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December 7, 2009

Dr. Roy E. Crabtree
Regional Administrator
Southeast Regional Office
National Oceanic and Atmospheric Administration
263 13th Avenue South
St. Petersburg, Florida 33701

Subject: EPA NEPA Comments on NOAA DEIS for Amendment 31 to the "Fishery Management Plan for Reef Fish Resources in the Gulf of Mexico"; Gulf of Mexico Fishery Management Council; Gulf of Mexico; CEQ No. 20090390; ERP No. NOA-E91029-00

Dear Dr. Crabtree:

Consistent with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) has reviewed the National Oceanic and Atmospheric Administration's (NOAA) Draft Environmental Impact Statement (DEIS) for Reef Fish Amendment 31. This amendment concerns the reduction of sea turtle bycatch from the bottom longline component of the Reef Fish Fishery.

Background

Federally-protected sea turtles in the Gulf of Mexico are the loggerhead, green, hawksbill, Kemp's ridley, olive's ridley and leatherneck. Florida has the world's second highest population of loggerheads and 90% of the beach nesting sites (pg. 4). Sea turtles are attracted to and caught by baited hooks set on commercial bottom longlines and other hook-and-line fishing gear such as commercial and recreational vertical lines.[1] Such incidental takes (takes, takings) can result in fishers discarding turtles that are alive or dead, or of unknown condition.[2] The overall turtle bycatch from longline and vertical line gear predicted by the 2005 Biological Opinion (BioOp, prepared for the reef fish fishery consistent with the Endangered Species Act: ESA) is significant. Table 1.1.1 (pg. 2) presents the anticipated BioOp turtle total (and lethal) takes over a three-year period: 203 (78) loggerheads, 51 (21) greens, 44 (13) hawksbills, 20 (9) leathernecks, and

[1] Vertical lines are commercial and recreational fishing lines with one or more baited hooks that are individually set vertically overboard (internet).
[2] The survival rates of turtle discards released alive but of "unknown condition" is unclear, such that the actual number of lethal discards may be greater than currently assumed if sublethal effects from hook-captures ultimately result in turtle mortality soon after their release. Have studies been done on turtle survival rates of live discards?

3 (1) Kemp's ridleys. Moreover, actual takings during this timeframe exceeded those predictions. It is noteworthy that the percentage mortalities of commercial bottom longlines were greater than for either commercial or recreational vertical lines, with lethal takes of loggerheads (85/42) and greens (26/13) being approximately 50% more for bottom longline gear.

Bottom longline sets can stretch for miles in open ocean and reef areas. Pelagic and reef longlines can have substantive environmental concerns. For reef areas, bottom longlines are not selective and therefore include bycatch of non-target species (such as sea turtles) and illegal target species (such as regulatory discards of snapper) and also damage bottom habitat. Because soak times of longlines are longer than vertical lines, they are more likely to drown turtles (which must surface for air after about one hour underwater) than vertical lines (internet). Longlines can also attract and hook sea birds at the surface during the setting process before the bait settles in the water column. However, vertical line sets require more frequent anchoring than longlines, which can substantively damage reefs, and vertical lines can also hook sea turtles.

Overall, it appears that several factors should be considered for regulations intended to minimize the bycatch of sea turtles from bottom longlines. These include:

* *Gear* – Do bottom longlines consistently catch more sea turtles than vertical lines or other hook-and-line fishing gear?
* *Hooks* – Do circle hooks, hook guards or other fishing hook modifications reduce or physically prevent the hooking of sea turtles while still allowing the hook-capture of legally-sized target species ?
* *Location* – Does the offshore (depth) or alongshore location of the gear sets affect the level of turtle bycatch?
* *Bait* – Are there baits (and bait sizes) for bottom longlines and other hook-and-line gear to which sea turtles are not or less attracted, while still being attractive to target species?
* *Repellants* – Are there any sea turtle repellants that discourage turtles from hook-and-line gear but do not affect target species?
* *Soak Time* – Do shorter gear soak times (less than sea turtle air breathing minimum times of approximately one hour), result in less turtle drownings than longer sets?
* *Timing of Sets* – Does setting gear during certain times of day that are not coincided with prime turtle feeding times[3] result in less turtle bycatch?
* *Cumulative Effects* – Does the hook-and-line gear of choice have other negative overall effects such as the bycatch of sea birds during settings or the damage of reef habitat?

