovery rate	Total production by these vessels, 2003-2012 (mt)
Primary	Headed & gutted, Eastern cut (J-cut). Head removed just behind the collar bone.	0.47	308,714
	Headed & gutted, Western cut. (Collar bone on, or CBO). Head removed just in front of collar bone.	0.57	118,542
	Whole fish/food fish.	1.00	2,409
	Gutted, head on	0.85	943
	Headed & gutted, with roe	0.63	51
	Bled only	0.98	45
Ancillary	Stomachs	none specified; industry estimates up to 0.07	6,375
	Roe	0.05	3,556
	Collar bones (pectoral girdle)	0.05	3,991
	Milt	none specified; industry estimates 0.04	735
	Heads	none specified; industry estimates 0.27	713
	Chins	none specified	121
	Cheek	0.05	109

Source: NMFS product recovery rates, Table 3 to Part 679, accessed May 15, 2012. Industry estimates from K. Down, pers. Comm., May 14 2012. Total production from NMFS Weekly Production Report data, compiled by AKFIN, May 2012.

One advantage of vessel replacement is that the factory in a new vessel can be purpose-built to utilize additional processing lines for ancillary products. Table 6 compares the relative production of primary versus ancillary Pacific cod products by qualifying vessels, categorized both by vessel length and by vessel age. No difference in relative production is apparent across vessel length, but the data suggest that vessel age may impact the ability of a vessel to process ancillary products. A vessel’s choice of product type mix is likely much more complicated, however, and involves many factors that are not easily captured in the available data.

**Table 6 Relative production of primary and ancillary Pacific cod product types for the combined years 2003 to 2012, by vessel length and year built, for the vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses**

LOA	Primary		Ancillary		Year built	Primary		Ancillary	
	mt	% of total	mt	% of total		mt	% of total	mt	% of total
107' to 124'	135,536	96.3%	5,197	3.7%	1935 to 1946	121,029	97.6%	2,932	2.4%
135' to 141'	89,668	96.5%	3,248	3.5%	1966 to 1985	120,220	96.6%	4,219	3.4%
150' to 174'	161,491	96.6%	5,730	3.4%	1986 to 2005	189,474	95.7%	8,459	4.3%
180'	44,028	96.8%	1,435	3.2%					

Source: NMFS Catch Accounting data, compiled by AKFIN, May 2012.

### 1.5.5 Incidental catch in the Pacific cod hook-and-line catcher processor target fishery

Table 7 contains estimates of the incidental catch of species in the BSAI Pacific cod hook-and-line catcher processor target fishery, by the vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses. The table only includes estimates of the most significant incidental catches. In general, most of the pollock that is caught incidentally is retained, while a smaller proportion of skates, arrowtooth flounder, and rockfish species are retained.

**Table 7 Incidental catch by the vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses, and proportion of incidental catch that is retained**

Year	Arrowtooth		Pollock		Skates		Rockfish	
	mt	% retained	mt	% retained	mt	% retained	mt	% retained
2004	1,209	6.9%	4,494	85.4%	13,413	24.2%	125	21.7%
2005	1,487	37.0%	3,624	85.3%	16,493	31.8%	80	32.8%
2006	1,162	28.8%	2,782	83.4%	12,031	25.4%	69	23.7%
2007	1,308	17.7%	3,264	81.9%	10,400	28.1%	144	21.9%
2008	1,776	19.0%	5,118	80.5%	14,026	32.0%	202	24.8%
2009	1,841	14.0%	4,510	84.7%	12,354	25.0%	217	25.6%
2010	1,788	17.4%	4,686	80.1%	12,171	32.5%	400	45.9%
2011	1,471	17.6%	6,218	84.3%	18,590	21.6%	102	36.9%
2012	193	1.5%	1,988	90.8%	7,936	20.4%	30	25.0%

Source: NMFS Catch Accounting data, compiled by AKFIN, May 2012.

Table 8 and Table 9 focus exclusively on skates caught as incidental catch in the Pacific cod target fishery. For 2009 to 2011, the tables examine skate retention by vessel length, and by age of vessel, respectively. In Table 8, it is evident that there no apparent trend in skate retention by vessel size class. Table 9 shows that especially for 2009 and 2010, there appears to be a lower retention rate of skates by vessels built between 1936 and 1945.

**Table 8 Skate retention by vessel length, for the vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses**

LOA	Year	Number of vessels	Skates (mt)	% skate catch retained
107' to 124'	2009	12	2,685	32.8%
	2010	12	2,731	41.5%
	2011	11	2,529	31.1%
135' to 141'	2009	6	3,579	14.9%
	2010	6	3,442	26.8%
	2011	6	6,554	16.3%
150' to 174'	2009	11	4,652	29.9%
	2010	11	4,715	35.6%
	2011	10	8,376	22.7%
180'	2009	4	1,437	19.5%
	2010	4	1,282	17.2%
	2011	3	1,131	23.2%

Source: NMFS Catch Accounting data, compiled by AKFIN, May 2012.

**Table 9 Skate retention by age of vessel, for the vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses**

Year built	Year	Number of vessels	Skates (mt)	% skate catch retained
1936-1945	2009	10	3,322	20.8%
	2010	10	3,281	23.8%
	2011	7	3,790	22.8%
1966-1985	2009	11	2,825	27.0%
	2010	11	2,243	30.6%
	2011	11	4,091	21.8%
1986-2005	2009	12	6,207	26.3%
	2010	12	6,647	37.4%
	2011	12	10,709	21.1%

Source: NMFS Catch Accounting data, compiled by AKFIN, May 2012.

### 1.5.6 Other BSAI target fisheries for this fleet

Table 10 provides estimates of other groundfish species targeted by this fleet. Some of the vessels also target halibut, however, halibut is not considered a groundfish, and is not managed under the BSAI Groundfish FMP. The longline target fishery for both sablefish and halibut is managed through an individual fishing quota system. Any increased capacity that may result from the proposed action would therefore not affect other participants in the directed sablefish or halibut fisheries.

There are currently 4 eligible vessels that actively target for Greenland turbot in the BSAI. The target fishery is limited access, and is prosecuted by catcher processors, mainly from the freezer longline or Amendment 80 sectors. There are currently no prohibitions about vessels participating in the fishery, so it is possible that increasing capacity under Alternative 2 may result in an increase in activity in the Greenland turbot fishery. The Council has asked for a discussion paper to evaluate whether there should be allocation of the Greenland turbot fishery, which will be discussed at the June 2012 Council meeting.

**Table 10 Other targeted BSAI groundfish by the vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses**

Year	Sablefish		Greenland turbot		Pacific cod targeted with pot gear (mt)
	mt	% retained	mt	% retained	
2004	1,643	96.2%	1,305	96.3%	*
2005	1,926	97.3%	1,569	97.0%	0
2006	1,758	96.7%	1,360	94.9%	*
2007	1,669	98.8%	1,433	91.5%	0
2008	1,189	97.8%	756	89.7%	*
2009	1,024	96.5%	1,341	95.8%	*
2010	841	95.9%	2,035	98.0%	1,541
2011	778	96.8%	1,948	99.0%	*
2012 <sup>^</sup>	130	99.1%	7	71.9%	*

\* = data are confidential

<sup>^</sup> = 2012 annual data are incomplete, includes catch through April 29, 2012.

Source: NMFS Catch Accounting data, compiled by AKFIN, May 2012.

As part of the Council's license latency FMP amendment establishing Pacific cod endorsements, LLP holders that were eligible to longline as either CPs or CVs had to make a permanent, one-time selection as to whether their Pacific cod catch would accrue against the CP or CV hook-and-line sector allocation. Consequently, any increased capacity that may result from the proposed action would not impact the Pacific cod hook-and-line catcher vessel sector. There are, however, 3 qualifying LLP licenses that are also endorsed to target Pacific cod in the Bering Sea and Aleutian Islands with pot gear. These LLP licenses were fished with 4 unique vessels over 2004-2012 (Table 10). The vessel associated with one LLP license has shown a fairly consistent participation in the pot cod fishery, fishing in five out of nine years. The catch of Pacific cod in the pot fishery represented between 4% and 20% of the total BSAI Pacific cod catch accrued to that LLP, during those five years. The other two LLP licenses have fished in two or three of the most recent four complete years, respectively. Their proportion of total BSAI Pacific cod catch occurring with pot gear, however, is higher: between 23% and 35% for one LLP, and between 36% and 89% for the other.

There is also a State water fishery for Pacific cod in the Aleutian Islands, but hook-and-line vessels participating in that fishery may not exceed 60' LOA, so none of the vessels in this sector are eligible to participate in it.

Some vessels in the freezer longline sector may also have other, fishery-related activities during the course of the year; for example, tendering or processing salmon during the summer. NMFS does not presently compile data on these activities.

### 1.5.7 Participation in GOA fisheries by BSAI freezer longline vessels

A subset of vessels in the freezer longliner fleet also fish Pacific cod in the GOA, along with two freezer longliners that fish exclusively in the GOA. The Council's fixed gear recency action (GOA Groundfish Amendment 86) has limited the number of participants in this sector by adding gear-specific Pacific cod endorsements to fixed gear licenses. The implementation of Pacific cod sector allocations, in 2012 (GOA Groundfish Amendment 83), has encouraged negotiations to extend the BSAI cooperative (the Freezer Longline Conservation Cooperative) to include all GOA freezer longline participants as well. Although this action is specific to LLPs that are endorsed for the Bering Sea and Aleutian Islands, the potential impact of larger vessels being able to participate in the GOA Pacific cod fishery is an important consideration in the analysis.

Table 11 shows the number of LLPs with Pacific cod hook-and-line catcher processor endorsements for the Bering Sea and Aleutian Islands also have endorsements in the GOA.

**Table 11 Number of BSAI Pacific cod hook-and-line catcher processor LLP licenses with GOA fixed gear Pacific cod endorsements**

Maximum length overall	Number of qualifying licenses that are also endorsed for the GOA	Range of vessel lengths for GOA-endorsed vessels	GOA Pacific cod endorsements			
			Hook-and-line		Pot	
			Central GOA	Western GOA	Central GOA	Western GOA
124'	6	110' to 124'	5	4	-	-
125' to 149'	8	107' to 136'	8	4	-	-
150' to 174'	7	150' to 174'	6	2	-	1
175' to 185'	4	124' to 180'	2	4	-	-
185' to 199'	2	152' to 167'	1	2	-	-
<b>Total</b>	<b>27</b>		<b>22</b>	<b>16</b>	<b>0</b>	<b>1</b>

Source: AKFIN Vessel Table and NMFS Restricted Access Management data, compiled by AKFIN, May 2012.

There are also two freezer longline LLP licenses that are exclusively endorsed for Pacific cod fishing in the GOA. Each of these LLP licenses has a western GOA hook-and-line endorsement, and one license also has a central GOA and western GOA pot cod endorsement. These LLP licenses have an MLOA of less than 124', and the vessels currently named on the LLP licenses are considerably smaller than the MLOA on the licenses.

In the GOA, a sector allocation of Pacific cod TAC was implemented in January 2012. The Council recommended 19.8% of the western GOA TAC and 5.1% of the central GOA TAC to the GOA freezer longline sectors (vessels with a Pacific cod hook-and-line catcher processor endorsement on their LLP for either the central GOA or the western GOA).

