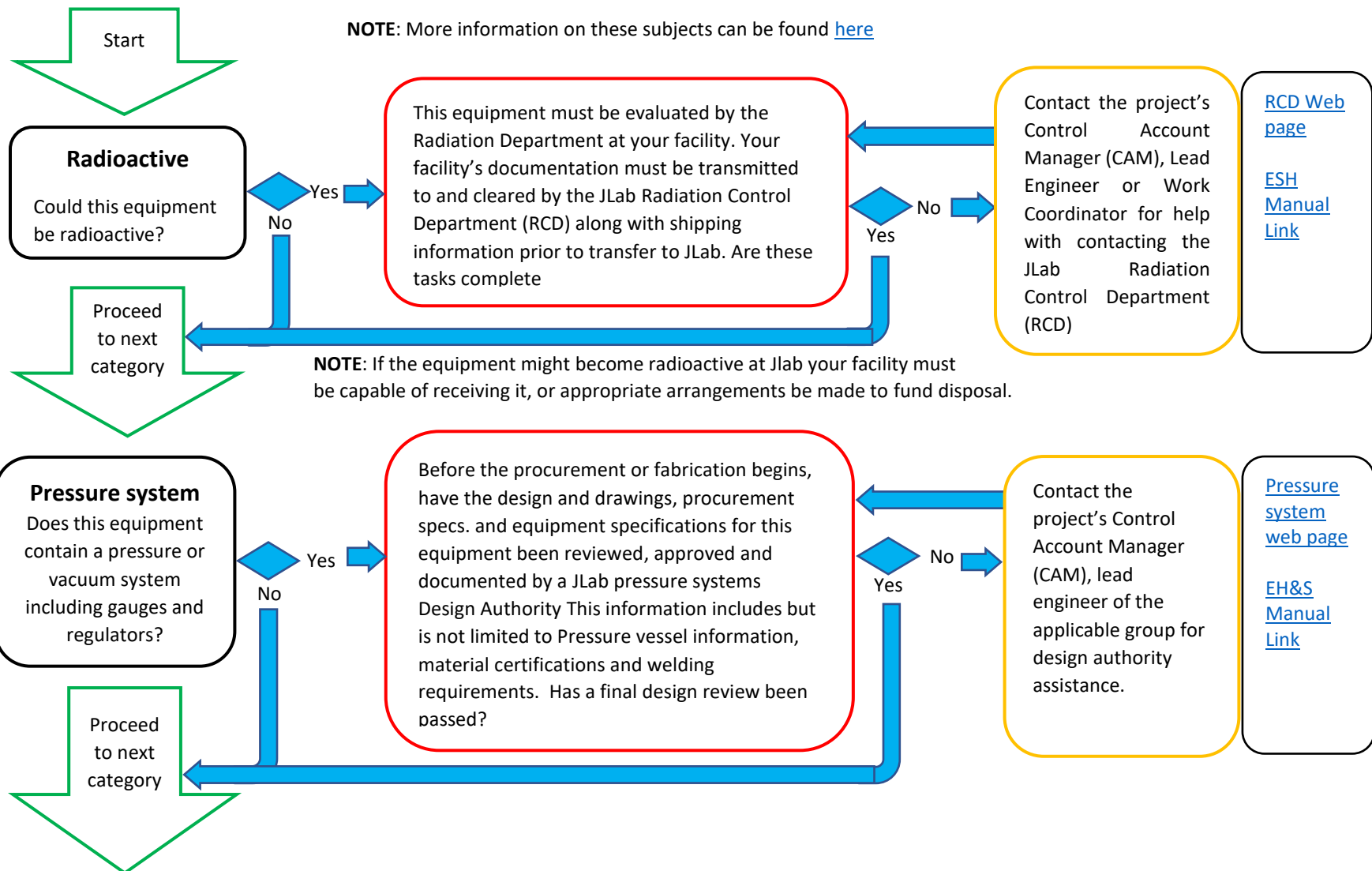


# Designing, fabricating, procuring and shipping equipment for use at Jefferson Lab

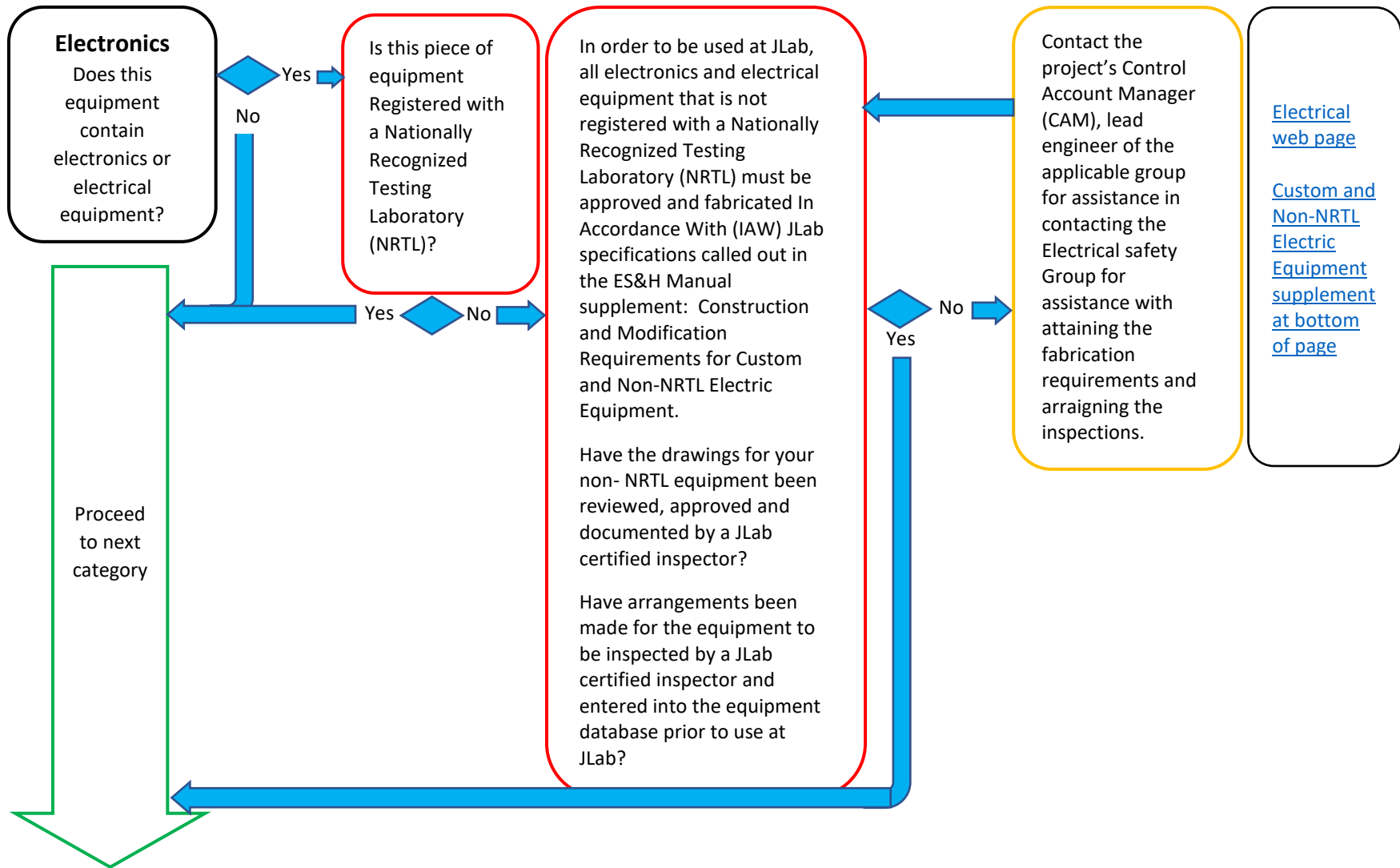
This document is designed to enlighten Researchers, Students and their Institutions of what is required prior to bringing equipment to Jefferson Lab and what is required when it gets to Jefferson Lab. It is not intended to replace the requirements laid out in the ES&H Manual, Property Management Policies and Procedures or the Conduct of Engineering Manual where this information is taken from. Each piece of equipment must be evaluated in all categories prior to delivery.