The DEIS considers several – but not all – of these factors in its four actions and multiple alternatives, options and suboptions. We offer the following comments on alternatives as well as the enclosed *Additional Comments*.

[3] Sunset may be one of these times to be avoided. The FEIS should discuss.

Alternatives

*** Action 1 – Allow or disallow squid bait in the bottom longline component of the Reef Fish Fishery.**

+ Alternative 1 (*No Action and NOAA's DEIS preferred alternative*): This alternative would allow the continued use of squid as bait. As discussed below, EPA disagrees with NOAA's preference for Alternative 1 to continue the use of squid as longline bait unless NOAA and the Council believe field and laboratory data showing turtle preference for squid are not conclusive.

+ Alternative 2 (*Prohibit the use of squid as bait*): Overall, EPA tentatively disagrees with NOAA's preference for the no action alternative. The DEIS indicates that sea turtles prefer squid over fish baits hooked both laboratory and field studies, although data may be limited and some societal effects may result. For example, the field observer study discussed on page 16 indicates that loggerhead turtles were hooked on squid (38%), fish (19%), and unknown bait (43%). If NOAA believes that existing data are not conclusive enough to change a longstanding bait in the longline fishing industry, we suggest that further studies be prioritized. For example, the collection of additional observer data for turtle bycatch onboard commercial vessels for different baits (squid vs. others) and different gear (e.g., longlines vs. vertical lines) should be a fairly inexpensive.

It should be noted that changing baits is one of the easiest ways to reduce turtle takings, when compared to the more substantive changes such as fishing gear or practices addressed in the other actions considered below. On the other hand, we understand that squid have been used by longliners for some time and that the tough texture of squid is ideal for bait during long soak times of bottom longlines. However, the use of "softer" fish bait is ideal for "nibblers" such as turtles that can thereby better avoid longline hooks. Moreover, the use of shorter soak times (to avoid the deterioration and loss of softer bait) could also help reduce the lethal turtle takes since gear may be retrieved within turtle underwater survival times.

In addition to studies to determine turtle bait preferences, other studies for Amendment 31 may be warranted. Given that consideration of societal effects on fishers is a NOAA mandate, we suggest that societal and economic impacts of changing baits to non-squid baits be further researched – including mitigation for such impacts if a bait change is effective. Similarly, the "unknown" baits to which turtles were hooked 43% of the time in the above-referenced field study (pg. 16) should be further investigated so that appropriate alternate baits to squid are not selected.

A frequent dilemma in fishery management regulations is whether or not to issue rulemaking or perhaps delay it if the level of supportive information is perhaps not sufficient. We will defer to NOAA and the Council regarding the level of information that exists (or can still be determined before rulemaking) regarding turtle attraction to squid. If the field (observer) and lab data on turtle preferences for squid discussed in the DEIS (or that is perhaps developed) demonstrates that loggerhead turtles are attracted

to and hooked by squid baits are considered reputable, further consideration for prohibiting squid bait (Alt.2 of Act. 1) should be provided in the FEIS. Again, a change in bait would appear to be a relatively simple modification compared to changing other more substantive fishery practices and gear.

*** Action 2 – Restrict the use of bottomline gear for reef fish in the Eastern Gulf of Mexico (east of 85° 30' W longitude, near Cape San Blas, Florida).**

+ Alternative 1 (*No Action*): This alternative would continue year round bottom longline fishing throughout the eastern Gulf in waters seaward of 20 fathoms. EPA does not support the no action since efforts should be made to limit the bottom longline fishery and thereby limit turtle bycatch and other reef impacts. EPA will defer to NOAA and the Council for appropriate limitations on fishing boundaries, depths and seasons. However, these restrictions must be based on reputable data and consider societal effects, particularly on any Environmental Justice (EJ) fishers in the bottom longline fleet.

+ Alternative 2 (Establish north-south fishing boundaries: *NOAA Preferred*): EPA agrees with establishing boundaries based on NOAA or other appropriate research. We will defer to NOAA and the Council for specific locations for such closures or acceptable longline fishing areas. Societal effects of disallowing fishing along certain coastlines, particularly on any EJ fishers, should be considered.