Table 12 identifies the number of vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses that also reported Pacific cod catch in the GOA from 2004 through 2011. The table also shows the amount of catch by qualifying vessels, as well as GOA cod catch as a proportion of the total BSAI or GOA Pacific cod catch by those vessels. These percentages ranged from 2.7 percent in 2005 to 17.4 percent in 2010. However, vessels that operate in both areas are significantly more dependent on production from the GOA than the average vessel in the fleet.

**Table 12 GOA Pacific cod fishing activity by vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses**

Year	Number of qualifying BSAI vessels with Pacific cod catch in GOA	Catch of GOA Pacific cod by qualifying BSAI vessels	GOA cod catch as proportion of total BSAI/ GOA cod catch for qualifying BSAI vessels
2004	13	4,374	10.5%
2005	10	837	2.7%
2006	17	3,383	6.9%
2007	18	4,498	9.1%
2008	15	4,644	10.0%
2009	17	4,467	8.6%
2010	17	7,525	17.4%
2011	14	8,187	12.5%

Source: NMFS Catch Accounting data, compiled by AKFIN, May 2012.

As in the BSAI, the BSAI freezer longline vessels also target sablefish in the GOA, which is managed with an individual fishing quota system. Table 13 identifies GOA sablefish catch by qualifying BSAI freezer longline vessels, and shows their catch as a proportion of total sablefish catch in the GOA. Any

increased capacity that may result from the proposed action would therefore not affect other participants in the directed sablefish fishery.

**Table 13 GOA sablefish catch by vessels named on the 37 qualifying BSAI Pacific cod hook-and-line catcher processor-endorsed LLP licenses**

Year	Catch of GOA sablefish by qualifying BSAI vessels	
	Number of vessels	mt
2004	11	1,454
2005	14	1,606
2006	19	1,375
2007	15	1,366
2008	10	948
2009	11	754
2010	11	562
2011	12	658

Source: NMFS Catch Accounting data, compiled by AKFIN, May 2012.

### 1.5.8 Freezer Longline Conservation Cooperative

Since 2006, most of the holders of LLP licenses endorsed as Pacific cod hook-and-line catcher processors in the BSAI have been members of the voluntary Freezer Longliner Conservation Cooperative (FLCC). In June 2010, the remaining LLP holders joined the cooperative, so that with the start of the 2010 B season on August 15, all holders of LLPs authorizing the use of these vessels were members of the cooperative. Each year, an allocation is made to the BSAI freezer longline catcher processor sector through the annual harvest specifications process. FLCC members each receive a share of the quota for harvest; shares are issued in proportion to historical fishing activity associated with each LLP. FLCC members are free to exchange their quota shares among themselves, and to stack quota shares on individual vessels. Compliance with the agreement is monitored by SeaState, Inc., and the contract, signed by the members, imposes heavy financial penalties for non-compliance. Dissolution of the cooperative requires the agreement of an 85% supermajority of LLP license holders.

In 2007, the FLCC organized a voluntary fishing capacity reduction (buyback) program in the sector, which removed three active and one latent license from the sector. The cooperative has submitted one other LLP to NMFS as a candidate for buyback. NMFS is in the process of preparing the proposed rule to administer the vote on the buyback by members of the sector.

For several years, FLCC members have also organized their GOA cod harvests, even without participation of all GOA harvesters, sufficiently to make reliable commitments regarding halibut PSC avoidance goals which have affected whether NMFS has opened fisheries (NMFS 2011b). Beginning in 2012, long term allocations of the Western and Central GOA Pacific cod TACs to the GOA freezer longline sector, and provisions that limit entry to the directed GOA longline Pacific cod fishery, may provide opportunities for a GOA harvest cooperative. The FLCC is currently in negotiation with the holders of freezer longline LLPs that are exclusively endorsed for GOA Pacific cod.

### 1.5.9 Markets

Pacific cod produced by the freezer longliners is ultimately sold in a wide variety of places (white tablecloth restaurants, fast food restaurants, food service operations in school and hospitals, grocery stores, in the United States or in foreign countries), and in a wide variety of product forms (fillets, sticks, portions, breaded or unbreaded, and salt cod, in addition to the ancillary products listed above).

The BSAI freezer longliner vessels are primarily producing trays of frozen headed and gutted Pacific cod. This product is processed further, once it leaves the catcher/processor. Additional processing may take place in the United States. However, much of the processing takes place overseas. Pacific cod processed in second countries may be exported to third countries for consumption. For example, large Pacific cod produced from the Aleutian Islands may be shipped to Norway for further processing, and then shipped to Brazil for final processing and consumption as salt cod. Pacific cod receiving secondary processing overseas may be re-exported, to the United States, for consumption.

### 1.5.10 Gross Revenues from fishing for Pacific cod

Table 14 provides estimates of gross average revenue and the number of freezer longliners fishing for Pacific cod in from 2004 through 2010. Average gross revenue includes non-CDQ and CDQ, targeted and incidental, and BSAI and GOA Pacific cod first wholesale gross revenues. These gross revenues have been converted to constant 2010 dollars to factor out the impact of inflation. Average revenue appears to have risen over most of the period, until they dropped in 2009 and 2010.

**Table 14 Average gross first wholesale revenue and number of vessels from BSAI and GOA Pacific cod for the BSAI freezer longline fleet**

Year	Number of vessels	Average revenue (\$)
2004	39	4,006,034
2005	39	4,845,300
2006	39	5,551,425
2007	37	5,662,278
2008	39	6,258,223
2009	38	4,260,433
2010	36	5,027,225

### 1.5.11 Safety Considerations

With the notable exception of the loss of the freezer longline vessel *Galaxy* in 2002, there have been no other vessel losses within the freezer longline sector between 2000 and 2010, and individual fatalities have been infrequent during this same time period. The freezer longline sector is nevertheless considered to be high-risk, primarily due to the area in which these fish processing vessels operate, the average vessel age, the large number of crew on each vessel, and the potential for severe consequences, such as multiple loss of life, should a marine casualty occur. This section characterizes the operational risks associated with the work environment of this fleet, the fleet's fatality rates, the applicable safety regulations (including the Alternate Compliance and Safety Agreement), and the safety implications of vessel replacement.

#### 1.5.11.1 Safety Concerns

##### Aging fleet linked to negative safety events

A literature review found a few studies that evaluated the association of vessel age with the probability of a negative safety event. The first study reviewed USCG accident investigations of non-fatal crew injuries, fatal crew injuries, and missing crew incidents on freight ships, tankers and tugboats that occurred during 1991 through 2001. Authors found that fatal injuries on freight ships increased with vessel age.<sup>8</sup> Another

<sup>8</sup> Talley, WK, Jin D, Kite-Powell, H. Determinates of Crew Injuries in Vessel Accidents. *Marit. Pol. Mgmt.*, July-Sept 2005. Vol. 32. No. 3, pg. 263-278.

study from the British Shipbuilders Technology Department concluded that, in general, a positive relationship exists between ship casualty rates and ship age.<sup>9</sup> Only one study was found that looked at the issue of age as a predictor for vessel losses and fatalities in the commercial fishing fleet. The authors found that an increase in vessel age increases the probability of a total loss due to a collision, fire/explosion, material/equipment failure, capsizing and sinking.<sup>10</sup>

### **High-risk / high consequence work environment**

Unlike catcher vessels, which catch fish and deliver fish in the round to shore plants, freezer longline fish processing vessels have added hazards because they catch, sort, head, eviscerate, clean, and process fish into various fish products on board the vessel. To conduct these operations, these vessels have large crew complements ranging from 15 to 25 people, with an average size of 19 crew members. In contrast, the size of a typical catcher vessel crew ranges between 4 and 6 people. The majority of the crew on freezer longline vessels are not professional mariners, but instead are fish processing workers. In addition to large crews, these vessels carry processing and freezing machinery, hazardous gases for refrigeration, and large amounts of flammable packaging materials that pose hazards that do not exist on catcher vessels. The freezer longline vessels typically operate from January through May and then from July through November, with some vessels extending their seasons through December. However, in 2011, it appears likely that the fishing season will extend to cover the entire year due to slower harvest rates and halibut PSC availability. Because of their ability to freeze, package, and store frozen catch, these vessels can operate in the most remote areas of the BSAI region for extended periods of time, hours away from search and rescue support.

### **History of fatalities and fatality rates**

Since 1990, the National Institute for Occupational Safety and Health (NIOSH) Alaska Pacific Regional Office has monitored safety performance of individual fishing fleets throughout Alaska. NIOSH collects information for each fatality that occurs in the fishing industry, and also estimates the size of the work force for each fleet to calculate rates and make comparisons across fleets. Fatality rates are calculated by dividing the number of fatalities by the estimated workforce. These workforce estimates are based on the number of vessels operating, the number of days the vessel is at sea, and the number of crewmen on board. Based upon these variables, the freezer longline fleet had an average annual fatality rate of 117 per 100,000 workers per year from 2000 through 2009. In comparison, the average annual fatality rate for the entire fishing fleet operating in and off Alaska was 109 per 100,000 workers per year from 2000 through 2009. Table 15 is a summary of all fatalities occurring on freezer longline vessels since 2000.

During 2000 through 2010, there has been one major vessel loss in this fleet, the F/V Galaxy. The loss of the Galaxy demonstrated the significant consequences resulting from a large crew having to abandon a vessel. The risks for high numbers of fatalities increase if crews are forced to abandon ship. Other fatalities within this freezer longline fleet are caused by falls overboard and industrial injuries occurring in the processing spaces.

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<sup>9</sup> Meek M, Brown WR, Fulford KG. A shipbuilders' view of safety. *Marit. Pol. Mgmt.*, 1985, Vol. 12, No. 4, pg. 251-262.

<sup>10</sup> Jin D, Kite-Powell H, Talley W. The safety of commercial fishing: Determinants of vessel total losses and injuries. *Journal of Safety Research* 32 (2001) 209-228.

**Table 15 Fatalities on freezer longline catcher processor vessels, 2000 through 2010**

Year	Fatality Type	# of Fatalities	# Crew at risk	Vessel Length (in ft)
2002	Vessel Loss	3	26	180
2002	Fall Overboard	1	1	161
2002	Fall Overboard	1	1	166
2003	Fall Overboard	1	1	124
2008	On-board Injury	1	1	137
2008	On-board Injury	1	1	124
2010	On-board injury	1	1	137

**1.5.11.2 Review of Freezer Longline Fleet Safety Regulations**

Safety regulations for commercial fishing industry vessels are largely based upon the function of the vessel. More specifically, existing U.S. Coast Guard safety regulations make a significant distinction between a fishing vessel (a vessel which catches fish), and a fish processing vessel, which is a vessel that “commercially prepares fish or fish products, other than by gutting, decapitating, gilling, skinning, shucking, icing, freezing or brine chilling.” The most stringent safety regulations of vessel classification and loadline are reserved for fish processing vessels built after July 1991. A vessel which does not prepare fish beyond these eight statutory limitations is regulated to a significantly lesser degree as a “fishing vessel,” in accordance with 46 USC 2101 (11a).

Prior to 2006, the USCG enforced the safety regulations for the freezer longline fleet (as well as the freezer trawl fleet) as if they were “fishing vessels” that produced head and gut (H&G) products as described in Table 16, Column A. In terms of required safety equipment, this designation as a fishing vessel meant that these vessels only had to meet minimal standards for primary lifesaving and fire-fighting equipment, but were not required to be classed or loadlined.

