APPLICATION TO THE PACIFIC FISHERY MANAGEMENT COUNCIL FOR AN HMS FMP EXEMPTED FISHERY PERMIT

1. *Date of application*:

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2. *Applicants name, address, and telephone numbers*:

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3. Statement of the purpose and goals of the exempted fishing for which an EFP is needed, including a general description of the arrangements for the disposition of all species harvested under the EFP:

There are a number of factors to be balanced in structuring an EFP:

a) The need to ensure sufficient opportunities and flexibility in the design of the EFP to encourage fishermen to participate and to maximize the potential for success.
b) The need for the EFP to reflect operational characteristics of a real fishery.
c) The need to make sure that the sample size is sufficient under different scenarios to answer questions about the performance of the fishery from both target and bycatch perspectives.

In consideration of these factors, especially regarding the first, the applicants primary purpose for proposing this EFP is to conduct pelagic longline fishing within the west-coast Exclusive Economic Zone (EEZ) in order to both determine if this gear is economically viable, and to determine the composition and amount of bycatch. In order to more fully explore this purpose, variations in hook depth, such as with deep-set gear (>100 meters), and shallow-set gear configurations, will be employed to determine their effect on economic viability as well as bycatch amount and composition.

Deep-set gear is commonly used to target tuna and is set to soak during the day. This gear has less overlap with sea turtle habitat and other surface oriented species which should result in lower bycatch rates. Shallow-set gear, set to soak during the night, is commonly used to target swordfish. Shallow-sets will use the circle hook and mackerel type bait configuration that has demonstrated proven success in reducing sea turtle

interactions by 89% in the Hawaii shallow-set longline swordfish fishery.

The applicants estimate that economic viability of EFP fishing will be achieved if the minimum gross revenue generated from the sale of the primary marketable catch (swordfish and/or tunas) averages $5,000 per 1,000 hook set. Applicants agree that this level of gross revenue, less predictable expenses, would allow for a reasonable return on investment. At $5,000 average gross revenue per 1,000 hooks set, primary marketable catch sales from a 14-set trip of 14,000 hooks would generate $70,000 in gross revenue. Applicants agree that, in their collective experience, the average number of hooks per trip that catch a marketable swordfish or tuna is 1% of the total number of hooks set. For example, assuming that $70,000 primary marketable catch revenue resulted from 1% of total effort from a 14,000 hook trip (1% = 140 hooks), each of the 140 hooks would average $500 in primary marketable catch revenue. This $500 figure is a function of dressed weigh in pounds multiplied by revenue per pound. Hence, $500 in revenue results when a 150 lb. fish is sold for $3.33 per lb.; or a 125 lb. fish is sold for $4.00 per lb.; or a 100 lb. fish is sold for $5.00 per lb., etc. Obviously, the higher the dressed weight/ revenue per pound combination, the more revenue is generated, the more likely this minimum economic viability estimate is achieved. [1]

Disposition of the species harvested under the EFP will be as follows:

All marketable catch from EFP fishing may be retained and sold as prescribed through current regulations. Prohibited species may not be retained or sold. The following steps will be taken to increase protections and/or survivability for fin-fish discards, marine mammals, sea turtles, and sea birds:

a) Possession and use of de-hooking devices when appropriate.
b) Attempt to cut branch lines as close to the hook as possible to reduce the amount of trailing line from hooked marine mammals, and cut away as much line as possible from entangled marine mammals.
c) Compliance with sea turtle protection measures as required under specified handling and resuscitation techniques pursuant to 50 CFR §660.712(b) such as possession and use of line clippers, wire or bolt cutters, and dip nets to disengage hooked or entangled animals.
d) Compliance with sea bird avoidance and protection measures pursuant to 50 CFR §660.712(c) such as specified handling of hooked animals, proper discharge of offal, utilization of proper branch line weights, and use of blue dyed bait.
e) Possession of a valid Protected Resources Workshop certification pursuant to 50 CFR §660.712(e).