+ Alternative 3 (Establish fishing depths: *NOAA Preferred*): Similar to above Alternative 2, EPA agrees with establishing depths to limit the longline fishery based on NOAA and other research, and will defer to NOAA and the Council for specific depths for such closures. Societal effects of disallowing fishing at certain depths, particularly on any EJ fishers, should be considered.

+ Alternative 4 (Establish fishing seasons: *NOAA Preferred*): Similar to above Alternatives 2 and 3, EPA agrees with establishing such fishing seasons based on NOAA or other appropriate research, and will defer to NOAA and the Council for the best seasonal times for closures. Also, if seasonal closures affect fishers with different fishing seasons along the Gulf coast differently in terms of their consequential expected landings (e.g., quota remaining to them during their fishing season), societal effects should be documented in the FEIS as well as any EJ fisher impacts.

*** Action 3 – Longline Endorsements to fish east of Cape San Blas.**

+ Alternative 1 (No Action): Under this alternative, no longline endorsements to the reef fish permits to use traps and longline gear would be offered. As such, no regulatory changes in the number of harvested reef fishes would occur for the present permit holders that are fishing with bottom longlines. EPA does not support this alternative since it would not reduce the bottom longline fishery and thereby turtle bycatch and other bottom longline impacts. However, we defer to NOAA and the Council regarding the actual level of endorsements, eligibility requirements, and ultimately the resultant participant/vessel reductions discussed in Alternatives 2-7.

However, reductions in participating fishers would need to consider societal impacts to fishers, particularly any EJ fishers, if other gear (e.g., vertical lines) or other local fisheries cannot be substituted for displaced bottom longline fishers.

+ Alternative 2 (*Reduce the number of participants to an unspecified level*): In order to qualify for a longline endorsement, permit holders under Alternative 2 would only need to have minimal annual average reef fish landings of 20,000 pounds for either the 1999-2004 (Option a) or 1999-2007 (Option b) timeframe. Unlike Alternatives 3-7, the number of reduced participants associated with this alternative is unspecified in the DEIS (but should be in the FEIS for comparison with other alternatives). EPA defers to NOAA and the Council regarding the effectiveness and appropriate data timeframe of this alternative, but does not favor Alternative 2 since it offers the least reduction in the longline fishery, and therefore the least reduction in sea turtle bycatch and other reef impacts can be assumed.

+ Alternative 3 (*Reduce the number of participants to 82*): For Alternative 3, endorsements for eligible permit holders would be based on a 30,000 pound landings history. A reduction to 82 participants is expected. Again, EPA defers to NOAA and the Council regarding the appropriate number of participants, but believes this high level of continued participation in the bottom longline fishery may still be too great to sufficiently reduce turtle bycatch and other impacts from bottom longline fisheries.

+ Alternative 4 (*Reduce the number of participants to 61: NOAA Preferred*): This alternative would reduce the number of qualifying participants to 61, based on a history of 40,000 pound landings, which is the preferred level by NOAA identified in the DEIS. EPA will defer to NOAA and the Council that this is a reasonable number of participants, although we also request consideration to include "reliant" longline fishers discussed in Alternative 7 within the 61 participants, from a societal perspective.

+ Alternative 5 (*Reduce the number of participants to 39 or 45*): Alternative 5 would reduce the number of qualifying participants even further to 39 or 45 (depending on the timeframe used), based on a 50,000 pound landings criterion. This number of participants is less than preferred by NOAA and the Council; however, it does not appear unreasonable for the purposes of reducing turtle bycatch. If such a relatively low number of participants is implemented, we again suggest that inclusion of those fishers reliant on longline fishing should be considered consistent with Alternative 7.

+ Alternative 6 (*Reduce the number of participants to 22 or 31*): This alternative would reduce the number of eligible participants to the smallest number presented in the DEIS of 22 or 31, depending on the dataset used and a 60,000 pound landings history. This number of participants is much less than preferred by NOAA and the Council and may be an unnecessarily low number of participants for turtle bycatch reduction. It is also less than the number of reliant participants listed for Alternative 7.

