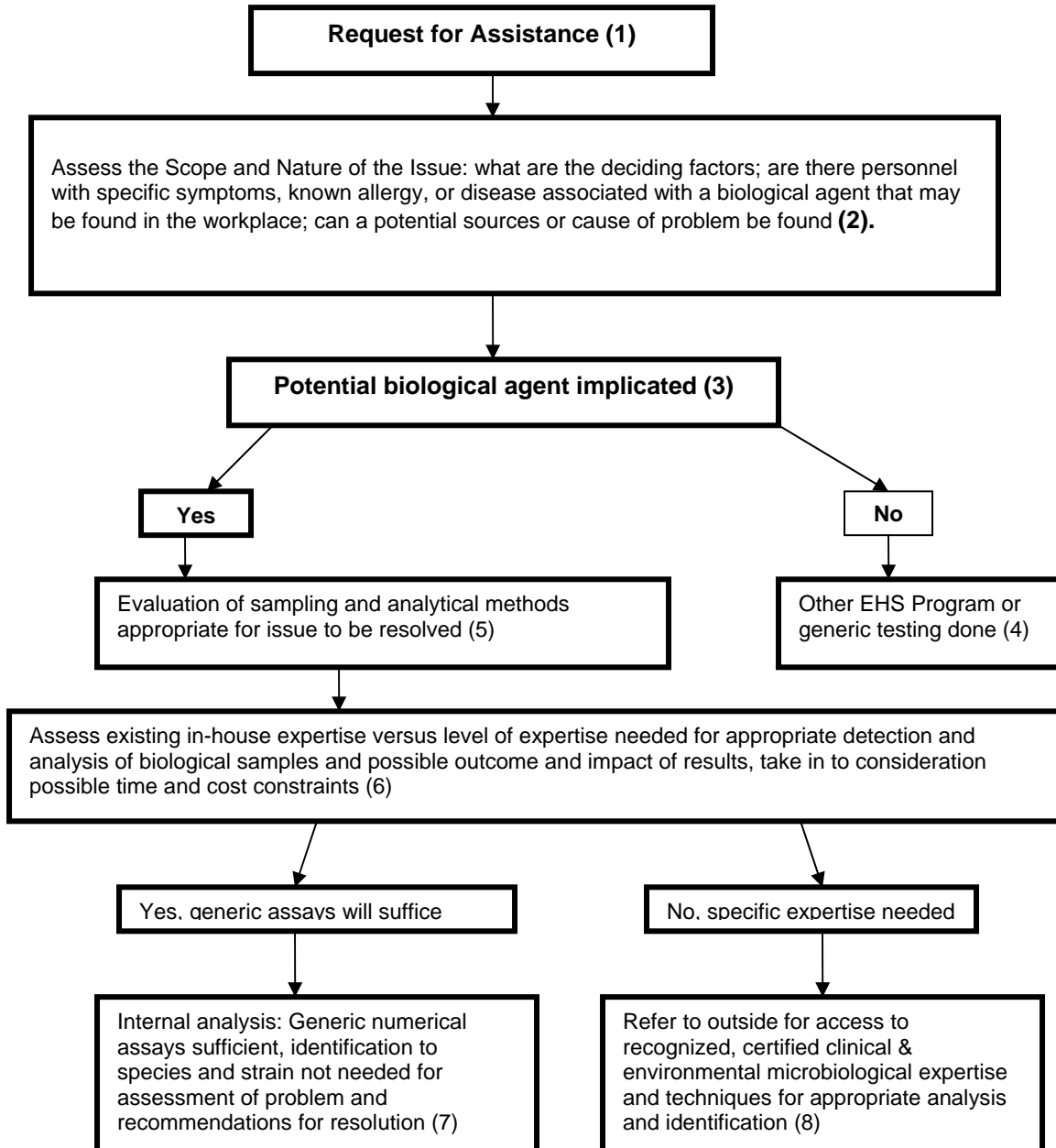




**Environment, Health & Safety
Office
Administrative Procedures**

Procedure#: EHS-07-019	
Date Issued: 09/28/07	
Date Revised: 01/30/09	Revision No. 1
Approved:	
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Decision Map: Use of MIT BSP versus External Expertise for Analysis of Biological Samples