Wholesale and/or retail sale of marketable catch will be the individual choice and responsibility of each EFP applicant.

Pete Dupuy has long established and conducted a very successful direct-to-consumer fish market at Ventura Harbor. Dupuy conducts this weekend market about once a month after each of his high-seas, deep-set longline fishing trips. Dupuy believes that the increased revenue this market generates, when compared to revenue from

1 Revenue from the sale of the secondary marketable catch will add to overall fishing revenue to some extent. But, because fishing decisions are made in pursuit of the primary marketable catch, any secondary marketable catch is not a factor in the fisherman's economic calculus, and is therefore not factored into the estimation for determining minimum economic viability.

traditional wholesale marketing, has greatly increased the economic viability of this fishery. Dupuy's market operation requires a considerable amount of preparation and infrastructure involving specialized equipment, packaging, and a staff of about 20 crew members, family, and friends to set-up, conduct, and break-down this well-attended weekend event. Despite the additional expense of setting-up and conducting the market, Dupuy believes that net revenue from this direct-to-consumer fish market is substantially increased.

Apart from Dupuy's Ventura Harbor fish market, or the traditional wholesale of marketable catch, a direct-to-consumer fish market in San Diego has recently opened. The Saturday-only Tuna Harbor Dockside fish market opened in August, 2014 has sold an average of 1.1 tons of fish per week. Local fishermen had been trying to open the market for months, but had been held back due to the lack of enabling regulations. Current regulations only allow for the sale of whole fish. Such restrictions limit the potential success of this market.

However, recognizing the potential benefits of such a market, and in response to the lack of a regulatory framework for open-air fishermen's markets, the San Diego Board of Supervisors unanimously approved an initiative to improve access to and promote the advantages of local, freshly caught seafood as part of their *Live Well San Diego* initiative. The Board's request for the enactment of a California state-wide regulatory framework to enable the formation and operation of fishermen's markets is currently sponsored by California Assembly speaker Toni Atkins, and co-sponsored by the Port of San Diego. This legislation promotes locally caught seafood, and the economic viability of local fisheries, by enabling fishermen to establish permanent, open-air direct-to-consumer fish markets.

Use of the Tuna Harbor Dockside market by John Gibbs and/or David Haworth is probably not an attractive option if they are limited to the sale of whole fish only. However, this marketing outlet may become much more attractive if pending state regulations allow for fileting and portioning of the catch. In this case, based on Dupuy's experience with his Ventura Harbor fish market, the Tuna Harbor Dockside fish market holds a great deal of promise for increasing the economic viability of local fisheries.

4. Justification explaining why issuance of an EFP is warranted:

Despite a healthy swordfish stock, west-coast swordfish landings have been in decline since implementation of the HMS FMP and regulations imposed to protect endangered sea turtles and other protected species. In September, 2014, the PFMC issued a "Solicitation Notice for EFPs for swordfish and other highly migratory species." This notice states:

> "The Council is soliciting applications for an Exempted Fishing Permit (EFP) to test alternative gear...used to target healthy highly migratory species (HMS)...."

Justification for issuance of this EFP to applicants is warranted because it fulfills the Council's above stated request, and meets specified criteria. Additionally, the three EFP applicants are uniquely qualified. All currently possess longline ready vessels, all are experienced longline fishermen, and all have previously fished for swordfish with pelagic gear within the west-coast EEZ in compliance with regulatory requirements for sustainable fin-fish catch and mitigation of protected species interactions.

5. Statement of whether the proposed exempted fishing has broader significance than the applicants' individual goals:

If the proposed EFP demonstrates that longline fishing within the west-coast EEZ is economically viable, and demonstrates bycatch amounts and composition that meet federal conservation requirements, the collection and analysis of this information enables the Council to make informed management decisions regarding balancing the HMS FMP's management goals of providing a long-term, stable supply of high-quality, locally caught fish to the public, minimizing economic waste, bycatch impacts, and adverse impacts on fishing communities, and providing viable and diverse commercial fishing opportunity for HMS.