These flow charts were designed as a quick reference guide on what is required PRIOR TO BRINGING equipment to Jefferson Lab.

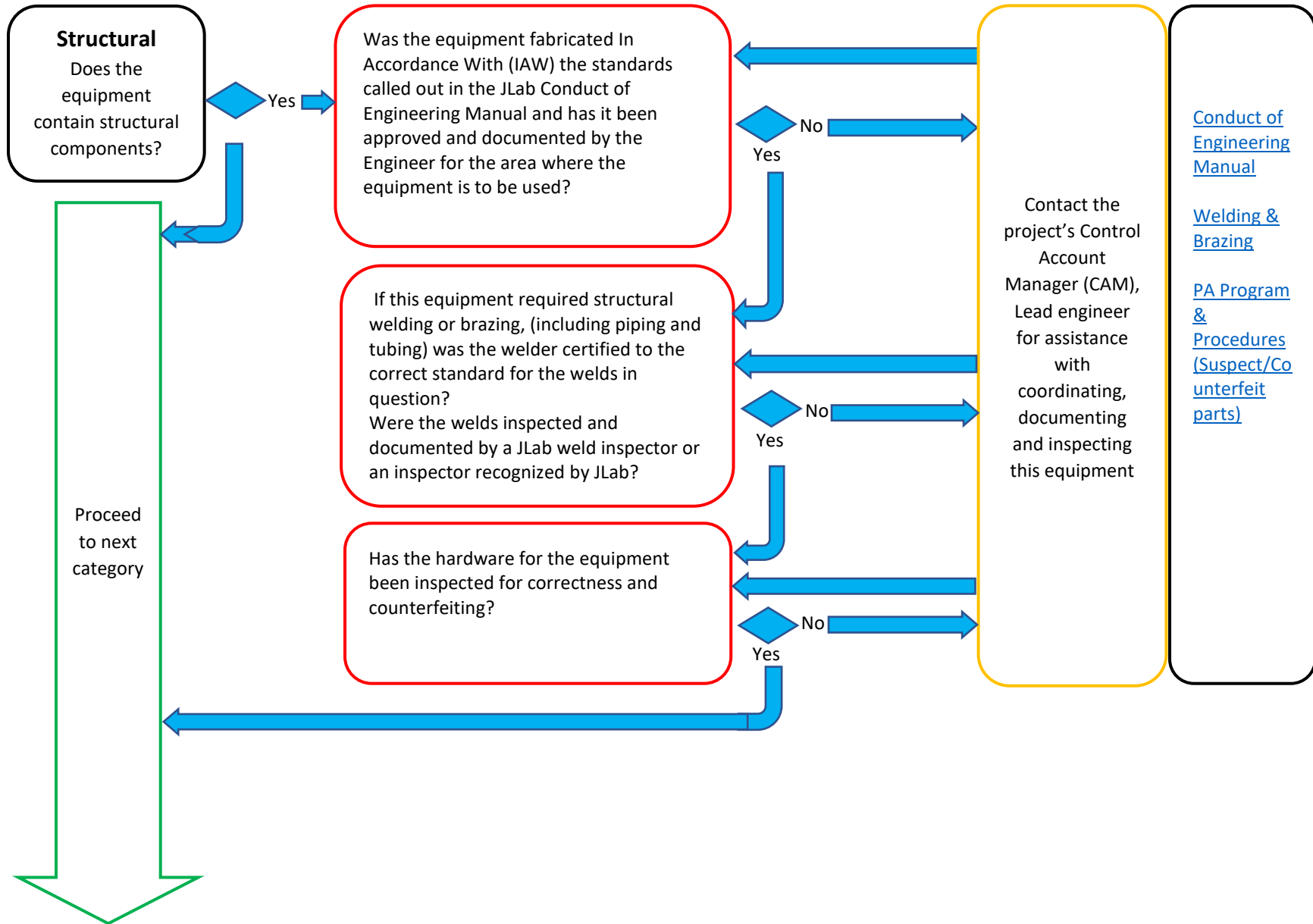
A more detailed explanation of why, who, where, when and how is available following the flow charts.