+ Alternative 7 (*Reduce the number of participants to 44 or 36*): This alternative considers the number of fishers reliant on the longline fishery (i.e., those fishers with at

least 15% of their ex-vessel landings being red grouper: pg. 30). EPA again defers to NOAA and the Council, but notes that these 36-44 fishers and their communities should be considered for inclusion within the final number of qualified participants in the above alternatives to minimize societal issues, particularly if any EJ fishers are also reliant. Alternatively, other gear (vertical lines) or other local fisheries could perhaps be substituted if these reliant fishers do not continue as longline participants.

Alternative 7 also addresses the transferability of endorsements. EPA does not support endorsement transfers to help reduce the fishery when fishers cannot or do not wish to further participate and offer to transfer their endorsement. We note that NOAA's preference is Sub-Option iii, where transference could only be to a fisher vessel of equal or lesser length. We agree that such transfers would not increase the fishery, but they would also not reduce it – which is the goal of Amendment 31 as it relates to a turtle bycatch reduction.

*** Action 4 – Modify Fishing Practices and Gear for vessels using bottom longline gear to harvest reef fish east of Cape San Blas.**

+ Alternative 1 (*No Action*): This alternative would allow current bottom longline fishing practices to continue throughout the eastern Gulf. EPA does not support this alternative inasmuch as the bycatch of turtles is currently greater than the 2005 BioOp allows. We agree that the mainline length, number of hooks and gangion (leader) length of longline gear should be modified under action Alternatives 2-4 to reduce the fishery and in turn turtle bycatch.

+ Alternative 2 (*Limit mainline length*): This alternative would reduce the mainline length of longlines to 1, 2, 4 or 5 nautical miles (nm). Data (albeit limited data) show that no turtles were hooked when lines averaged 5.3 nm long while turtles were hooked when lines averaged 6.7 nm. However, the number of longline sets in this study were greatly different for the two datasets, with the no turtle bycatch sets numbering only 12 sets. Nevertheless, given these limited data and the fact that shorter mainlines could result in earlier retrievals, which in turn implies a closer correlation with maximum turtle underwater survival times, could translate into less lethal takes. Accordingly, EPA prefers shorter set lengths of 1-2 nm. Shorter mainlines may secondarily also limit the overall harvest of reef fish which could be beneficial to target species (unless greater effort is expended by the fishers by setting more of the shorter sets). Overall, we defer to NOAA and the Council regarding a reasonably short mainline length that will reduce turtle bycatch.

+ Alternative 3 (*Limit number of hooks*): Alternative 3 proposes to limit the number of hooks to 500, 750/1,000 or 1,500. As indicated above for Alternative 2, EPA prefers shorter mainline lengths which implies less hooks and lowers the chance for turtle bycatch. We favor Option a or b with 500-750 rigged hooks.

In addition to the number of hooks, the FEIS should also consider the type of hooks used. The use of circle hooks or hook guards could reduce turtle bycatch and could be sized to

be large enough to physically prevent turtle capture. Although circle hooks are not popular for recreational fishers, passive longline fishing would seems ideal for circle hooks because fish set the hook themselves by swimming away. Overall, we defer to NOAA and the Council regarding a reasonable number of rigged hooks that will reduce turtle bycatch and the potential use of circle hooks or hook guards.

+ Alternative 4 (*Limit gangion length*): This alternative limits the length of the leader of the bottom longline gear. Limited information exists regarding the advantages of a long or short leader line. However, some data suggest that shorter gangion lengths of 4 feet catch fewer turtles. Currently, only 13% of the longliners use 4-ft leaders.

Summary

EPA supports the reduction of sea turtle bycatch in the bottom longline Reef Fish Fishery proposed by Amendment 31. Assuming existing data adequately demonstrate that turtles prefer squid over fish baits and any societal issues associated with switching to non-squid baits are manageable, EPA prefers Alternative 2 for Action 1, which would prohibit the use of squid bait. If data are inconclusive, we suggest the prioritization of further studies by onboard observers to generate reliable data since changing bait types would appear to be a relatively simple method to reduce turtle bycatch when compared to changing the more substantive fishing practices and gear considered in Actions 2-4.