To the extent that direct-to-consumer marketing, coupled with California's enactment of legislation enabling the formation and operation of fishermen's open-air markets, helps foster economic viability, the utilization of direct-to-consumer marketing efforts may establish a model for generating economic viability from otherwise economically marginal fisheries, as well as establish a pathway toward that end.

Additional data generated by comparison of shallow-set and deep-set longline gear performance provides valuable information in order to evaluate the range of this gear type's performance. Neither of these gears have been used within the west-coast EEZ so there is no data available to evaluate the performance of either deep-set or shallow-set fishing. Differences in species composition, population size and vulnerability prevent inferring that data from a longline fishery in a different area is comparable to what longline fishing within the west-coast EEZ would produce.

Over the past 3 years NOAA scientists have worked with the F/V Ventura II to target swordfish with deep-set gear during the day. This fishing was designed to gather information on the potential to avoid endangered and protected species in the mixed layer where they spend the great majority of their time, while achieving profitable levels of swordfish and marketable fin-fish catch in deeper waters. Scientists have said that results of this experiment show promise, and that the next step is to conduct broader trials with experienced longline fishermen without the temporal and spatial constraints faced during the research cruises. This EFP could provide this opportunity.

6. Expected total duration of the EFP (number of years proposed to conduct exempted fishing activities):

This EFP is proposed for a two-year period with the option for continuing it for up to four years pending review and evaluation. However, applicants are willing to consider a shorter initial term, perhaps as little as 6 months, in order to avoid the financial risk imposed by requiring applicants to pay for observer costs. [2]

7. Number of vessels covered under the EFP and a copy of each vessel's USCG documentation, state license, and any other registration required for participation in the fishery:

2 Discussed further in the "at-sea monitoring" section.

The three (or four) vessels covered under the EFP are:

1. F/V Ventura II, a 90' LOA steel-hulled vessel, U.S.C.G. Document No. 536620,
2. F/V Sea Haven, a 57' LOA steel-hulled vessel, U.S.C.G. Document No. 635102,
3. F/V Southern Horizon, a 89' LOA steel-hulled vessel, U.S.C.G. Document No.1052597. [3]

Copies of all required documents and permits will be submitted upon approval of the EFP.

8. Description of species (target and incidental) to be harvested under the EFP and the amount(s) of such harvest necessary to conduct the exempted fishing; this description should include harvest estimates of overfished species and effects on marine mammals and protected species:

Primary marketable species include:

a) swordfish (*Xiphias gladius*),
b) bigeye tuna (*Thunnus obesus*),
c) yellowfin tuna (*Thunnus albacares*),
d) Northern bluefin tuna (*Thunnus orientalis*), and
e) albacore tuna (*Thunnus alalunga*).

All are managed domestically under the PFMC HMS FMP. The Inter-American Tropical Tuna Commission also manages these species internationally in the area east of 150 degrees west longitude. Bigeye tuna and Northern bluefin tuna are currently subject to overfishing, and the IATTC has recommended harvest limits that have been imposed under the Pacific Tunas Convention Act.

No other target species are subject to harvest limits. Estimated harvests of swordfish are from 15,000 to 40,000 lbs. The potential for tuna harvest also exists but projected amounts are impossible to predict due to lack of data not withstanding any catch limits for bigeye and Northern bluefin imposed under federal law.

Secondary marketable species include:

a) mahi-mahi (*Coryphaena hippurus*),
b) opah (*Lampris regius*), and
c) shortfin mako shark (*Isurus oxyrinchus*).

Blue shark (*Prionace glauca*) is estimated to comprise most of the non-marketable fin-fish bycatch.

The marine mammal species listed below are known to both inhabit the area within the west-coast EEZ, and to have been incidentally hooked in the Hawaii longline fishery:

a) bottlenose dolphin *(Tursiops truncates)*,
b) Risso's dolphin (*Grampas griseus)*,
c) short-finned pilot whale *(Globicephala macrorhynchus)*.