The formal USCG investigations into the loss of the Arctic Rose (2001) and Galaxy (2002) found most freezer longline and freezer trawl vessels were actually operating (and had been operating for some time) as “fish processing vessels” and were producing fish products that were only allowed on classed and loadlined vessels (Table 16, Column C). Due to a vessel age limitation of 20 years, imposed by the classification societies of Det Norske Veritas and American Bureau of Shipping, the vast majority of the freezer longline fleet could not be either loadlined or classed, unless that vessel was already constructed to class and loadline standards. In other words, freezer longline vessels built before 1992 cannot be classed and loadlined. A summary of the freezer longline fleets age and length is provided in Table 2.

**Table 16 Fish processing products allowed on various types of fishing vessels**

	Column A: Head and Gut Fish Products Allowed for Fishing Vessels	Column B: Fish Processing Products Allowed on ACSA Vessels	Column C: Fish Processing Products Allowed on Classed/ Loadlined Vessels
Whole Fish (for) Meal	X	X	X
Bled Only	X	X	X
Bled Fish destined for Meal	X	X	X
Gutted, Head On	X	X	X
Gutted, Head Off	X	X	X
Head & Gutted with Roe	X	X	X
Headed & Gutted, Western Cut	X	X	X
Headed & Gutted, Eastern Cut	X	X	X
Wings	X	X	X
Mantles, Octopus or Squid	X	X	X
Headed & Gutted, Tail Removed		X	X
Kirimi (Steak)		X	X
Roe		X	X
Pectoral Girdle		X	X
Heads		X	X
Chins		X	X
Cheeks		X	X
Milt		X	X
Stomachs		X	X
Salted and Split			X
Belly Flaps			X
Filletts with Skin & Ribs			X
Filletts with Skin, No Ribs			X
Filletts, Skinless / Boneless			X
Filletts, Deep Skin			X
Surimi			X
Minced			X
Fish Meal			X
Fish Oil			X
Butterfly, No Backbone			X
Bones			X

ACSA = Alternate Compliance and Safety Agreement

### Alternate Compliance and Safety Agreement

Because of this inability to meet current safety regulations of loadline and classification, the USCG and owners of freezer longline (and freezer trawl) vessels collaborated to develop an alternative program to address the safety risks of this fleet.<sup>11</sup> This collaborative effort is known as the Alternative Compliance and Safety Agreement (ACSA). ACSA development began in June 2005, and was implemented between June 2006 and January 2009. The ACSA program is designed to achieve a similar level of safety as classification and loadline provide and, in certain ways, exceeds the standards of classification and loadline. However, it is important to note that because most freezer longline vessels were not constructed to meet the requirements of classification and loadline, there are some inherent limitations in achieving a total safety equivalency.

ACSA has both a preventative safety regime, as well as a reactive one. Preventative safety components of the ACSA program focus on maintaining hull condition and watertight integrity, preventing down flooding, ensuring adequate vessel stability, requiring fire detection and suppression systems. ACSA also requires regular maintenance for machinery and critical piping systems. Reactive safety components of ACSA include enhanced emergency training, improved lifesaving equipment and additional firefighting capabilities for the vessel and crew. These standards are enforced through mandatory annual inspections and regular drydock examinations (twice in five years).

<sup>11</sup> U.S. Coast Guard, Exemption Letters for Existing Fish Processing Vessels. G-PCV Policy Letter 06-03 dated July 1, 2006.

To meet the requirements of the statutory language under the ACSA program, fishing vessels and freezer longline vessels not in compliance with ACSA are limited to producing only those fish products described in Table 16, Column A. Freezer longline vessels that are ACSA-compliant are allowed to produce fish products which exceed the statutory definition of fish processing, as outlined in Column B. Products considered to be “extensive processing” are only allowed on classed and loadlined fish processing vessels, or fish processing vessels that meet grandfathering provisions found in existing regulations (Column C).

### Statutory requirements for large vessels

There are also several statutory requirements that apply to the operation of all larger vessels (greater than approximately 135’ in length) and vessels with larger fish processing crews (greater than 16 fish processing workers). These additional safety and crewing requirements, and their regulatory thresholds, are provided in Table 17.

**Table 17 Statutory requirements for large vessels and fish processing vessels**

Description	Regulatory Trigger	Safety Improvements
Licensed Masters, Mates & Engineers	>200 Gross Tons (~135’ MLOA)	Professionally Trained, Licensed Crew
Watch Keeping	> 16 Processing Workers	Work Hour Limitations for Wheelhouse & Engine Room
Able-bodied Seamen	> 16 Processing Workers	Additional formal training & competency

### Summary of safety regulations for freezer longline vessels

With the inclusion of the ACSA program, freezer longline vessels will generally fall into sub-categories, with different safety regulations that must be followed. These are described below and are found in Table 18 on a continuum of the most lenient, to the most robust, safety regulations.

- Fishing Vessel (H & G Products Only): A vessel under this safety regime is only required to meet safety standards 46 CFR 28 subparts A-C standards. These fishing vessels may only produce those products found in Table 16, Column A. These grandfathering provisions will expire in July 2020, at which time these vessels will either have to be replaced with newly constructed fish processing vessels or will have to meet ACSA standards as previously described.
- Fish Processing Vessel (built before 1991): A vessel under this safety regime is only required to meet safety standards 46 CFR 28 subparts A-C standards and is also required to be examined by a USCG 3<sup>rd</sup> party surveyor every two years. These fish processing vessels have no processing limitation and may produce any product described in Table 16. Two freezer longline vessels fall into this category. These grandfathering provisions will expire in July 2020 at which time these vessels will either have to be replaced with newly constructed fish processing vessels or will have to meet ACSA standards as previously described.
- ACSA-enrolled Vessels: These vessels are neither classed or loadlined, but they produce fish products which classify them as “fish processing vessels.” To continue to be allowed to produce fish products in Table 16, Column B, these vessels must be in compliance with the ACSA program. Twenty-two freezer longline vessels fall into this category. These vessels are also required to meet 46 CFR 28 Subparts A-C standards, as well as 46 CFR 28.710 Subpart F Standards.
- ACSA-enrolled & Loadlined: These freezer longline fish processing vessels are not classed, but do have a current loadline. They produce fish products which classify them as “fish processing vessels.” To continue to be allowed to produce fish products in Table 16, Column B, these vessels must be in compliance with the ACSA program. Six freezer longline vessels fall into this category. In addition to

meeting requirements for loadline, they are also required to meet 46 CFR 28 Subparts A-C standards, as well as 46 CFR 28.710 Subpart F Standards.

- **Vessels with Classification and Loadline:** These freezer longline vessels are fish processing vessels that were built or converted for use as a fish processor after 1991. These vessels represent the highest safety standards for fish processing vessels in the United States. There are no limits on the products that can be made by these vessels, and may produce any product listed in Table 16. Three freezer longline vessels are classed and loadlined.
- **Newly-constructed Fish Processing Vessel:** A newly-constructed fish processing vessel must be loadlined and classed, and must meet additional safety, stability, and manning requirements that apply to vessels constructed after 1991.

**Table 18 Safety regulations applying to freezer longline vessels.**

Note, the columns represent a continuum (from left to right) of the most lenient to the most robust safety regulations.

Type of Vessel	46 CFR 28 Subparts A-C <sup>1</sup>	46 CFR 28 Subpart F <sup>2</sup>	ACSA Program	Loadline 46 USC 5101 <sup>3</sup>	Class 46 USC 4503 <sup>4</sup>	46 CFR 28 Subpart D <sup>5</sup>	46 CFR 28, Subpart E Damage Stability <sup>6</sup>	Current Number of Vessels
H & G Fishing Vessel	X							0
Pre-1991 Fish Processing Vessel	X	X						2
ACSA Vessel	X	X	X					22
ACSA Vessel w/ Loadline	X	X	X	X				6
Classed & Loadlined Vessel	X	X		X	X	X	X	2

<sup>1</sup> All fishing and fish processing vessels, regardless of type, must be in compliance with 46 CFR 28, subparts A-C. These regulations require the carriage of primary lifesaving equipment.

<sup>2</sup> All fish processing vessels, except for H&G vessels, must meet the requirement of passing a mandatory compliance examination every two years to confirm compliance with safety standards.

<sup>3</sup> A loadline is an international shipping safety convention which establishes standards for hull construction, watertight integrity, vessel stability, and maximum loading. Loadlined vessels are required to successfully complete annual surveys and dry dockings every fifth year. Fish processing vessels built after 1974 or converted for use as a fish processor after 1983 must be loadlined.

<sup>4</sup> Vessel classification is an international shipping safety convention which establishes standards for design and installation of propulsion, electrical, and refrigeration machinery, electrical wiring and distribution, and critical piping. Additionally, classification establishes standards for structural fire protection and other fire prevention measures. Classed vessels are required to complete annual surveys. Classed vessels are almost always loadlined. All fish processing vessels built or converted for use as a fish processor after July 1990 must be classed.

<sup>5</sup> All commercial fishing vessels that carry more than 16 people on board, that are built or had undergone a major conversion after September 15, 1991 must meet additional safety requirements found in 46 CFR 28 Subpart D.

<sup>6</sup> All commercial fishing vessels constructed after September 15, 1991, must meet additional safety requirements for damage stability found in 46 CFR 28, Subpart E.

## 1.6 Potential Effects of the Alternatives

### 1.6.1 Alternative 1: No Action

Under Alternative 1 (status quo), vessel owners are able to rebuild or replace their vessels. They are, however, limited by the MLOA of the LLP license with which the vessel is used. In addition, the size of a rebuilt or replaced vessel is also limited by the “large vessel” restrictions of the AFA. Freezer longline vessels that are rebuilt or newly built at (1) greater than 165 feet in length<sup>12</sup> or (2) in excess of 750 tons or (3) 3,000 shaft horsepower or greater, will not receive a federal fisheries endorsement, and therefore these vessels could not be used with an existing freezer longline LLP even if the MLOA is not a constraint.

<sup>12</sup> Measured at the waterline

## **MLOA restriction**

Both the LLP and the AFA restrictions were designed to stabilize capacity in fisheries. The MLOA was originally instituted in 1995, under the Council's groundfish vessel moratorium program. It was an initial step to freeze the growth in capacity in the groundfish fisheries<sup>13</sup>, while the Council developed long-term, comprehensive management programs. Since that time, the Council has enacted many changes to the groundfish fisheries, and particularly the freezer longline sector, which have dramatically changed the character of the fishery. The requirement for an LLP license, and subsequently a requirement for a gear- and operation-specific Pacific cod endorsement, limited the overall number of participants in the sector. The Council has also given the sector a direct allocation of Pacific cod in both the BSAI and the GOA, which provides an overall limit to Pacific cod catch by this sector, and has also allowed the sector to form a voluntary cooperative. The primary longline target fisheries that these vessels could participate in are for sablefish and Greenland turbot. Capacity is already restricted in the sablefish fisheries through individual fishing quotas. Greenland turbot is primarily targeted by either longline or Amendment 80 catcher processors, and the Council is, in a separate discussion paper, considering whether to set separate sector allocations for this species. With these various constraints, it appears that there are now other, focused management measures in place to constrain both overall capitalization of this sector, and the potential for this sector to disadvantage other sectors. While the MLOA on the LLP has served its purpose, it may no longer be necessary for this sector.