Actions 2-4 consider changes in longline fishing locations and depths (Action 2), the number of fishery participants/vessels (Action 3), and gear specifications (Action 4). Overall, we support the downsizing of the bottom longline fleet and fishing effort through area and time closures, permit endorsements and gear restrictions since these in turn can be expected to also reduce the level of turtle bycatch in the bottom longline reef fishery consistent with Amendment 31. EPA defers to NOAA and the Council regarding specific quantifications for these actions to reduce the fishery. However, for Alternative 3 of Action 4, we recommend that not only the number of rigged hooks be considered but also the kinds of hooks, such as circle hooks and hook guards that are sized to physically prevent most turtles from swallowing hooks. Secondarily, we also note that downsizing might also reduce the overall fishing effort of the Reef Fish Fishery and thereby reduce the fishing pressure on stressed reef fish stocks such as snapper.

In addition to the four actions considered in the DEIS, we believe that the length of soak times, timing (time of day) of making sets, potential turtle repellants and cumulative effects of reef longlines should also be considered to further reduce turtle bycatch. Moreover, if reduced endorsements (Action 3) would displace longline fishers in order to limit the size of the fishery, additional studies on the effects of replacement gear (e.g., vertical lines) should be conducted for comparison against bottom longline effects. Although reducing turtle bycatch (particularly lethal takes) is the purpose of Amendment 31, the societal effects of displacing commercial bottom longline fishers should also considered (particularly any EJ fishers and/or reliant longliners).

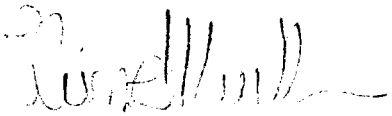
Although the DEIS contains an improved EJ section over previous fishery EISs, it is unclear if any EJ fishers would be affected since no public outreach to fishing communities was apparently provided. Future EISs (preferably also the FEIS for the present EIS) should provide such EJ information since U.S. Census data only provide community demographic data rather than specific fisher demographics. Although it is unclear if EJ fishers exist in the reef fishery bottom longline fleet, it is clear from Alternative 7 of Action 3 that reliant fishers exist. These should be considered in terms of final rulemaking and mitigative offsets.

EPA DEIS Rating

EPA rates this DEIS as an "EC-2". Although we strongly support the use of fishery management measures to reduce sea turtle bycatch, we recommend that NOAA's preference for Alternative 1 (Action 1) in the DEIS to not prohibit squid bait be re-considered and/or confirmed through additional studies. In addition, bycatch reduction information should be provided in the FEIS on the effects of circle hooks and hook guards; use of vertical lines; survival rates of released live turtle discards, and on longline soak times, timing (time of day) of making sets, and potential turtle repellants.

We appreciate the opportunity to review the DEIS. Should you have questions regarding these comments, feel free to contact Chris Hoberg of my staff at 404/ 562-9619 or hoberg.chris@epa.gov.

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosure: *Additional Comments*

cc: Dr. Paul N. Doremus – NEPA Coordinator (NOAA): Silver Spring, MD

ADDITIONAL COMMENTS

* *Table 1.1.1* – This table (pg. 2) presents the anticipated 2005 BioOp total (and lethal) turtle takes over a three-year period. These were: 203 (78) loggerheads, 51 (21) greens, 44 (13) hawksbills, 20 (9) leathernecks, and 3 (1) Kemp's ridleys. However, actual takings during this timeframe exceeded these predictions. The FEIS should clarify the basis for which these predictions were generated.

* *Scoping Hearing* – Based on the summary of the public scoping hearing (pg. 227 of the DEIS and on the internet), it is unclear if vertical lines hook less or more sea turtles than bottom longline gear. Data ranging for most years between 1993 to 2008 presented at the hearing were inconclusive, with vertical lines showing less takes in some instances and more in others. However, results may have been influenced by bait type, soak times and various other factors. To the extent that Amendment 31 may result in some bottom longline fishers switching to vertical line gear (Action 3), the FEIS should further compare the impacts of these two gear types relative to turtle bycatch to the extent data are available or can be generated.

* *Longlines vs. Vertical Lines* – In general, EPA prefers vertical lines since their soak times are less than bottom longlines (internet) and they could be better timed to fish for an hour or less (i.e., within turtle maximum underwater survival times to reduce drownings); have less chance of attracting and hooking sea birds in surface waters when sets are made since lines are set individually; need not damage bottom habitat due to the line itself (but frequent vessel anchoring could damage the seafloor); and require more fishing effort than longlines (the catch-per-unit-of-effort may be reduced which secondarily helps in reef fish stock recoveries). Vertical lines can be expected to continue to incidentally catch turtles, but ideally will result in less lethal takes (drownings). The need for, frequency and reef effects of anchorings to set and retrieve vertical lines should be discussed in the FEIS. Do vessels necessarily need to anchor or can they stay on station under engine power?

