

What Types of Questions Will the Inspection Team Ask?

<p><u>CORE FUNCTION #1 – DEFINE THE SCOPE OF WORK</u> is satisfied when work control systems and procedures that address work definition are in place for all types of work activities and are implemented effectively. These systems and procedures must ensure that the scope of all work is clearly defined and bounded such that the hazards to workers, the public, and the environment can be identified and controlled.</p>	<p><u>JLab EXPECTATIONS FOR CORE FUNCTION #1</u> Each work planning and execution tool, regardless of the implementing organization, has a well-defined process to identify the nature of the required work, the schedule, and the costs of the activities. The level of detail of the scope of work varies in relation to its complexity and potential risks. In all cases, multi-disciplined teams are used to create, or review, the scope of work documents and workers are involved in the planning processes.</p>
<p>Q: Is work defined at the task level such that the individuals performing the work, supervisors and appropriate ESH&Q personnel can readily identify the hazards and risk associated with both the work activity and the location in which it is performed?</p>	<p>A: Work is defined in several ways across the lab: (a) with on-line work planning tools (ATLis, TATLs...), (b) through work orders, (c) through the experimental review processes. Each of these processes includes a mechanism for identification of the hazards and risks.</p> <p><i>Note: be prepared to show the inspection team the tools and processes used to define work activities.</i></p>
<p>Q: Are work efforts always described in some sort of work package, procedure or permit?</p>	<p>A: Other than the most simple tasks (such as changing a light bulb), yes. The simplest description can be in an electronic log entry and it can get as detailed as an experimental plan or a subcontractor specification.</p> <p><i>Note: be prepared to explain how the decision is made to use the different mechanisms.</i></p>

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<p>Q: When do workers, ES&H staff, or other subject matter experts get involved in work planning efforts?</p>	<p>A: From the beginning. All of our work planning tools require that we solicit feedback from workers either during the scope of work development; or they review the scope of work and provide comments and recommendations.</p> <p><i>Note: be prepared to show the inspection team documentation, for each type of planning effort, that workers and subject matter experts were consulted.</i></p>
<p>Q: How do we assure contractor work scopes are adequate before work is started?</p>	<p>A: For subcontractors who have an existing contract, the JLab work supervisor, as well as the subcontracting officer, review the task order scope. The scope is developed by the work supervisor who gets input on subject matter experts relevant to the work activities. A similar process is used to develop the scope and specifications to support subcontract procurements.</p> <p><i>Note: be prepared to demonstrate how a task order or a specification is prepared and the procedure/policy that guides this process.</i></p>
<p>Q: If you had a question or concern about safety or environmental protection during a work planning activity how would you raise the issue?</p>	<p>A: I am expected to raise the issue immediately with my supervisor. If the question is not resolved, I would continue to raise it through the JLab organization, all the way to DOE. There is a procedure in the ES&H Manual (2310) that outlines the process.</p>

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<p><u>CORE FUNCTION #2 – ANALYZE THE HAZARDS</u> is satisfied when all potential hazards associated with the work are identified, analyzed, and categorized.</p>	<p><u>JLab EXPECTATIONS FOR CORE FUNCTION #2</u> Every work planning activity should identify and categorize work related hazards and develop an understanding of the potential for the hazard to adversely affect the health and safety of the worker, public, or the environment. This hazard analysis process can vary in complexity based on activity type, hazard type, and hazard parameters; and builds upon previous analyses conducted on tasks ranging from routine facility maintenance to accelerator and laser operations. Multi-disciplined teams are used with emphasis on identifying subject matter experts with significant Jefferson Lab experience.</p>
<p>Q: How do work planners decide when to involve ES&H staff in the planning process?</p>	<p>A: There is a graded approach used to make that decision. Chapter 3210 of the ES&H Manual describes the process for conducting the hazard identification and characterization. At a minimum, ES&H staff are involved if a Risk Code of 3 or greater is anticipated.</p> <p><i>Note: be prepared to walk the inspectors through a typical hazard analysis.</i></p>
<p>Q: Is hazard analysis conducted for all work activities?</p>	<p>A: Yes. Even very simple activities are only conducted by qualified professionals and trades people who have been determined to have the experience and specialized training to analyze the hazards associated with “routine” activities.</p>
<p>Q: Which procedures are used to guide the development of activity-level hazard analyses?</p>	<p>A: Chapter 3210 of the ES&H Manual describes the process. For subcontracted work, Chapters 3410 AND 3420 address this issue.</p>
<p>Q: What type of hazard analysis/control documents result from implementing those procedures?</p>	<p>A: Depending upon the risk code assigned, various documents will be developed including a Task Hazard Analysis checklist, a</p>