In addition to the specific MLOA constraints, the Council also included provisions about vessel length classes (> 60', 60' to 124', >125') in the LLP, affirming that no vessel could exceed the length constraint of their vessel class. One of the primary uses of these vessel length classes has been to designate differing requirements for observer coverage in each of these classes. With the proposed restructuring of the observer program, scheduled to be implemented in 2013, the entire freezer longline sector will now be required to meet a single level of observer coverage, namely an observer onboard 100% of the time. Therefore, the need to preserve vessel length classes (through the MLOA) for this sector may also no longer be necessary.

## **AFA "large vessel" restriction**

The AFA restriction applies to all U.S. fisheries, and contains a clause that allows the Council to recommend that larger vessels be used in fisheries under its authority. Again, this restriction was instituted in response to national issues of overcapacity. In Alaska, the Council has already removed this restriction for trawl catcher processors (both those participating in AFA pollock fisheries, and those participating in Amendment 80 fisheries). The Council has already adopted conservation and management measures relating to overcapacity for this sector, as described above. However, until the Council explicitly sanctions the use of new, large vessels in the fishery, vessel replacement is limited to the thresholds identified in the AFA. Under the status quo, there are 9 vessels currently in the fishery that exceed the identified length or tonnage thresholds. Six of these vessels were built between 1936 and 1945. Vessel owners are not allowed to replace these vessels with ones of comparable length and/or capacity, under Alternative 1. There are also six vessels in the fleet that are within 10% of the length and/or tonnage thresholds.

## **Economic efficiency**

In general, the LLP and AFA restrictions represent an impediment to the economic feasibility of rebuilding or replacing vessels in the freezer longline fleet. One of the primary advantages of replacing a fishing vessel is to incorporate improved hold design, processing plant construction, engines, and other

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<sup>13</sup> The Council analysis noted that restricting vessel length is not necessarily a guaranteed way to restrict vessel capacity, but that it was the best regulatory proxy at the time.

advancements in marine design that improve a vessel's capacity and safety. The cost of the new vessel must, however, be affordable, ideally because of the increased economic efficiency that will result from fishing with the new vessel. Many of the existing freezer longline catcher processor vessels were not fishing vessels when initially constructed. Inherently, these vessels are less well designed for fishing than a newly constructed fishing vessel would be. Given the sector allocation of Pacific cod, and the voluntary cooperative, there is little opportunity for a vessel to increase its overall catch of groundfish. There are, however, opportunities to make the current catch more valuable, for example by sending a higher quality fish to the plant, processing higher value products or more ancillary products, and processing incidental catch species that may currently be underutilized (such as skates). Two major limitations on processing other products are the capacity of the freezer and hold, and the size/layout of the factory to accommodate multiple processing lines. Both of these limitations are primarily addressed through increasing vessel size and tonnage. Additionally, a larger vessel may accommodate more fuel-efficient engines, and reduce maintenance costs, which would provide additional cost savings.

Under the status quo, 21 of the 37 LLP licenses are fished on vessels with an LOA equivalent to the MLOA of the LLP license, and another 7 are within 6' of the MLOA (Table 1). While vessel owners are able to rebuild or replace their vessels under the status quo, they are often not able to build a longer vessel, and may be additionally constrained by the AFA tonnage restrictions in order to receive a fishery endorsement for their vessel. These limitations are not constraining to every vessel owner, particularly those with an LLP with an MLOA larger than its assigned vessel<sup>14</sup>. However, in general, these LLP and AFA limitations make it less economically viable to invest in rebuilding or replacing the vessel.

## **Safety**

By limiting the incentive of vessel owners to replace their vessels, there may also be adverse impacts on the safety of this fleet. The average age of vessels currently in this sector is 39 years. These are, on average, the oldest of any catcher processors in the BSAI fisheries. A third of the vessels used in this fleet were built before 1946. The U.S. Coast Guard and freezer longline vessel owners have seen significant improvements in vessel safety as a result of the Alternate Compliance and Safety Agreement program implemented in 2006 to 2009, however, there are limitations to the program's ability to be effective in the long-term. Some improvements in vessel safety simply cannot be retrofit to older vessels. Also, ACSA is a voluntary program, and only vessels that are producing fish products found in Table 16, Column B, are required to participate in it. Opting out of the production of ancillary products could degrade the vessel's safety regime, without reducing the vessel's risk profile. The age of the fleet is such a safety concern that U.S. Coast Guard marine inspectors in charge of implementing the ACSA program continue to express serious concern over the material condition and long-term viability of this aging fleet.

## **Summary**

In summary, the status quo alternative will likely continue to present an impediment to vessel replacement for the freezer longline fleet. While some vessel owners will still choose to build replacement vessels, overall the alternative will limit improvements in vessel safety, processing efficiency, hold design, and engine efficiency for the fleet.

### **1.6.2 Alternatives 2 and 3: Changing constraints on vessel replacement**

Both Alternatives 2 and 3 change constraints of the MLOA, although to a different extent. The benefits of these alternatives, relative to the status quo, are that they provide flexibility for qualifying vessel owners

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<sup>14</sup> Note, a new freezer longline vessel is currently being built for use in this fishery, which will be used with one of the LLP licenses with a larger MLOA. Because of the AFA "large vessel" restriction, the vessel has been designed to be just within the 165' length (at the waterline) and 750 gross tonnage thresholds.

to replace their vessels with larger vessels, in order to improve safety, processing operation, and engine efficiency. Under Alternative 2, these benefits are limited to holders of LLP licenses with an MLOA of less than 150<sup>3</sup>. Under Alternative 3, both MLOA and AFA restrictions are lifted for all LLP holders in the sector. Some general impacts applicable to both alternatives are discussed below, followed by specific sections for each alternative.

### **Economic efficiency**

The recent developments of a limited class of participants, sector allocation, capacity reduction (in the form of the voluntary buyback program), and the negotiation of a voluntary cooperative structure for the BSAI freezer longline fleet, have changed the character of BSAI Pacific cod hook-and-line catcher processor fishery. Under a rationalized fishery, it can be argued that companies are better able to determine their production stream. With this insight, companies are better able to design vessels for their harvesting and processing strategies. Currently, freezer longline vessels are designed to maximize profits in an open access fishery. In an open access fishery, the primary emphasis in the processing line is to maximize throughput, which, for the freezer longline fleet, is to head and gut the fish. As a result, on many vessels, the processing of ancillary products, which is often more labor intensive and is time consuming, has been minimal, despite the value of these ancillary products. There is a limited degree to which these older vessels can be redesigned to take advantage of new technologies and processing opportunities.

A major economic advantage of replacing these vessels with larger vessels will likely be additional capacity to improve overall production efficiency of existing products, and add processing of ancillary product forms. Some processing of roe, milt, collar bones, stomachs, and to a limited extent, heads, is already undertaken (Section 1.5.4). Additional opportunities may be available in processing liver, liver oil, and head meat products (cheeks, tongue); vessels could also install small fish meal plants to fully utilize all of the catch. Processing of skate wings, taken incidentally in the fishery, is also an economic opportunity. Markets already exist for many of these product forms. Some of these products are more valuable than others, and vessels with smaller holds also have to weigh the tradeoff between lower value products and available hold space. Larger and purpose-built vessels (both in length and tonnage) are generally needed to fully take advantage of these product types. Limitations on processing these other products include the capacity of the freezer and hold, and the size/layout of the factory to accommodate multiple processing lines. Additional accommodation for processing labor may be required for these ancillary operations, as well as more power to run the larger capacity refrigeration and factory plants.

Other design elements can also be included in a new vessel, which improve the economic efficiency of a fishing operation. Some examples from vessels being used in cod fishing operations in Norway include hybrid diesel electric engines, which increase fuel efficiency and available power, and more automation in factory lines. Longline vessels are also being designed with a moonpool, where the deck is enclosed, and catch is hauled up through a hole. This would have significant benefits for both crew comfort and safety, and potentially reduce fishing delays due to inclement weather. It has also been suggested that the quality of fish may be improved in a moonpool boat, as the fish are not gaffed (M. Burns, pers. comm., 5/7/12). Vessels with larger holds may also be able to remain longer on the fishing grounds, and fewer, longer trips may result in fuel savings.

Another improvement that can be achieved with new vessels is to improve crew accommodations. Anecdotal evidence from the freezer longline fleet suggests that there is increasing pressure to be able to provide better quarters for crew, given competition from other, more modern Alaska catcher processor vessels, or opportunities on vessels supporting the oil industry.

Removing disincentives for some vessels in the fleet to replace their vessels with larger ones may result in some consolidation in the fleet. Vessel owners may choose to replace multiple vessels with a single, larger vessel that can more efficiently harvest the allocations assigned under cooperative management. This consolidation would not be expected to result in reduced harvests overall. It likely will, however, increase the effective fishing capacity within the sector.

A factor that may affect the incentive for owners of freezer longline vessels to rebuild their vessels in the near term is the current interest rate. Favorable interest rates could also motivate those owners that were on the fence about rebuilding their vessels. From the perspective of a credit risk, the freezer longline vessel fleet is considered favorable, and at worst neutral (M. Wittman, pers. comm, 5/11/12), due to the combined factors of cooperative formation within the fleet, and restricted entry and sector allocations for BSAI and GOA Pacific cod. From the perspective of the lender, the proposed action to remove constraints on building larger vessels is positive since owners would also have the flexibility to design a platform that better meets their needs. Naturally, this credit environment would change if all owners decided to rebuild and increase the size of their vessels at the same time, which may lead to overcapacity, given fixed quotas for the Pacific cod fisheries.

### **Economic spillover or redistribution**

Although there may be some adverse effects from allowing larger replacement vessels, there are relatively few opportunities for LLP holders with adjusted MLOAs to fish their larger replacement vessels in other fisheries, as most other available target fisheries for this fleet are already constrained by sector allocations or individual fishing quotas. A further discussion of these impacts is included below in the analysis of each alternative.

As discussed above, adjusting vessel length restrictions for replacement vessels could result in limited consolidation of the BSAI freezer longline fleet. Cooperative members perceiving a higher return from leasing their quota versus remaining in the fishery with an older, less efficient vessel will likely lease their quota to other cooperative members. While this is also a feature of the status quo, there may be an increased impetus towards consolidation if some cooperative members are looking to recoup capital outlay on a new vessel by increasing their harvesting capacity, and this interest affects lease rates. Consolidation could have an adverse impact on the availability of jobs for crew.

To the extent that vessels with larger holds may extend their fishing trips and require fewer port calls, there may be some impact on port communities that supply these vessels. It is not anticipated that there would be a substantial change in fishing patterns as a result of these alternatives, however. The overall level of effort in the fishery will remain unchanged from status quo, as this action has no effect on Pacific cod total allowable catch, or the sector's annual allocation. The Pacific cod TAC itself can change significantly from year to year, based on the recruitment of strong year classes, and the stock is currently at a high biomass level after several years of lower TACs. Figure 1 illustrates that Pacific cod are caught throughout the BSAI, extending both far north along the Bering Sea slope and far west in the Aleutian Islands. The fleet travels to where the fish are, and this pattern is not likely to change, even with the potential advent of larger replacement vessels with an increased hold capacity. Vessels in this fleet deliver not only to ports, but also to trampers, and can offload their catch at sea. The fluctuation in Pacific cod catch levels is a stronger driver of the level of effort and pattern of fishing than the capacity of vessels in the fleet, in recent years.