The marine mammal species listed below are known to both inhabit the area within the

3 John Gibbs has expressed his willingness to include another of his vessels, F/V Pacific Horizon, in the EFP should an additional vessel be desired.

west-coast EEZ, and to have been incidentally entangled in the Hawaii longline fishery:

a) common dolphin *(Delphinus delphis)*,
b) humpback whale *(Megaptera novaeangliae)*, and
c) sperm whale *(Physeter macrocephalus)*.

The short-tailed albatross (*Phoebastria albatrus*) is a rare visitor in the EFP proposed area. Combined Hawaii (’97 to ’01) and California (’01 to ’03) longline fishery observer data for 586 sets (444,833 hooks) east of 140 degrees west longitude records no takes of Laysan albatross (*Phoebastria immutabilis*), and 41 takes of black-footed albatross (*Phoebastria nigripes*). However, specific sea bird deterrents required by federal law will be employed to help prevent incidental sea bird interaction.

Due to the lack of take data by longline within the EEZ, impacts on sea turtles by longline gear is difficult to estimate, but, the use of deep-set gear has less overlap with sea turtle habitat, and, as has been shown in the Hawaii shallow-set longline fishery, use of circle hooks and mackerel type bait will further mitigate the potential for unwanted sea turtle interactions.

9. Description of mechanism, such at at-sea fishery monitoring, to ensure that the harvest limits for targeted and incidental species are not exceeded and are accurately accounted for:

In its call for EFP proposals, the PFMC states: “All EFP activities should be designed for 100 percent monitoring. Applicants should express their willingness to test electronic monitoring systems and their willingness and ability to pay the costs associated with observer coverage.”

Alternatively, NOAA fishery scientists have identified longline fishing research questions to be answered, but acknowledge that it may be necessary to supplement the fishermen's incomes if catch rates are too low to cover costs, given the experimental nature of including such research in an EFP. Some compensation, scientists understand, would likely increase involvement by lowering financial risk to fishermen.

Research questions fishery scientists have identified are:

a) What is the difference in catch and bycatch rates between deep-set and shallow-set gears? Applicants would be required to set a percentage of deep-sets, and if a deep-set was made outside of 100 miles, a second set in the same water using shallow-set gear would be requested.
b) What is the impact of soak time on catch and bycatch rates? Applicants would be required to make a certain percentage of sets with short soak times of 6 hrs.
c) Can bycatch be reduced on shallow-sets by eliminating the shallowest hooks? Applicants would be required to remove the first and last hook in each basket on a certain percentage of shallow-sets.
d) What is the impact of thermocline depth and water clarity on catch and bycatch? Research has shown that water temperature and clarity can impact the daytime and nighttime depths of swordfish, so collecting these data along with catch rates could be very informative. Observers would attach archival tags that record temperature, depth and light level on the longline to characterize water column characteristics and hook depth. This would be examined in relation to catch and

bycatch and on what hook number animals are caught.

e) What is the survival rate of blue sharks and other species released from the longline? Blue sharks caught after different soak times would be tagged by the observers to quantify survival rates. Survival rates may differ in the eastern Pacific in comparison to other regions given the shallow oxygen minimum zone in this area.

f) To what extent is the application of spatial-temporal oceanic condition monitoring technology in real time useful for applicants to make timely, informed decisions on fishing locations to be avoided.

However, to further explore the suggestion that all EFP applicants express their willingness to pay observer costs, observer provider Frank Orth and Associates recently estimated the cost of observer coverage for longline EFP fishing to be $1,115 per vessel, per observed day. At this rate, **each EFP applicant** would have to pay observer costs of $18,955 for a 14-day trip (17 total days when three days for steaming to and from fishing grounds is included). This amounts to $75,820 per year for 4 such trips; or $303,280 for the full 4 years of EFP fishing.

These observer coverage costs were not considered in the estimation of the minimum level of revenue required for economic viability. Inclusion of these costs raises this level from $5,000 per 1,000 hook set to $6,115 per 1,000 hook set. Instead of 14-set, 17 day trip revenue of $70,000, it would now have to be $103,955—a nearly 70% increase in required revenue—to pay observer costs and still be economically viable.