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	SOP, OSP, TOSP and/or a temporary work permit. Procedures contained within the ES&H Manual documentation is sufficient for conducting work with a RC 2 ad below (Table 4 ES&H Manual C 3210)
Q: If the scope of work changes, are hazards re-analyzed?	A: Yes.
Q: Do we typically discuss and/or examine emergency response equipment to make sure it's readily available?	A: We routinely are trained and inspect emergency response equipment such as fire extinguishers, spill kits, first aid. Safety Wardens have a checklist for emergency response equip.
Q: Does the ISM Program Description explain how we analyze hazards here at JLab?	A: Yes, the PD discusses how this step is completed by the various organizations. <i>Note: be prepared to show the inspectors the PD, figure 5.</i>
Q: Who has the authority to decide that hazard analysis is complete?	A: Line managers are responsible for ensuring that task hazard analysis is complete. For subcontracted work, this is the responsibility of the SOTR.
Q: What are the various processes to ensure that the hazard analysis is communicated to all workers?	A: The hazard analysis is discussed in pre-job briefings and is available in hard copy at the work location. <i>Note: be prepared to show the inspection team a hazard analysis and be able to discuss the one conducted for your activity.</i>
Q: Is stop-work authority communicated during hazard analysis discussions?	A: Yes
Q: How are subcontractors held accountable for completing accurate and complete hazard analysis?	A: Review of safety plan for large activities, activity hazard analysis and work authorization form for financial and complexity
Q: During the hazard analysis process, how are local, state, federal, DOE and industry related ES&H standards identified?	A: JLab subject matter experts' job duties includes the identification of new and changing standards. These changes are typically evaluated by a joint JLab/DOE team and compliance requirements are built into JLab programs including the ES&H Manual. Additionally, the various safety committees are charged with monitoring and assessing standards.

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<p><u>CORE FUNCTION #3 – DEVELOP AND IMPLEMENT HAZARD CONTROLS</u> is satisfied when applicable standards and requirements are identified and agreed upon, controls to prevent/mitigate hazards are identified, the safety envelope is established, and controls are implemented.</p>	<p><u>JLab EXPECTATIONS FOR CORE FUNCTION #3</u> During every Jefferson Lab work planning process, parameters of the identified hazards are used to select or design engineering, administrative, and personal protective equipment controls and pollution prevention/waste minimization options to be integrated with the work activity. The type of control to be specified is tailored to the work activity and the associated hazards. In most cases, the controls are based on best practices and lessons learned gained from previous, similar activities as captured in the <i>Jefferson Lab’s ES&H Manual</i> and Jefferson Lab Standard Operating Procedures. Some work activities may require unique controls, which are typically documented in Temporary SOPs, activity-specific safety plans and/or delivered to workers through specific training activities. In all cases, site-wide ES&H requirements and industry standards are identified, mechanisms are put in place to satisfy the requirements and the controls are documented in work authorization documents.</p>
<p>Q: How do you apply a graded approach for applying hazard controls based on the work complexity and risk?</p>	<p>A: One good example of this is PPE. A low risk activity, such as grass mowing, may require only steel toe shoes, eye and hearing protection. If an activity is determined as a higher risk, such as entering a confined space to conduct a welding activity, the PPE might be increased to include specialized eye protection and clothing as well as additional controls such as air monitoring and application of the buddy system.</p>
<p>Q: Do your hazard controls ever include specialized training? If so, how is this implemented?</p>	<p>A: Sometimes. This would be called out in the Task Hazard Analysis or as a note associated with the activity authorization record. These special requirements would need to be satisfied</p>

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	before I could participate in the activity.
Q: If a unique or high-hazard risk identified, is there a different type of review conducted?	A: Any risk not typically encountered at the Lab would undergo the Unreviewed Safety Issue process.
Q: What is the JLab “authorization basis”?	<p>A: The JLab authorization basis starts with the Final Safety Assessment Document (FSAD) which contains the Accelerator Safety Envelope (ASE). This document looked at the overall operation of the accelerator and related programs and evaluated potential risks to personnel and the environment both on and off site. This evaluation led to the establishment of safety envelopes for both the accelerator and the free electron laser. The safety envelop provides the boundaries within which all those systems need to operate to ensure safe operations.</p> <p><i>Note: the FSAD is currently being updated.</i></p>
Q: How is this authorization basis translated into facility, system and equipment specific information?	A: The boundaries developed in the FSAD and ASE and policies and procedures are outlined in the AOD, FEL procedures, experimental review processes, parts of ES&H manual (radcon chapters 6300 and tech appendices, and manual), to ensure the boundaries are not approached or to evaluate how activities may affect the limits.
Q: How do we ensure that the hazard controls are clearly communicated?	A: Hazard controls are communicated in a variety of ways. For the majority of tasks, there is a written (or electronic) work package that is present at the work location. We also conduct pre-job briefings where hazard controls are discussed.
Q: When project/work scope and tasks are changed, how are the hazard controls reviewed for impacts?	<p>A: Workers are urged to identify when activities have moved outside the original scope, go to supervisors, this can be as simple as a phone call or new hazard id or experimental review.</p> <p><i>Note: please be prepared to give an example of when this has occurred in the past and how it was handled.</i></p>
Q: How are workers involved in hazard control planning?	A: Yes, workers are involved in planning the work, review the