### **Safety**

On average, the freezer longline fleet is the oldest catcher processor fleet in the BSAI fisheries. Since newly built vessels, and vessels that undergo major modification, must meet the full suite of safety

standards as indicated in Table 18, replacement vessels will be inherently safer, as well as more efficient, than the vessels they are replacing. Under Alternatives 2 and 3, a disincentive to replacing vessels is removed for some or all vessel owners in the freezer longline fleet, which may result in safety improvements. Modernizing this fleet would address serious concerns that have been expressed by U.S. Coast Guard marine inspectors regarding the material condition and long-term viability of this fleet.

#### **1.6.2.1 Alternative 2: MLOA adjustment for LLP licenses under 150'**

Alternative 2 adjusts LLP constraints to allow owners of freezer longline vessels less than 150' to rebuild or replace their vessels with somewhat larger vessels. The alternative would increase the MLOA on a qualifying LLP by 20%, not to exceed 150' LOA. Under the alternative, a total of 17 LLP licenses would be eligible for larger MLOAs (Table 1). Of these 17 LLP licenses, 10 licenses would have their MLOA changed to 150', while the other 7 licenses would have their MLOA changed to 149'.

#### **Economic efficiency**

Some of the positive effects of improved efficiency from vessel replacement, as discussed in Section 1.6.2, would apply for eligible LLP holders under this alternative. The extent of the benefit is mitigated, however, as the vessel length restrictions of 150' also indirectly limit the level of production efficiency and additional processing that a replacement vessel can incorporate. In evaluating recent production in the fleet, the age of the vessel seems to be an important factor in terms of producing ancillary products (Table 6, Table 8, Table 9), where newer vessels are more likely to produce other product types. In a new, purpose-built replacement vessel, a 150' LOA restriction will limit the ability of vessels to take advantage of efficient designs. It will depend on the economics of the individual operation, as to whether the improvements of a new vessel are sufficient to outweigh the cost.

#### **Economic spillover or redistribution**

Adjusting the MLOA for qualifying LLP licenses under Alternative 2 would not be likely to result in a significant increase in capacity in other groundfish fisheries. Some of the vessels that are named on the qualifying LLP licenses also directed fish for sablefish in the BSAI and the GOA, but these hook-and-line fisheries are already managed with an individual fishing quota program. None of the 17 eligible BSAI LLP licenses under this alternative have BSAI or GOA pot Pacific cod endorsements, so there is unlikely to be an impact in these fisheries. There are currently 4 eligible vessels that actively fish for Greenland turbot in the BSAI. The target fishery is currently limited access, and is prosecuted by catcher processors, primarily from the freezer longline or Amendment 80 sectors. There are currently no prohibitions on vessels participating in the fishery, so it is possible that increasing capacity under Alternative 2 may result in an increase in activity in the Greenland turbot fishery. The Council has asked for a discussion paper to evaluate whether there should be allocation of the Greenland turbot fishery, which will be discussed at the June 2012 Council meeting.

Some of the vessels that are named on LLP licenses affected by Alternative 2 are also active in the GOA hook-and-line Pacific cod fishery. The GOA fishery also has sector allocations, as of 2012. BSAI cooperative members have coordinated their fishing in the GOA Pacific cod fishery for several years, in order to allow the fishery to remain open despite potentially constraining halibut prohibited species catch limits. There are, however, two LLP licenses in the GOA Pacific cod hook-and-line catcher processor sector that are exclusively endorsed for cod fishing in the GOA. As noted in Section 1.5.7, the GOA-only LLP licenses have MLOAs of less than 124', and are endorsed for the western GOA. With the advantage of cooperative fishing amongst the BSAI freezer longliners, combined with larger, purpose-built replacement vessels, the BSAI-endorsed LLP license holders could consolidate BSAI harvests within the cooperative, and use their increased processing capacity to garner a greater proportion of the GOA Pacific

cod sector allocation, relative to their historical catch. This has the potential to negatively impact the two GOA-only freezer longline vessels.

One of the two vessels is currently owned by one of the fishing companies that is already part of the Freezer Longline Conservation Cooperative. The Cooperative is currently negotiating to extend the cooperative into the GOA cod fishery, which would presumably mitigate any potential negative impact on GOA-only vessels. The negotiations are not yet completed.

## **Safety**

The average age of the freezer longline vessels less than 150' is approximately 27 years. Since all replacement vessels will either be classed and loadlined, or meet the requirements of ACSA, if this alternative promotes rebuilding any of the vessels within this class, it will result in improved safety.

In addition to safety improvements inherent in the construction of new vessels, for the eligible vessels under this alternative, there are also several statutory requirements that may translate into improved safety protections. Table 17 lists additional safety and crewing requirements, and their regulatory thresholds that are required for larger vessels and larger fish processing crews. Of the 17 vessels that would qualify for replacement under this alternative, no freezer longliner vessels currently have 16 or more processor workers, and only 4 vessels exceed the tonnage threshold. If these vessels were replaced with larger vessels, additional safety and crewing requirements would be triggered. The cost of these additional requirements would have to be factored in to the calculation of whether the cost of a replacement vessel is warranted, however, any vessel that is eventually replaced would be meeting higher safety standards.

This alternative only authorizes increased replacement vessel length for vessels less than 150'. Vessel length restrictions often lead to inefficient hull designs and other compromises in vessel design. One drawback of vessel length restrictions is the potential for compromise in vessel safety. The average length of the three existing classed and loadlined freezer longline vessels is approximately 165 feet. Arguably, vessels of this size provide a more stable work platform and are better able to withstand the harsh weather found when operating in the Bering Sea and Aleutian Islands. Allowing owners and naval architects maximum flexibility in vessel design, and vessel dimensions, within the well-established rules of classification and loadline requirements, would enhance the safety of new fish processing vessels.

## **Summary**

In summary, Alternative 2, relative to status quo, provides an opportunity for holders of freezer longline LLP licenses to receive an adjustment to their MLOA, to either 149' or 150' LOA. This would give those LLP holders the opportunity to replace existing vessels with somewhat larger ones. Having this ability may improve production efficiency, while at the same time allow for increased vessel safety. At the same time, the limitations on vessel replacement length for this alternative could limit the incentive for vessels to take advantage of vessel replacement, if improvements in economic efficiency are insufficient to justify the cost of a new vessel.

### **1.6.2.2 Alternative 3: Vessel Replacement with No Length Restriction**

Under Alternative 3, the MLOA of LLP licenses with Pacific cod hook-and-line catcher processor endorsements would no longer restrict vessels that are named on these LLP licenses. This alternative would offer vessel owners the greatest flexibility to rebuild or replace their vessels and incorporate improvements in processing and safety. This alternative would also allow new or replacement vessels of

greater than 165 feet in length<sup>15</sup> or more than 750 gross tons or with an engine or engines capable of producing more than 3,000 shaft horsepower. Currently, vessels meeting these thresholds may not receive a fishery endorsement to fish in any fishery in the EEZ under the Council's jurisdiction, unless the vessel carried a fisheries endorsement prior to September 25, 1997, or the Council has recommended, and the Secretary of Commerce has approved, a conservation and management measure to allow the vessel to be used in fisheries under its authority.

Alternative 3 would remove all regulatory constraints on the size or capacity of rebuilt or replacement vessels for the qualifying LLP licenses, which would include all 37 LLP licenses within the BSAI freezer longline sector.

### **Economic efficiency**

Under Alternative 3, all of the economic efficiencies discussed in Section 1.6.2 would be extended to all LLP holders. This alternative would provide the maximum flexibility to vessel owners in the freezer longline sector for replacing their vessels. Removing the constraints included in the LLP and the AFA is likely to make replacing vessels more economically attractive.

Although, in theory, there is no limit to the size of vessel that may be used in the fishery under this alternative, there appear to be some efficiency constraints for the freezer longline sector, which may limit the useful size of replacement vessels. A vessel can only haul in one longline at time, which is an inherent constraint on the processing operation, as it determines the rate at which fish enter the processing plant. The added benefit of a larger freezer longline vessel is that it is able to provide more processing space, necessary for value-added processing, and increased freezer storage space. Given the overall constraint of the rate at which the fish enter the plant, Jonathan Parrott, of Jensen Maritime Consultants, Inc., suggests the maximum operational efficiency of a freezer longline vessel appears to be limited to vessels 180' or less.

The Pacific cod sector allocation, and the sector's voluntary cooperative, would also limit the size of replacement vessels. These sector allocations likely have changed the focus of vessel replacement incentives, from being more competitive in a race for fish, to improving production efficiency and safety. Vessels are now more likely to replace current vessels with larger ones in order to utilize their existing Pacific cod allocations and incidental catch more effectively, by increasing product quality, and processing ancillary products.

### **Economic spillover or redistribution**

There are relatively few opportunities for LLP holders with unrestrictive MLOAs to fish their larger replacement vessels in other fisheries, as most other available target fisheries for this fleet are already constrained by sector allocations or individual fishing quotas. The sector targets Greenland turbot and sablefish in the BSAI, although effort by the sector in these fisheries is significantly lower than Pacific cod. Sablefish are already managed under an individual fishing quota program, and any increase in capacity among qualified LLP holders should therefore not disadvantage other participants in the sablefish target fishery. As discussed under Alternative 2, the Greenland turbot fishery is currently limited access, and there are currently no prohibitions about vessels participating in the fishery. The Council has asked for a discussion paper to evaluate whether there should be allocation of the Greenland turbot fishery, which will be discussed at the June 2012 Council meeting.

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<sup>15</sup> Measured at the waterline

Also as noted in Alternative 2, adjusting constraints to allow larger replacement vessels for the BSAI freezer longline sector could leave the two freezer longline vessels that operate exclusively in the GOA at a disadvantage. As the BSAI vessels have formed a cooperative, the cooperative could consolidate BSAI harvest with more efficient replacement vessels, and increase their fishing effort in the GOA relative to their historical catch, which could negatively impact the GOA freezer longline operators that exclusively fish in the GOA. The Cooperative is currently negotiating to extend the cooperative into the GOA cod fishery, which would presumably mitigate any potential negative impact on GOA-only vessels, however the negotiations are not yet completed.

There are three qualifying LLP licenses under Alternative 3 which also have a Pacific cod pot gear catcher processor endorsement. In recent years, the vessels named on these LLPs have all had fairly active participation in the Pacific cod pot fishery (Table 10, Section 1.5.6). The vessels are all over 150' LOA. Under the status quo, these vessels could lease their hook-and-line Pacific cod quota share within the voluntary cooperative, and fish full-time in the Pacific cod pot fishery, off the pot catcher processor allocation. Allowing a replacement vessel of unlimited size, as with Alternative 3, would have the potential to increase the disadvantage to other pot cod sector participants, as these vessels could increase their harvesting capacity at the expense of other participants.

Allowing replacement vessels of unrestricted length could affect cooperative negotiations. Currently, vessel owners rely heavily on historical catch in negotiating catch shares within the cooperative. Under Alternative 3, vessel owners might try to leverage their increased fishing and processing capacity (from a replacement vessel) for a larger share of the catch within the cooperative. With a greater fishing and processing capacity, vessel owners with larger replacement vessels have a greater incentive to negotiate a larger catch share or, failing negotiation to their desired catch share, they may have more incentive to break the voluntary cooperative, and utilize their greater fishing capacity to try to harvest more of the groundfish in the limited access fishery. The potential for this outcome is limited by cooperative agreements and provisions that discourage cooperative members from leaving the cooperative, and which currently require a supermajority vote by 85% of the LLP holders in order to disband the cooperative<sup>16</sup>.