Description of Process:

1. Requests for assistance can come in any number of ways but usually directly to the Biosafety Program.
2. Cases may include situations where personnel in an area have an underlying illness or clinically confirmed disease that might be associated with the possible presence of a specific biological agent in the workplace, or where the results may form the basis for further legal actions against MIT. In these instances the assessment team may be expanded to include, Occupational Health physicians, Director of EHS Office, Facilities personnel, upper management for area. Where the issue is the more usual situation of potential mold or mildew in the workplace, or water quality for public health compliance the assessment team remains smaller and usually includes EHS staff, Facilities and area personnel.
3. Where the case involves a specific underlying clinical illness that is associated with the possible presence of a biological agent in the workplace it is important to make a careful assessment of all possible causes including exposure to mold, bacteria, and communicable illnesses circulating within the community.
4. If this is a standard case of mold or mildew then internal expertise is sufficient. If there is no evidence or data to indicate water intrusion or presence of mold or mildew (due to lack of water or a flood, etc.) then the case should be handed off to another EHS group for further analysis.
5. If on the other hand, the employee's symptoms are consistent with exposure to some specific agent, a presumptive diagnosis, or clinically proven illness has been documented then BSP staff should develop a description and assessment of the type and scope of sampling and testing for the workplace environment (a sampling plan, sampling handling and preservation information, testing and available assay technologies as well how data would be reported and timeline for results). Existing reference resources that include sampling and analytical techniques include Clinical Microbiology Procedures Handbook ASM Press, and Standard Methods for the Treatment and Analysis of Wastewater, Handbook of Applied Mycology (in EHS library).
6. Determine what information or data would be essential, what might be secondary information; determine who are the interested parties (at all levels) and the possible impact of findings. Determine whether the necessary expertise resides in house, determine whether there are any time or cost constraints and their possible impact on the situation; if the in-house expertise is not sufficient for the situation, then request services of external analytical laboratory. In the past we have used Quest Diagnostics on Mass. Ave in Cambridge. MIT BSP has an account with that company.
7. In house expertise sufficient for generic tests that utilize basic standard microbiological techniques such as measuring colony forming units or limited selective plating e.g. numerical measurements, comparative numbers and morphology. Will these techniques give relevant and reliable data. In addition simple tests for identification of bacteria can be done. However, it should be noted that the Biosafety laboratory is not a certified environmental laboratory.
8. External, certified, microbiological laboratory will be used where the results of the sample analysis directly bears on the issue of possible workplace exposure and or transmission. In those rare instances where workplace acquired illness is a possibility or where a possible legal action is pending, sample analysis should be done by an off-site independent expert. In addition consider whether sample collection should be done by an outside service as well.

Biosafety Program Process Description: Determination for use of external laboratory analytical services: assessment pathway

Background:

On rare occasions BSP is asked to assess the likelihood that there are dangerous or virulent biological agents in some workplaces that are not associated with communicable diseases circulating within the community or area. These requests for assessment have always come after reported illnesses of employees with either a presumptive diagnosis (unverified by laboratory identification of causative agent) or a clinically confirmed illness (causative agent isolated and identified from the appropriate patient sample). In such instances, it is important to clearly outline the role of BSP and EHS Office and when these particular types of cases require the use of outside expertise for (a) sampling and (b) analysis. Often BSP is able to obtain samples using well documented and accepted methods but may not always be able to perform the sample analysis that may required for unambiguous identification of particular bacteria or other biological agents. If BSP or EHS staff do obtain the samples for analysis by an outside laboratory a sampling plan, sample preservation and shipping plan must be worked out prior to the start of the process. The final approval for the plan and the decision to use an outside laboratory will be made by the Deputy Director Biosafety Program.

A "Working or Project Team" should be assembled at the outset. This team should include the MIT Occupational Health physician, Facilities personnel, and workplace area supervisors and other EHS expertise as needed. In addition it is important that the employee be aware of the plan, be interviewed to ensure that all areas within the workplace are assessed and sampled if it is possible that an exposure might have occurred within that space. Also any information concerning time of onset of symptoms and possible information about health of family members should be requested i.e. utilize the MIT Occupational Health physician to discuss this with the employee and or the diagnosing physician. In addition employees will often volunteer helpful information.