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	hazard analysis, and review and discuss the controls.
Q: How do we ensure that ESH&Q personnel have an understanding of all the work occurring at the Lab?	A: Experimental schedule w/ESAD and schedules for set up and tear down, ATLIs, TATLs & FEList tasks automatically get cc'd to ESH&Q, every major subcontract has safety plan (reviewed & approved); individual hazard analysis and work authorization packages. Long term subs are tasked and there is routine interface between ESH&Q and F&LM.
Q: How do we measure the effectiveness of subcontractors' hazard controls?	A: The SOTR, staff from ESH&Q and other subject matter experts routinely observe subcontractor activities and attend their pre and post job briefings to assess their safety systems.
Q: Describe some environmental controls you have seen placed on a work activity.	A: Spill kits, special containers for regulated waste, pollution prevention analysis to see if we can replace or reduce the amount of hazardous materials used.
Q: How are these standards and requirements flowed down to subcontractors?	A: These activities are either outlined in specific task authorizations (for long term subcontractors) or built into the subcontractors safety plans.
<u>CORE FUNCTION #4 – PERFORM WORK WITHIN CONTROLS</u> is satisfied when readiness is confirmed and work is performed safely	<u>JLab EXPECTATIONS FOR CORE FUNCTION #4</u> Each work process has a defined authorization protocol for concluding that Core Functions 1-3 have been satisfied, and establishes defined roles and responsibilities for authorizing work to proceed in accordance with identified controls. Additionally, each work planning and execution tool assures that the hazards and controls are discussed with all workers prior to commencing work; that the controls will remain in place for the duration of the activity; and that all workers are qualified to participate in the activity.
Q: How are work activities formally scheduled?	A: Periods of accelerator operation and down time is scheduled as part of JLab's annual operational schedule. The experimental schedule is then set to occur during times when the accelerator beam will be available. Maintenance activities that require the

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	beam to be down are scheduled to coordinate with this overall schedule as well as the activities necessary to remove old experimental equipment and install the equipment for the next round.
Q: Prior to work activities, how is work scope, prerequisites (including training), and permit requirements communicated to all workers?	A: For low complexity/risk activities, this communication occurs verbally through pre-job briefings or other activity planning meetings. More complex activities are documented in our electronic work planning tools, the experimental readiness review documents, work permits and subcontracts.
Q: How does the work approval and authorization process address significant changes in work scope once initial approval is obtained?	A: Anyone can and should stop an activity if they believe the scope has changed or there is a hazard that was not adequately addressed in the work approval process. When this happens, the planning process is restarted to account for the revised scope.
<p><u>CORE FUNCTION #5 – PROVIDE FEEDBACK AND CONTINUOUS IMPROVEMENT</u></p> <p>Is satisfied when feedback information on the adequacy of controls is gathered, opportunities for improving the definition and planning of work are identified and implemented, line and independent oversight is conducted, and, if necessary, regulatory enforcement actions occur.</p>	<p><u>JLab EXPECTATIONS FOR CORE FUNCTION #5</u></p> <p>Lessons learned are collected and shared to improve the performance of the ISMS. Jefferson Lab has established lessons learned collection, evaluation, and communication tools which are available to all site organizations and employees. The routine activities of the Worker’s Safety Committee are one example of a lab-wide mechanism. Organizations or groups within organizations have additional tools and meetings that best support their activities and work tempo. In all cases, routine and non-routine events and ISMS performance is discussed and documented so the results are available for future planning activities.</p>
Q: Which procedures / mechanisms are in place to examine the findings of internal and external assessments?	A: There are procedures associated with Independent Assessment and Management Assessment processes (QA Manual) that details how to address and track findings.
Q: Are the results of the lessons learned reviewed by management?	A: Yes, in fact we have a new procedure that more formally regulates how this system works. Both internal and external

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	lessons learned are routinely collected and disseminated throughout the lab. If they apply to the work we do here, and can help us improve how we operate, we use these lessons learned to make changes. The Director's Safety Council is routinely briefed on the results of this process.
Q: Do committee meetings provide effective feedback?	A: Yes, the committee members routinely report back to the employees in their home organizations. They also provide a focal point for lab wide efforts where the floor workers need to be involved, such as the Workers Safety Committee involvement in the ISM upgrade program.