## **Safety**

The average age of the freezer longline fleet is 39 years. Under this alternative, an impediment to vessel replacement is removed, and may result in more vessels finding it advantageous to replace their aging vessels with more efficient fishing vessels that also have improved safety features. Compared to Alternative 2, the restrictions are removed for all LLP licenses. In addition to the loss of life concerns, there are also financial incentives to improving the safety of vessels, for example to reduce insurance rates.

## **Management/Administrative**

As written, this alternative will require some additional management time to develop and monitor a tracking system for the 37 qualifying LLP licenses. However, removing the restriction of the MLOA would also remove the need to enforce this restriction as well. Additionally, it has been suggested by NMFS that by not having a maximum vessel length associated with the licenses, there may be some unforeseeable future risk, if an LLP holder decides to replace a vessel with one that is considerably larger than those currently used in fisheries, utilizing new developments in technology.

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<sup>16</sup> Whether the provisions requiring a supermajority of LLP holders to disband the contract are enforceable is uncertain.

## Summary

In summary, Alternative 3, relative to the other alternatives, provides the greatest opportunity for owners of freezer longline vessels to replace their vessels with larger vessels. The absence of vessel length restrictions allows vessel owners to design more efficient and safer replacement freezer longline vessels. While by regulation the vessel length would be unrestricted, there appear to be efficiency limitations that would likely limit vessel length in replacement vessels. An unrestricted replacement vessel program could allow some expansion of effort into other current fisheries and unperceived future fisheries, but this factor alone is unlikely to create a sufficient incentive for vessel owners to incur the cost of a replacement vessel.

### 1.6.3 Options for Replaced Vessels (2.1, 2.2, 3.1, 3.2)

Alternatives 2 and 3 both have two identical options that impose restrictions on how vessels that are named on the qualifying LLP licenses may be used once replaced. Under Option 2.1, if the vessel that is named on a qualifying LLP license is replaced, the replaced vessel may not be designated on any other Federal Fisheries Permit (FFP) or LLP. That is, the replaced vessel may no longer be used for groundfish or crab fishing in the BSAI or the Gulf of Alaska Federal fisheries. Option 2.2 also restricts how the vessel that is named on a qualifying LLP license is used when it is replaced, by requiring that the replaced vessel not be used to replace another vessel associated with a qualifying LLP license. That is, a replaced vessel could not be used to replace a different vessel within the freezer longline sector. Although the Council could choose both options to Alternative 2, Option 2.2 is subsumed in Option 2.1.

Under the options as written, the agency would need to implement a tracking system for the qualifying LLP licenses, and vessels assigned to their licenses, under either Alternative 2 or Alternative 3. The vessel that is associated with the LLP license on the effective date of the amendment would be considered the original vessel, and if the LLP license is moved to a different vessel, it would be considered a replacement vessel. NMFS must then track both the original vessel, and any replacement vessels that are again replaced, to ensure that they are no longer used as a BSAI groundfish hook-and-line catcher processor (Options 2.2, 3.2) or no longer designated on any groundfish or crab FFP or LLP.

The Council may wish to consider whether their intent for these provisions is met with this language. Under these options as written, the Council would be imposing very restrictive conditions on the LLP licenses and vessels that are affected by these alternatives. The LLP would be linked with the vessel on which it is used at the effective date of the amendment, and if the LLP is moved to a different vessel, the original vessel will no longer be eligible to be used either in the sector (Option 2.2, 3.2), or in the groundfish or crab fisheries (Option 2.1, 3.1). This would apply to any movement of an LLP from one vessel to another, for whatever reason (e.g., a newly-built replacement vessel entering the fishery, a reorganization of LLP licenses among multiple vessels owned by a single company, or an LLP holder choosing to exit the Pacific cod fishery).

The Council may have intended that this provision only apply to vessels that are replaced with newly-built (or rebuilt) vessels. This distinction is not possible with the language as written, however, because the action alternatives modify LLP licenses, and the options restrict vessel usage. In order for the options to work with the alternative, their proposed restriction needs to be interpreted relative to the LLP license.

The Council should also consider whether these options meet the Council's problem statement. The intent of this action is to facilitate vessel replacement to improve both vessel safety and economic efficiency of vessels. It may be that the operations that choose to build new vessels are not those that are the least efficient or safe. In that case, allowing those replaced vessels to replace yet other vessels in the fishery would promote safety and efficiency across a broader range of the fleet. As written, a major disadvantage

of these options, compared to the status quo, is that they prohibit vessel owners from using existing freezer longline vessels to replace other freezer longline vessels currently in use. Existing freezer longline vessels are fitted for the appropriate fisheries, and may be easier, and cheaper to obtain than newly constructed vessels. The Council could specify that existing vessels must be classed and loadlined, or meet the requirements of ACSA, to be used to replace other freezer longline vessels. At the same time, USCG personnel have indicated a preference for retiring existing freezer longline vessels to encourage newer and safer vessels. It is conceivable that a vessel owner could replace a small vessel that is in good condition with a larger, more efficient vessel that is in poorer material condition.

The impacts of the options as written would be to increase the net cost of replacing a vessel in the sector, by devaluing the vessel that is being replaced. Under Options 2.1 and 3.1, the vessel would not be eligible to be used to fish in Alaska groundfish or crab fisheries. One option for some replaced vessels may be as an Alaskan salmon processor, operating in State waters. Under Options 2.2 and 3.2, the vessel would only be restricted from replacing another BSAI hook-and-line catcher processor. It is possible, under these options, that the vessel could be used as a catcher processor in another Alaska groundfish or crab fishery, if it were refitted for pot or trawl gear. For companies owning multiple vessels, this would restrict their flexibility to move LLP license around on their vessels.

At the June meeting, the Council may wish to articulate specifically what its intent is with the vessel replacement provisions. This could then be used as a basis to identify the best regulatory option to meet this intent.

#### **1.6.4 Option 3.3, Alternative 3 – 220' maximum vessel length**

Option 3.3, which could be selected with Alternative 3, would set a maximum size limit for vessels associated with the 37 qualifying LLPs. The LLP could not be used with a vessel exceeding 220' LOA. Given the discussion under Section 1.6.2.2, with respect to the efficiency constraints on vessel length, such a limit is unlikely to have any adverse impact on the fleet. 220' is the largest MLOA of an LLP license that is endorsed for hook-and-line catcher processor Pacific cod. The LLP is not currently associated with a vessel, and has been submitted by the FLCC to the fishery capacity reduction program. If the buyback is successful, the largest MLOA in this sector will be 198'.

It has been suggested by NMFS that it is prudent to have a maximum vessel length associated with a license, rather than allowing vessel length to be unrestricted. While at this time, it is not envisaged that there would be a practical benefit from building a considerably larger vessel, it may be advisable at some future time to have a limit on vessel size, given changes and developments in technology.

From a management/administration perspective, if the Council chooses both Alternative 3 and Option 3.3, it would be more straightforward to re-designate the MLOA on qualifying licenses as 220'. The implementation of Alternative 3 without this option will require NMFS to develop a tracking system for the 37 qualifying LLPs, to exempt them from the constraints of the MLOA. Implementing Option 3.3 with Alternative 3, as written, will also require NMFS to develop a separate tracking system for these LLPs, constrained by the maximum vessel length. The same end can be achieved through the existing LLP management system, without any additional administrative burden, if the Council accedes that the implementation of Alternative 3 with Option 3.3 can be achieved through changing the MLOA on qualifying licenses.

### **1.6.5 Option 3.4, Alternative 3 – limitation for vessels with BSAI Pacific cod pot catcher processor endorsement**

Option 3.4 limits the proposed change in Alternative 3 with respect to qualifying LLP licenses that also have a Pacific cod pot gear catcher processor endorsement. Under Alternative 3 with this option, the restriction represented by the LLP license's MLOA would be removed for all groundfish fishing activity, except when the vessel is fishing in the Bering Sea or Aleutian Islands pot cod fishery, when the LLP license's MLOA restriction will be enforced.

Three of the 37 qualifying LLP licenses under Alternative 3 also have a Pacific cod pot gear catcher processor endorsement. In recent years, the vessels named on these LLPs have all had fairly active participation in the Pacific cod pot fishery (Table 10, Section 1.5.6). The vessels are all over 150' LOA. Under the status quo, these vessels could lease their hook-and-line Pacific cod quota share within the voluntary cooperative, and fish full-time in the Pacific cod pot fishery, off the pot catcher processor allocation. Allowing a replacement vessel of unlimited size, as with Alternative 3, has the potential to increase the disadvantage to other pot cod sector participants, as these vessels could increase their harvesting capacity at the expense of other participants. Adopting option 3.4 would eliminate any additional disadvantage to other sector participants, by constraining vessels to their original MLOA for participation in the BSAI Pacific cod pot fisheries.

If the Council chooses Alternative 3, Option 3.3, and Option 3.4 simultaneously, the suggestion discussed under Option 3.3, to streamline the administrative implementation of the alternative and Option 3.3 together, is problematic. Under Option 3.4, the original MLOA is needed in order to restrict vessels that are fishing in the BSAI Pacific cod pot fishery. In the case that the Council recommends Alternative 3 with both Options 3.3 and 3.4, NMFS suggests that the Council consider adding a provision that would require LLP holders to make a one-time election of whether to retain their original MLOA, which would allow them to continue fishing in the Pacific cod pot fishery but would limit them to their original MLOA in terms of vessel replacement, or whether to increase the MLOA on their LLP to 220' but thereby surrendering their Pacific cod pot gear catcher processor endorsement. Additionally, if the Council chooses to include this provision, NMFS recommends that there be a time limit associated with the LLP holder's choice.

### **1.6.6 Potential effects on net benefits to the Nation**

Overall, this action is likely to have a limited effect on net benefits realized by the Nation. Alternatives 2 and 3 provide a clear regulatory framework for adjusting constraints that may affect vessel replacement opportunities, and are more likely to result in vessel replacement. To the extent that vessel replacement allows harvesters additional time to focus on improving quality, retention, market development, and product forms, there may be some consumer benefits realized by the proposed action. Conceivably, the proposed alternatives may increase the economic efficiency of a harvester by allowing the use of more efficient vessels. Alternative 3 would provide vessel owners with the greatest flexibility to realize these benefits, whereas Alternative 2 would limit vessel replacement to vessels less than 150' LOA.

## **2.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS**

The Regulatory Flexibility Act (RFA), first enacted in 1980, and codified at 5 U.S.C. 600–611, was designed to place the burden on the government to review all regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization frequently has a bearing on its ability to comply with a federal regulation. Major goals of the RFA are (1) to increase agency awareness and understanding of the impact of their regulations on small business; (2) to require

that agencies communicate and explain their findings to the public; and (3) to encourage agencies to use flexibility and to provide regulatory relief to small entities.

The RFA emphasizes predicting significant adverse impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts, while still achieving the stated objective of the action. When an agency publishes a proposed rule, it must either, (1) “certify” that the action will not have a significant adverse effect on a substantial number of small entities, and support such a certification declaration with a “factual basis,” demonstrating this outcome, or (2) if such a certification cannot be supported by a factual basis, prepare and make available for public review an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact of the proposed rule on small entities.