Because a principle purpose of this EFP is to determine if longline fishing within the EEZ is economically viable, applicants are indicating that they're concerned that this EFP fishery may not prove to be economically viable. All applicants are already involved in other economically viable fisheries. They all accept some level of economic risk in order to participate in this EFP fishing, but there are limits to the amount of risk each may be willing to accept. Raising the risk bar by 70% does not help encourage EFP participation. Any fisherman's willingness to pay observer costs is based on the expectation of a reasonable return on investment. In other words, if applicants believed that EFP fishing would produce sufficient revenue to pay observer costs and still earn a reasonable return on investment they are more likely to be willing to pay such costs.

Because the only way to answer the economic viability and bycatch questions is to conduct EFP fishing, applicants suggest an alternative approach: Conduct a initial EFP with fishing effort of 2 or 3 trips per vessel, over a 6 month period with observer costs paid by NMFS. [4] This approach would eliminate the applicants additional financial risk of paying observer costs. It would also substantially reduce the overall observer cost burden of a 2 or 4 year term of EFP fishing. In this way, both applicants and the Council/NMFS, with greatly reduced overall observer costs, may acquire sufficient data to answer the fundamental questions of what the bycatch amounts and composition are likely to be, and whether the potential exists for an economically viable longline fishery within the west-coast EEZ. If bycatch amount and composition meets conservation requirements, and the revenue generated by such a 6-month EFP adequately supports

4 A potential downside to an initial 6-month EFP term, and subsequent reduction in total fishing effort, is the reduction in statistical power that results. Should this, or a similar approach be considered, some minimum amount of effort may be required for statistically valid results.

the additional cost of paying for observers, the EFP's terms and conditions can be reconfigured at this point to continue the EFP for the remaining 1½ years as proposed, and shift the cost of observers to applicants.

10. Description of proposed data collection and analysis methodology:

Observer reports will document relevant EFP fishing information to be reviewed and analyzed by NMFS. Other data collected will include current fishery reporting data (i.e., logbooks and fish receiving tickets) by the state and NMFS.

11. Description of how vessels will be chosen to participate in the EFP:

Applicants were chosen for their possession of longline ready vessels, familiarity with longline fishing techniques and practices, and their previous experience with fishing for swordfish with pelagic gear within the west-coast EEZ.

12. For each vessel covered by the EFP, the approximate time(s) and place(s) fishing will take place, and the type, size, and amount of gear to be used.

Each EFP fishing applicant will utilize traditional longline gear consisting of a main line strung horizontally across 50 to 100km of ocean, supported at appropriate intervals by vertical float lines connected to surface floats. Descending from the main line is some number of branch lines each ending in a single circle hook with or without a lightstick, and mackerel type bait consistent with regulations enacted for the Hawaii longline shallow-set swordfish fishery found at 50 CFR §660.33(d),(f) & (g). [5] From 400 to 1,200 hooks may be deployed per set. Each trip will consist of about 14 sets, approximately 14,000 hooks per trip.

Applicants understand that various boundaries, inside of which EFP fishing would be prohibited, have been suggested. Boundaries have ranged from 30 to 100 miles seaward of the mainland shore, and no EFP fishing within the Southern California Bight. Applicants are willing to consider such boundaries, but caution that such restrictions may prevent fishing in historically productive swordfish grounds and jeopardize the potential success of EFP fishing. Therefore, applicants suggest that any such boundaries should not be arbitrarily based on a presumption of the effect they may have. Given that there is no baseline data about longline fishery performance within the EEZ, perhaps the imposition of boundaries should first be informed by actual catch data as EFP fishing progresses.

13.Signature is indicated for each applicant's name listed below:

Pete Dupuy
John Gibbs
David Haworth

5 Although shallow-set longline gear has never been used inside the west-coast EEZ, its use reduced sea turtle interactions in the Hawaii shallow-set longline fishery by 89%.