

certification phase data would normally be needed to establish a reasonable scientific basis for conducting certification phase testing (e.g., that the BRD could meet the certification criterion upon certification testing). In making these determinations, the RA may consult with evaluation and oversight personnel. If a LOA to conduct certification phase testing is denied, the RA will provide a letter of explanation to the applicant, together with relevant recommendations to address the deficiencies resulting in the denial. Issuance of a LOA allows the applicant to remove or disable the existing certified BRD in one net (to create a control net) and to place the BRD candidate in another net in lieu of a certified BRD (to create an experimental net). All other trawls under tow during the tests must be equipped with a BRD. All trawls under tow during the certification tests must be equipped with an approved TED unless operating under an authorization issued pursuant to 50 CFR 223.207(e). The LOA will specify the date when the applicant may begin to test the BRD candidate, the observer who will conduct the onboard data collection, and the vessel to be used during the test. The LOA and experimental TED authorization, if applicable, must be onboard the vessel while the certification phase tests are being conducted.

#### D. Testing Protocol

Certification testing must be conducted in areas and at times when commercial quantities of penaeid shrimp and finfish pertinent to the certification testing are available to the gear.

Certification testing of BRDs for use in the Gulf EEZ west of 85°30' W. long., must be conducted in areas and at times when juvenile (age 0 and age 1) red snapper are available to the gear. The best time for testing such a BRD candidate is July and August (July 1–August 31) due to the availability of red snapper on the penaeid shrimp commercial grounds located shoreward of the 100-fm (183-m) depth contour west of 85°30' W. long., the approximate longitude of Cape San Blas, FL. A certification test conducted for BRD use west of 85°30' W. long. may also be evaluated for BRD use east of 85°30' W. long. because the requirement that “finfish” were available to the gear would have been satisfied. However, it is preferable that certification testing for BRD use east of 85°30' W. long. be conducted in that same area.

Data for all certification testing should be recorded on the forms found in Appendices B through G, using the instructions provided for each form.

##### D.1. Tuning the Control and Experimental Trawls Prior to BRD Certification Trials

The primary assumption in assessing the bycatch reduction efficiency of the BRD candidate during paired-net tests is that the inclusion of the BRD candidate in the experimental net is the only factor causing a difference in catch from that of the control net. Therefore, it is imperative that the fishing efficiency of the two nets be as similar as possible prior to starting the certification tests. Catch data from no more than 20 tuning tows should be collected on nets that will be used as control and

experimental trawls to determine if there is a between-net or between-side (port vs. starboard) difference in fishing efficiency (bias). Any net/side bias will be reflected as differing catch rates of shrimp and total finfish between two nets that were towed simultaneously. During the tuning tows, these nets should be equipped with identical approved hard TEDs, without the BRD candidate being installed. Using this information, the applicant should identify and minimize the causes for any net/side bias, to the extent practicable, by making appropriate trawl gear adjustments. Form D-1 from Appendix D should be used to record the net/side bias data collected from these tows. These data will enable the RA to determine if any net/side bias existed in either trawl in assessing the BRD candidate's performance.

If the applicant is testing a soft TED as a BRD, it will be imperative that little or no position or side bias with the trawl nets be demonstrated before the certification trials are initiated. Once any net/side bias is corrected using identical approved hard TEDs in both nets, any alterations in catch rate following the substitution of the soft TED into the experimental net can then be attributed to that TED's influence.

##### D.2. Retention of Data Collected During Tuning Trials

All data collected during tuning trials and used for minimizing the net/side bias must be documented and submitted to the RA along with the testing data for evaluation. Additional information on tuning shrimp trawls is available from the Harvesting Technology Branch, Mississippi Laboratories, Pascagoula Facility, 3209 Frederic Street, Pascagoula, Mississippi 39568–1207; phone (601) 762–4591.

##### D.3. Certification Tests

The certification tests must follow the testing protocol where paired identical trawls are towed by a trawler in acceptable testing areas (see introductory paragraph of section D). For tests of BRD candidates that do not encompass testing a hard or soft TED as the BRD candidate, identical approved hard TEDs are required in each trawl and one of the trawls must be equipped with a functioning BRD candidate. To test a hard or soft TED as a BRD candidate, the control net must be equipped with an approved hard TED, and the experimental net must be equipped with the TED that is acting as the BRD candidate.

A minimum sample size of 30 successful tows per test is required. Additional tows may be necessary for sufficient statistical evidence, especially if catch of the species upon which the bycatch reduction criterion is based (e.g., red snapper) is highly variable. A gear change (i.e., changing nets, doors, or rigging) during a test constitutes the beginning of a new test. All certification tows must be no less than 2 hours and no more than 8 hours in duration. The applicant may select any tow time within this range. Once a tow time is selected, no tow time during a series of tests may vary by more than 10 percent.

To avoid potential biases associated with trynet catches, the outside trawls on quad-

rigged vessels must be used as the control and experimental trawls, and for double-rigged vessels, the use of a trynet is prohibited.

The functioning BRD candidate must be switched every 4–6 tows (approximately every 2 days) between the two trawl nets. This process must be repeated, ensuring that an equal number of successful tows are made with the BRD candidate employed in both the port and starboard nets, until a minimum of 30 successful tows have been completed. For BRDs incorporated in the codend of the net, this process can be facilitated by the use of zippers, or other quick-connection devices, to more easily move the codends between nets; however, simply switching the entire net will not satisfy this requirement because doing so would not resolve net bias. Such quick-connection devices must be attached behind the TED. The TED must not be moved unless the BRD is actually incorporated into the TED portion of the net. Where a hard TED is being tested as a BRD candidate, that portion of the net including the TEDs must be moved, and again, quick-connection devices located in front of the TEDs may be used.

A different procedure must be followed to conduct tests of an approved or experimental soft TED as a BRD candidate. To conduct these tests, the applicant must first demonstrate that little or no side/net bias exists between the two nets to be used in the test (see D.1.). Removing the soft TED from one trawl net and installing it in the other net is not required. For these tests, the control (with a hard TED) and experimental (with the soft TED) nets must be disconnected from the doors and their positions switched from one side of the vessel to the other. The first switch must be made after successfully completing approximately 25 percent of the total number of intended tows. This process must be repeated, at 25 percent intervals, until at least 30 successful tows are completed (i.e., every 7–8 successful tows).

Following each paired tow, the catches from the control and experimental nets must be examined separately. This requires that the catch from each net be kept separate from each other, as well as from the catch taken in other nets fished during that tow. First, the observer must weigh the total catch of each test net (control and experimental nets). If the catch in a net does not fill one standard 1-bushel (ca. 10 gallon) (30 liters) polyethylene shrimp basket (ca. 70 pounds) (31.8 kg), but the tow is otherwise considered successful, data must be collected on the entire catch of that net, and recorded as a “select” sample (see Appendix E). If the catch in a net exceeds 70 pounds (31.8 kg), a well-mixed sample consisting of one standard 1-bushel (ca. 10 gallon) (30 liters) polyethylene shrimp basket must be taken from the total catch of that net.

Data must be collected on Form E-1 for the following species or general groups found in each of the samples: (1) Penaeid shrimp—brown, white and pink shrimp from each sample must be separated by species, counted and weighed; in addition, the weight for those penaeid shrimp species caught in each test net, but that were not included in the sample, must be recorded so that a total