Based upon a preliminary evaluation of the proposed alternatives, it appears that “certification” would not be appropriate. Therefore, this IRFA has been prepared. Analytical requirements for the IRFA are described below in more detail.

The IRFA must contain:

1. A description of the reasons why action by the agency is being considered;
2. A succinct statement of the objectives of, and the legal basis for, the proposed rule;
3. A description of, and where feasible, an estimate of the number of small entities to which the proposed rule will apply (including a profile of the industry divided into industry segments, if appropriate);
4. A description of the projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
5. An identification, to the extent practicable, of all relevant federal rules that may duplicate, overlap, or conflict with the proposed rule;
6. A description of any significant alternatives to the proposed rule that accomplish the stated objectives of the Magnuson-Stevens Act and any other applicable statutes, and that would minimize any significant adverse economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:
  - a. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
  - b. The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
  - c. The use of performance rather than design standards;
  - d. An exemption from coverage of the rule, or any part thereof, for such small entities.

The “universe” of entities to be considered in an IRFA generally includes only those small entities that can reasonably be expected to be directly regulated by the proposed action. If the effects of the rule fall primarily on a distinct segment of the industry, or portion thereof (e.g., user group, gear type, geographic area), that segment would be considered the universe for purposes of this analysis.

In preparing an IRFA, an agency may provide either a quantifiable or numerical description of the effects of a proposed rule (and alternatives to the proposed rule), or more general descriptive statements if quantification is not practicable or reliable.

## 2.1 Definition of a Small Entity

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) and small government jurisdictions.

Small businesses: Section 601(3) of the RFA defines a “small business” as having the same meaning as a “small business concern,” which is defined under section 3 of the Small Business Act. A “small business” or “small business concern” includes any firm that is independently owned and operated and not dominate in its field of operation. The U.S. Small Business Administration (SBA) has further defined a “small business concern” as one “organized for profit, with a place of business located in the United States, and which operates primarily within the United States, or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials, or labor. A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust, or cooperative, except that where the form is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture.”

The SBA has established size criteria for all major industry sectors in the United States, including fish harvesting and fish processing businesses. A business “involved in fish harvesting” is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates), and if it has combined annual receipts not in excess of \$4.0 million for all its affiliated operations worldwide. A seafood processor is a small business if it is independently owned and operated, not dominant in its field of operation (including its affiliates) and employs 500 or fewer persons, on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business involved in both the harvesting and processing of seafood products is a small business if it meets the \$4.0 million criterion for fish harvesting operations. A wholesale business servicing the fishing industry is a small business if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established “principles of affiliation” to determine whether a business concern is “independently owned and operated.” In general, business concerns are affiliates of each other when one concern controls or has the power to control the other or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party, with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern’s size. However, business concerns owned and controlled by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. 9805 are not considered affiliates of such entities, or with other concerns owned by these entities, solely because of their common ownership.

Affiliation may be based on stock ownership when (1) A person is an affiliate of a concern if the person owns or controls, or has the power to control 50 percent or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock, or (2) If two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors, or general partners control the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

**Small organizations:** The RFA defines “small organizations” as any nonprofit enterprise that is independently owned and operated and is not dominant in its field.

**Small governmental jurisdictions:** The RFA defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of fewer than 50,000.

## **2.2 Reason for Considering the Proposed Action**

The Council revised the problem statement for this action at the December 2011 meeting, as follows:

*Vessel length restrictions, included with LLP licenses and the AFA, established to maintain fleet capacity, inhibit the BSAI freezer longline fleet from replacing or rebuilding their vessels. Modifying or removing vessel length restrictions for BSAI freezer longline vessels to allow owners to rebuild or replace their vessels with larger vessels would allow for improved vessel safety, meet international class and loadline requirements that would allow a broader range of onboard processing options, and improve the economic efficiency of their vessels.*

## **2.3 Objectives of, and the Legal Basis for, the Proposed Rule**

The purpose of the proposed action is to change criteria to allow owners of Bering Sea / Aleutian Islands (BSAI) freezer longline (hook-and-line catcher processor) vessels that fish for Pacific cod, to replace or rebuild their vessels to a length greater than that specified under the restrictions of the License Limitation Program (LLP) and the American Fisheries Act (AFA). This objective is encompassed by authorities contained in the Magnuson-Stevens Act. Under the Magnuson-Stevens Act, the United States has exclusive management authority over all living marine resources found within the EEZ. The management of marine fishery resources is vested in the Secretary of Commerce, with advice from the Regional Fishery Management Councils. The groundfish fisheries in the EEZ off Alaska are managed under the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area and the Fishery Management Plan for Groundfish of the Gulf of Alaska.

Statutory authority for measures designed to consider efficiency in the use of fishery resources is specifically addressed in section 301 of the Magnuson-Stevens Act. That section establishes National Standard 5, which directs the Councils to “consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocations as its sole purpose.”

The Magnuson-Stevens Act is the legal umbrella under which the groundfish fisheries of the BSAI and GOA are managed. In the Alaska region, the Council is responsible for preparing management plans for marine fishery resources requiring conservation and management. NMFS, under the U.S. Department of Commerce, is charged with carrying out the federal mandates with regard to marine fish, once they are

approved by the Secretary of Commerce. NMFS Alaska Regional Office reviews the management actions recommended by the Council.

## **2.4 Number and Description of Small Entities Regulated by the Proposed Action**

This action would affect the License Limitation Program (LLP) licenses of vessels that are part of the BSAI Pacific cod longline catcher/processor sector. LLP licenses are issued to an individual person or entity. They are not vessel-specific; they can be transferred from vessel to vessel and can be “stacked” so that a single vessel may operate under more than one LLP license. Thus there is not a fixed group of vessels that will be impacted by this action. Because it is anticipated that there will be very little transference of LLP licenses among vessels, however, the vessels that currently possess an LLP license, meeting the definition above, are considered the impacted entities. There are currently 37 LLP licenses, associated with 33 vessels, in the universe of impacted entities.

The RFA requires a consideration of affiliations between entities for the purpose of assessing if an entity is small. There is not a strict one-to-one correlation between vessels and entities; many persons and firms are known to have ownership interests in more than one vessel, and many of these vessels with different ownership, are otherwise affiliated with each other. For example, vessels in the American Fisheries Act (AFA) catcher vessel sectors are categorized as “large entities” for the purpose of the RFA under the principles of affiliation, due to their being part of the AFA pollock cooperatives. The 37 LLP licenses that are impacted through this proposed action are all affiliated with each other through membership in the Freezer Longline Conservation Cooperative. Consequently, all impacted entities are considered “large entities” for the purpose of the RFA.

## **2.5 Recordkeeping and Reporting Requirements**

Recordkeeping and reporting requirements are not expected to change as a result of the proposed action. The action under consideration requires no additional reporting, recordkeeping, or other compliance requirements that differ from the status quo.

## **2.6 An identification, to the extent practicable, of all relevant federal rules that may duplicate, overlap, or conflict with the proposed rule**

No relevant federal rules were identified as duplicating, overlapping, or conflicting with the proposed action under consideration herein.

## **2.7 Description of Significant Alternatives**

Upon final action, this section will be updated to discuss the Council’s preferred alternative.

## **3.0 CONSISTENCY WITH APPLICABLE LAW AND POLICY**

This section examines vessel replacement for the freezer longline sector with the National Standards and Fishery Impact Statement requirements in the Magnuson-Stevens Act and Executive Order 12866.

### 3.1 National Standards

Below are the ten National Standards as contained in the Magnuson-Stevens Act, and a brief discussion of the consistency of the proposed alternatives with each of those National Standards, as applicable.

**National Standard 1: Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery.**

None of the alternatives considered in this action would affect the sustainability or catch levels of groundfish in the BSAI or GOA, since the action will continue to be managed under the current harvest specifications process. While the alternatives would also generally not affect the ability to achieve the optimum yield from each groundfish fishery, to the extent that the proposed alternatives provide an opportunity for increased utilization of existing catch, they could improve optimum yield.

**National Standard 2: Conservation and management measures shall be based upon the best scientific information available.**

This analysis is based on the most current, comprehensive data available, recognizing that some information (such as operating costs) is unavailable.

**National Standard 3: To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.**

This action makes no change to how groundfish stocks are assessed or managed in the BSAI and GOA.

**National Standard 4: Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various U.S. fishermen, such allocation shall be (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.**

Nothing in the alternatives considers residency as a criterion for the Council's decision, therefore the proposed alternatives treat all vessel owners the same regardless of residency. The proposed alternatives would be implemented without discrimination among participants and are intended to promote conservation of the groundfish resources in the BSAI and GOA.

**National Standard 5: Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.**

This action will remove impediments for vessel owners to replace vessels. To the extent that the vessel owners exercise the vessel replacement opportunity provided in this proposed action, this could allow more complete use of the fishery resources and improve efficiency in utilization of the longline Pacific cod resource in the BSAI and GOA.

**National Standard 6: Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.**

None of the proposed alternatives are expected to affect the availability of and variability in the groundfish resources in the BSAI and GOA in future years. All harvest will continue to be managed under and limited by the TACs for each species.

**National Standard 7: Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.**

This action imposes no additional costs on industry, and minimal costs on management, for compliance, and does not duplicate any other management action.

**National Standard 8: Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.**

This action is not expected to have adverse impacts on communities or affect community sustainability. None of the action alternatives would extinguish harvest opportunities for vessels with a high degree of economic dependence upon the freezer longline groundfish fisheries. This action would not remove the ability of fishing vessels, communities, or crew to continue to sustain participation in the freezer longline fishery.

**National Standard 9: Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.**

This proposed action could help to minimize bycatch by removing disincentives for owners of freezer longline vessels to replace their aging vessels. Replacement vessels with newer, more sophisticated technology could provide more opportunities for vessels to minimize bycatch.

**National Standard 10: Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.**

The alternatives proposed should promote safety at sea because it removes disincentives for vessel owners to replace existing vessels with newer vessels that can accommodate improved safety and minimize the risks faced by vessels or crew.

### **3.2 Section 303(a)(9) – Fisheries Impact Statement**

Section 303(a)(9) of the Magnuson-Stevens Act requires that any management measure submitted by the Council take into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries. The impacts on participants in the freezer longline groundfish fisheries in the BSAI, and participants in other fisheries, have been comprehensively evaluated in previous sections of this document (see Section 1.6.2).

### **3.3 BSAI Groundfish FMP Management Policy**

The alternatives discussed in this action accord with the management policy of the GOA Groundfish FMP. The Council's management policy (NPFMC 2011) includes the following objectives:

- Promote increased safety at sea.
- Continue program to reduce discards by developing management measures that encourage the use of gear and fishing techniques that reduce bycatch which includes economic discards.
- Reduce waste to biologically and socially acceptable levels.
- Develop management measures that, when practicable, consider the efficient use of fishery resources taking into account the interest of harvesters, processors, and communities.

By proposing to change criteria to allow owners of BSAI freezer longline vessels that fish for Pacific cod to replace or rebuild their vessels with larger vessels, the Council is consistent with its management policy.

### **3.4 NEPA requirements**

NAO 216-6, Environmental Review Procedures, requires all proposed actions be reviewed with respect to environmental consequences on the human environment. This section affirms that the proposed alternatives, to change criteria to allow BSAI freezer longline vessels that fish for Pacific cod to be replaced with larger vessels, qualify to be categorically excluded from further NEPA review.

