Specific Requirements for Molecular Biology Proficiency Tests

1. Test Design

1.1 Molecular Biology proficiency samples should measure sample handling and preparation skills, extraction skills, technical skills, analytical skills, data interpretation skills, and documentation skills.

1.2 Proficiency test samples should be handled similar to casework samples. If the laboratory process utilizes technicians or other examiners to perform initial testing or sample preparation, the proficiency test participant is only required to perform the analyses normally conducted in daily casework.

1.3 Proficiency samples should test the ability of the participant to interpret DNA results and draw conclusions based on a provided case scenario.

1.4 In laboratories performing autosomal STR analyses, the Core CODIS loci as defined by NDIS must be reported.

1.5 In laboratories performing YSTR analyses, 11 SWGDAM recommended loci must be reported.

1.6 In laboratories performing mtDNA analyses, sequence polymorphisms in HV1 and HV2 must be reported.

1.7 Documentation provided to the laboratory staff member responsible for proficiency tests must include notes regarding sample handling, preparation, and extraction; instrumental data; detailed descriptions of non-instrumental test results; calculations for quantitative results; and standard and control sample results.

2. Criteria for Successful Participation in a Molecular Biology Proficiency Test

2.1 The test provider will provide written notification to the laboratory staff member responsible for proficiency tests and/or the participant advising the results of his or her proficiency test. If applicable for commercial test providers, the laboratory staff member responsible for proficiency tests can verify the results given the participant's test code.

2.2 Correct results demonstrate a successful participation in the proficiency test. All reported matches (inclusions) and non-matches (exclusions) must be correct and the correct allele assignments, or differences from the rCRS in mtDNA analyses, must be reported for each sample.

2.3 Incorrect results demonstrate an unsuccessful participation in the proficiency test. One or more of the reported inclusions or exclusions are incorrect, or an incorrect allele assignment was reported.

2.4 Inconclusive results may be judged as successful or unsuccessful participation. This occurs when there is a failure to obtain a result for a sample.

2.4.1 Inconclusive results will be reviewed by at least two members of the Molecular Biology Proficiency Review Committee to determine whether the participation in

proficiency testing was successful or unsuccessful. If no conclusion can be reached, a third member will review the results and render the final decision.

2.4.2 The additional reviewer names will be noted on the Proficiency Review Checklist (09-0702F). The reviewers will initial and date the checklist.