* *Environmental Justice (EJ)* – We appreciate the demographic data presented in Table 4.1.1 (pg. 72) and elsewhere in the DEIS. However, specific information regarding fishers in the reef fish bottom longline fleet was not found (pg. 87). Understandably, such information is difficult to obtain and is more specific than block group information of U.S. Census data for communities, counties and states.

In such instances, we recommend (as we have in recent past NOAA fishery EIS comments) public outreach to determine the level (if any) of EJ populations within the fleet that may be impacted by societal effects expected to result for Amendment 31. If such demographic information is considered "confidential" (as suggested in the NOAA FEIS for the Comprehensive Ecosystem-Based Amendment 1: CE-BA 1), we recommend that it be "defused" by only disclosing if most of the fishers are or are not minorities and/or low-income populations, i.e., a potential EJ population. Moreover, as suggested in CE-BA 1, if fisher demographic information is considered "confidential",

public outreach could also be used to encourage comments relative to demographic needs at NOAA's public hearings and meetings on amendments and rulemaking. The FEIS should discuss this approach and how it compares to NOAA's mandate to considering fisher societal impacts pursuant to the reauthorized Magnuson-Stevens Fishery Conservation and Management Act. Such a mandate would likely be broader than EJ demographics and extend to all impacted fishers.

Page 88 states that "...adverse social and economic consequences are expected to accrue to fishermen in the reef fish bottom longline fleet and associated industries and communities due to the reduction of expenditures and revenues associated with the expected change in fishing behavior and harvest levels...". While such impacts can often be expected from Fishery Management Plans (FMPs) and Amendments that reduce the size or capital of a fishery in order to restore the resource, societal effects – particularly to any affected EJ fishers – should be considered for potential offsets.

* *Studies* – As is often the case, additional studies would be helpful, if not necessary, in several areas addressed by Amendment 31. These include the relative turtle bycatch from bottom longline versus vertical line gear; turtle bait preferences including testing squid versus fish and a review of current baits being used by bottom longliners (e.g., 43% of the bait used in the example on page 16 was "unknown"); potential use of circle hooks or other modifications that are sized to preclude or reduce most turtle hookings but not preventing capture of target species; the advantages of long or short gangions relative to turtle bycatch; and the survival rates of live turtles released (discards) after hook-and-line capture as well as any sublethal effects. Are any of these topics already being studied or planned/budgeted for study by NOAA or Gulf universities? The expanded use of onboard observers could also establish a better baseline for turtle bycatch.

* *Cumulative Effects* – EPA appreciates the extensive cumulative effects analysis on page 167 of the DEIS. We also appreciate the complementary section regarding the history of previous related amendments (pg. 6). For the FEIS, we suggest a comparison of the cumulative effects of bottom longline versus vertical line gear impacts relative to bycatch, disturbance of reef bottom habitat, ghost fishing and entanglement by lost gear, etc.

* *Diagrams* – For the average reviewer, inclusion of diagrams depicting bottom longline gear and vertical line gear in the FEIS would be beneficial. This diagram should be labeled, including 'gangions' and other terms used in the DEIS.

* *Gear Modification* – Hypothetically, could longlines or vertical lines be modified to allow hooked air breathers like turtles to surface and survive until lines are retrieved? That is, could a sliding hook mechanism perhaps be designed where hooked turtles could "slide" up a line in the water column to the surface, while non-air breathers like fish would tend to remain below? Such a setup may not reduce turtle bycatch but could reduce turtle drownings and increase live discards.

* *List of Acronyms* – The List of Acronyms could be more inclusive in the FEIS. For example, the acronym 'RFEM' (Reef Fish Electronic Monitoring) should be included in the List of Acronyms of the FEIS.

* *Glossary* – Although a List of Acronyms was included, the reviewing non-fisher public would benefit from the inclusion of a Glossary of Terms in the FEIS. This glossary should include terms like 'gangion', 'vertical lines', 'bottom longlines' and 'endorsements' used in the DEIS with which public reviewers may not be familiar.