The proposed action is to adjust the MLOA on up to 37 qualifying LLP licenses, to reduce or remove vessel length constraints associated with the MLOA. The Council may also choose to establish that new vessels associated with the qualifying LLPs are eligible to receive a fishery endorsement, consistent with requirements at 46 C.F.R. 356.47. The effect of the action may be that vessel owners in this sector choose to replace their vessels with larger vessels, of increased length and tonnage. To the extent that vessel owners avail themselves of this opportunity, improvements may result in vessel safety and production efficiency.

NAO 216-6, Section 5.05, identifies that a categorical exclusion is appropriate if the proposed action is not likely to result in significant impacts. Section 6.02 provides specific guidance on the significance of fishery management actions, and concludes that if none of the listed situations could reasonably occur, a categorical exclusion may be applicable. Section 6.03.a.3 includes further considerations for determining if the effects of an action may have a significant effect on the human environment, or whether a management plan amendment meets the criteria of a categorical exclusion. The following questions address the considerations that are raised in these sections. Based on this review, there are no significant impacts resulting from the proposed action, and a categorical exclusion is appropriate.

*1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?*

No. No adverse impacts on target species are expected for the alternatives. Pacific cod is the target species that is fished by vessels affected by this action, and to a much lesser extent, sablefish and Greenland turbot. These species are at sustainable population levels, and are managed annual total allowable catches (TACs) that are based on the carrying capacity of the species. Effective monitoring and enforcement measures are in place to ensure TACs are not exceeded. Implementation of the proposed action is unlikely to increase the amount of fishing compared to the status quo, as fishing levels are limited by sector allocations, individual fishing quotas, and TACs. Neither is it anticipated that there would be a substantial change in fishing patterns as a result of these alternatives. Pacific cod are already caught throughout the BSAI, extending both far north along the Bering Sea slope and far west in the Aleutian Islands. This action will not increase the likelihood that TACs will be exceeded. As a result, no impacts on the sustainability of any target species are expected.

*2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?*

No. The alternatives are not likely to jeopardize the sustainability of any non-target, ecosystem component or prohibited species. Those non-target species that are marketable are at sustainable population levels, and are managed under annual TACs as described above. Fishing levels are not anticipated to change under the proposed alternatives, and therefore catch levels of ecosystem component species (which, by definition, are only retained in de minimus amounts) should not be affected. While

there is catch of halibut, a prohibited species, in these target fisheries, the halibut catch will continue to be constrained under a prohibited species catch limit for this sector.

- 3) *Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in the fishery management plans (FMPs)?*

No. Overall fishing effort will remain unchanged under the proposed alternatives, as harvest levels are unaffected. It is not anticipated that there will be a change in the spatial pattern of the fishery, as Pacific cod are already caught throughout the BSAI. The BSAI freezer longline fleet under the status quo has minimal effect on benthic habitat. The Essential Fish Habitat EIS (NMFS 2005) found no indication that continued fishing activities at the current rate and intensity would alter the capacity of EFH to support healthy populations of managed species over the long term.

- 4) *Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?*

No. No impacts to public health are expected. The proposed action may remove disincentives to vessel replacement that may positively impact the overall safety of the BSAI freezer longline fleet.

- 5) *Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?*

No. Changes in interactions with other fish species, marine mammals, seabirds, habitat, and ecosystem relations are tied to changes in target fishery effort. The potential effects of this action are not significant because fishing activity would not increase and there are management measures currently in place to protect the physical and biological environment. All vessels would still have to comply with existing Federal regulations protecting Steller sea lion rookeries and haulouts. No significant adverse impacts on marine mammals, endangered or threatened species, seabirds, habitat, or the ecosystem are anticipated as a result of implementing the preferred alternative.

- 6) *Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?*

No. This action would not produce population-level impacts to marine species, or change community- or ecosystem-level attributes beyond the range of natural variability. Changes in interactions with other fish species, marine mammals, seabirds, habitat, and ecosystem relations are tied to changes in target fishery effort. The potential effects on an ecosystem scale are not significant because fishing activity and the location of fishing activity would not change and there are management measures currently in place to protect the physical and biological environment. Therefore, this action is not expected to have a significant impact on the ecosystem.

- 7) *Are significant social or economic impacts interrelated with significant natural or physical environmental effects?*

Socioeconomic impacts of this action result from removing disincentives for vessel owners to replace aging vessels with larger, more modern vessels. These new vessels are likely to be safer, and have improved production efficiency. There are no significant natural or physical environmental effects expected as a result of this action, with which social or economic impacts would be interrelated.

- 8) *Are the effects on the quality of the human environment likely to be highly controversial?*

No. The effects of the proposed action on the quality of the human environment are unlikely to be highly controversial. Any controversy concerning the proposed alternatives is related to possible changes in fleet composition and activity in other target fisheries, and is not related to environmental effects.

9) *Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?*

No. This action would not affect any categories of areas on shore. This action takes place in the geographic area of the BSAI. The land adjacent to this marine area may contain archeological sites of native villages. This action would occur in adjacent marine waters so no impacts on these cultural sites are expected. The marine waters where the fisheries occur contain ecologically critical areas. Effects on the unique characteristics of these areas are not anticipated to occur with this action because of the amount of fish removed by vessels is within the total allowable catch, and existing management measures provide protection to EFH and ecologically-critical nearshore areas.

10) *Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?*

No. A well-developed body of science exists related to the effects of Bering Sea hook-and-line catcher processors on the marine environment. Enough information is available to make decisions on potential impacts of the proposed action on the human environment.

11) *Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?*

No. Cumulative impacts have been analysed in the harvest specifications EA (NMFS 2006) and the Groundfish Harvest Specifications EIS (NMFS 2007). Cumulative impacts for this fleet were also discussed in a recent regulatory amendment for modifying monitoring and enforcement requirements (NMFS 2011a). No other additional past or present cumulative impact issues have been identified. The Council is also considering two related future actions, sector allocations for Greenland turbot, and adjusting sideboards for this sector in the GOA Pacific cod fishery, but those actions have not yet been moved forward as analyses. As currently conceived, neither action is likely to result in a cumulatively significant effect, when considered with the proposed action.

12) *Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?*

No. This action will have no effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places, nor cause loss or destruction of significant scientific, cultural, or historical resources. Because this action occurs in marine waters, this consideration is not applicable to this action.

13) *Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?*

No. This action poses no effect on the introduction or spread of nonindigenous species into the BSAI because it does not significantly alter fishing, processing, or shipping practices that may lead to the introduction of nonindigenous species.

14) *Is the proposed action likely to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?*

No. This action does not establish a precedent for future action because considerations for vessel replacement have been examined in other catcher processor fleets in the Alaska groundfish fisheries. Pursuant to NEPA, for all future actions, appropriate environmental analysis documents (EA or EIS) will be prepared to inform the decision makers of potential impacts to the human environment and to implement mitigation measures to avoid significant adverse impacts.

*15) Can the proposed action reasonably be expected to threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment?*

No. This action poses no known violation of federal, state, or local laws or requirements for the protection of the environment.

*16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?*

No. The proposed action is not expected to result in any effect on target or non-target species, as fishing patterns and overall harvest levels will remain unchanged. As described in question 11, no cumulative effects were identified that added to the direct and indirect effects on target and non-targeted species would result in significant effects.

#### **4.0 REFERENCES**

Hiatt, T, M Dalton, R Felthoven, B Fissel, B Garber-Yonts, A Haynie, S Kasperski, D Lew, C Package, J Sepez and C Seung. 2010. Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Islands Area: Economic Status of the Groundfish Fisheries Off Alaska, 2009. National Marine Fisheries Service, Alaska Fisheries Science Center, Resource Ecology and Fisheries Management Division. Seattle, Washington. November 3. Accessed at <http://www.afsc.noaa.gov/REFM/docs/2010/economic.pdf> on August 4, 2011.

Jin, D, H Kite-Powell, W Talley. 2001. The safety of commercial fishing: Determinants of vessel total losses and injuries. *Journal of Safety Research* 32, pp 209-228.

Meek, M, WR Brown, KG Fulford. A shipbuilders' view of safety. 1985. *Maritime Policy Management*, Volume 12, Number 4, pp 251-262.

[NMFS] National Marine Fisheries Service. 2011a. Regulatory Amendment to Modify Monitoring and Enforcement Requirements in the BSAI Freezer Longline Fleet, National Marine Fisheries Service, P.O. Box 21668, Juneau, AK 99802.

NMFS. 2011b. Secretarial Review Draft. Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 83 to the Fishery Management Plan for Groundfish in the Gulf of Alaska. Allocation of Pacific Cod Among Sectors in the Western and Central GOA. Council. Anchorage, Alaska. May 6. Accessed at <http://www.fakr.noaa.gov/sustainablefisheries/amds/83/earirirfa0511.pdf> on August 5, 2011.

NMFS. 2007. Alaska Groundfish Harvest Specifications Final Environmental Impact Statement.

[NPFMC] North Pacific Fishery Management Council. 2011. Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area. NPFMC, Anchorage, Alaska. November 2011.

NPFMC. 2007. Final Environmental Assessment/Regulatory Impact Review/Final Regulatory Flexibility Analysis Of the Final Rule Implementing Amendment 85 to the Fishery Management Plan for Groundfish of the Bering Sea/Aleutian Islands Management Area Allocation of Pacific Cod Among Harvesting Sectors.

Council. Anchorage, Alaska. August 1. Accessed at <http://www.alaskafisheries.noaa.gov/analyses/amd85/bsa85final.pdf> on May 30, 2011.

NPFMC. 1994. Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for the Proposed Moratorium on the Entry of New Vessels into the Groundfish, Crab, and Halibut Fisheries for Amendment 28 to the FMP for the Groundfish Fishery of the Gulf of Alaska, Amendment 23 to the FMP for the Groundfish Fishery of the Bering Sea and Aleutian Islands, Amendment 4 to the FMP for the Commercial King and Tanner Crab Fisheries in the Bering Sea and Aleutian Islands Area, and Regulatory Amendment to the Pacific Halibut Regulations. Prepared by staff of the North Pacific Fishery Management Council, Anchorage, Alaska, April 28, 1994.

Northern Economics, Inc. 2001. Interim Update of Processing Sector Profiles in the Groundfish Fisheries. Northern Economics. Anchorage, Alaska. July. Accessed at [http://www.fakr.noaa.gov/npfmc/misc\\_pub/NorthernEconomics/Processing%20Sector%20Profiles.pdf](http://www.fakr.noaa.gov/npfmc/misc_pub/NorthernEconomics/Processing%20Sector%20Profiles.pdf) on August 4, 2011.

Northern Economics, Inc. 2008. Alaska Groundfish Market Profiles. Updated by National Marine Fisheries Service Alaska Fisheries Science Center. November 2010. *In* T Hiatt, M Dalton, R Felthoven, B Fissel, B Garber-Yonts, A Haynie, S Kasperski, D Lew, C Package, J Sepez and C Seung. 2010. Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Islands Area: Economic Status of the Groundfish Fisheries off Alaska, 2009. Economic and Social Sciences Research Program, Resource Ecology and Fisheries Management Division, Alaska Fisheries Science Center. Seattle, Washington. November 3, Accessed at <http://www.afsc.noaa.gov/refm/docs/2010/economic.pdf> on June 3, 2011.

Talley, WK, D Jin, H Kite-Powell. 2005. Determinates of Crew Injuries in Vessel Accidents. Maritime Policy Management, July-September, Volume 32, Number 3, pp 263-278.

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