Proposal Subject: Re-opening Conditional Areas using Male-specific Coliphage after WTP Malfunction

Specific NSSP Guide Reference: NSSP 2009 Section II Model Ordinance Chapter IV Shellstock Growing Areas @ .03 Growing Area Classification A. (5) (c) (ii)

Text of Proposal/ Requested Action (ii) For emergency closures (not applicable for conditional closures) of harvest areas caused by the occurrence of raw untreated sewage or <u>partially treated sewage</u> discharged from a large community sewage collection system or wastewater treatment plant, the analytical sample results shall not exceed background levels or a level of 50 male-specific coliphage per 100 grams from shellfish samples collected no sooner than 7 days after contamination has ceased and from representative locations in each growing area potentially impacted; or

Public Health Significance:

Male-specific Coliphage (MSC) is an RNA virus of E. coli present in high numbers in raw sewage (on the order of 10⁵ PFU/100gm). MSC is similarly resistant to chlorine disinfection as are norovirus and hepatitis A viruses, which are the viral pathogens of primary concern in sewage. MSC is a good surrogate or marker for these enteric viruses. Raw or partially treated sewage accidentally discharged into a growing area by sewage bypass from pump station failures, broken sewage lines, or malfunctions at the wastewater treatment facilities represent a serious public health risk and require emergency closure of adjacent conditional growing areas. These closures are typically 21 days after the wastewater treatment system returns to normal operation. Recent work has shown that persistence of viruses in the growing waters is much lower in the summer months than in the winter months. Likewise, bio-accumulation rates and retention of enteric viruses in molluscan shellfish is much lower in the summer months than the winter months. MSC can be a useful tool for state shellfish programs to mitigate the negative effect of prolonged conditional closures due to wastewater treatment system failures. This approach is most appropriate in the late-spring and summer months to shorten these closures from 21 to 7 days.

Cost Information (if available):

The Male-specific Coliphage (MSC) Method is an inexpensive double-agar pour plate method that can be run in any state-certified microbiological laboratory. A refrigerated centrifuge capable of 9,000G is required which costs \$10K to \$12K (USD). Re-opening after 7 days using MSC method is optional for state shellfish control agencies.

Action by 2011 Task Force I

Recommended referral of Proposal 11-101 to the appropriate committee as determined by the Conference Chairman. FDA is requested to prepare and provide MSC data from wastewater treatment plant sampling to the committee. FDA is further requested to involve the submitter in this proposal in analyzing that data.

Action by 2011 General Assembly

Adopted recommendation of 2011 Task Force I on Proposal 11-101.