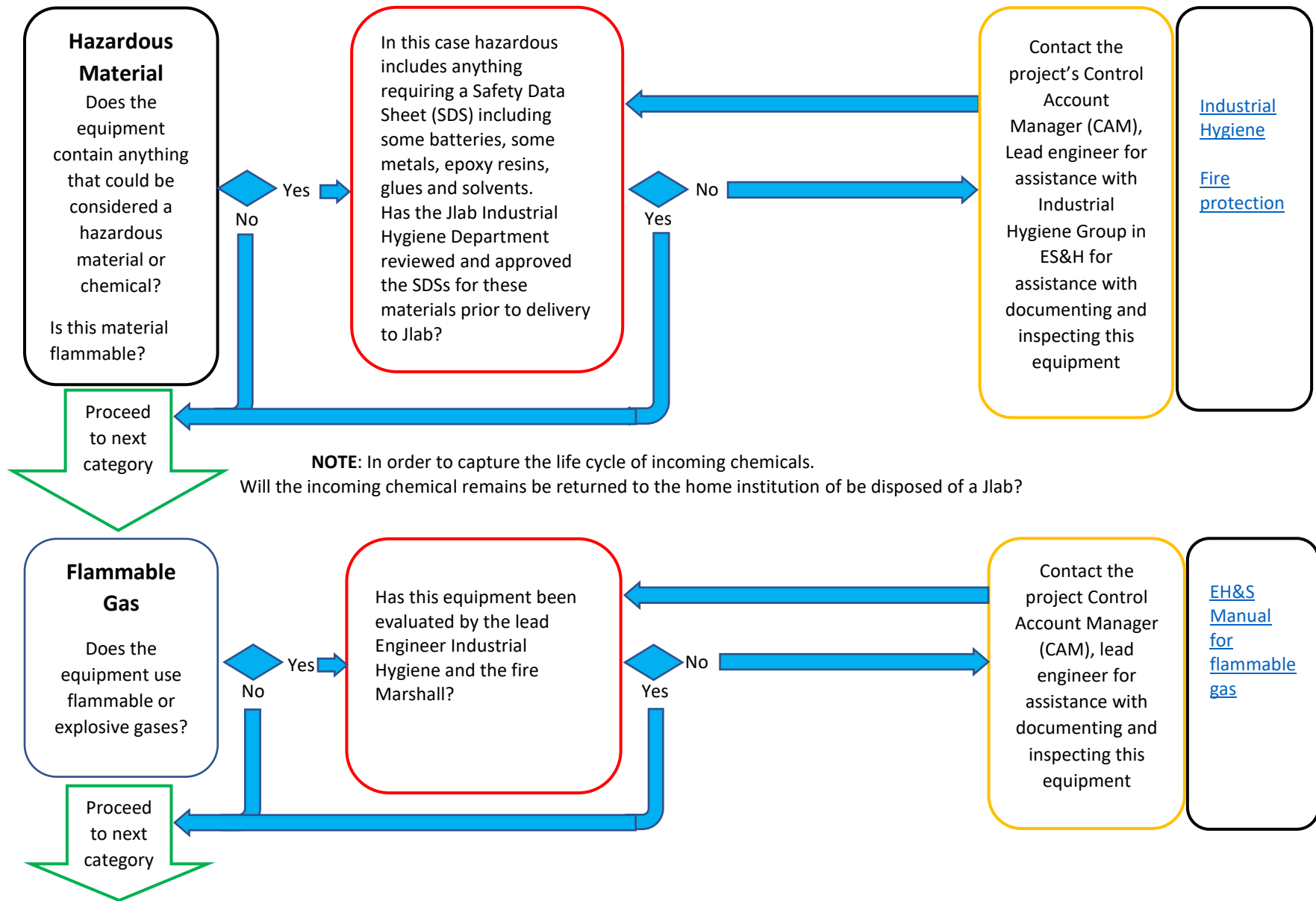
# Designing, fabricating, procuring and shipping equipment for use at Jefferson Lab



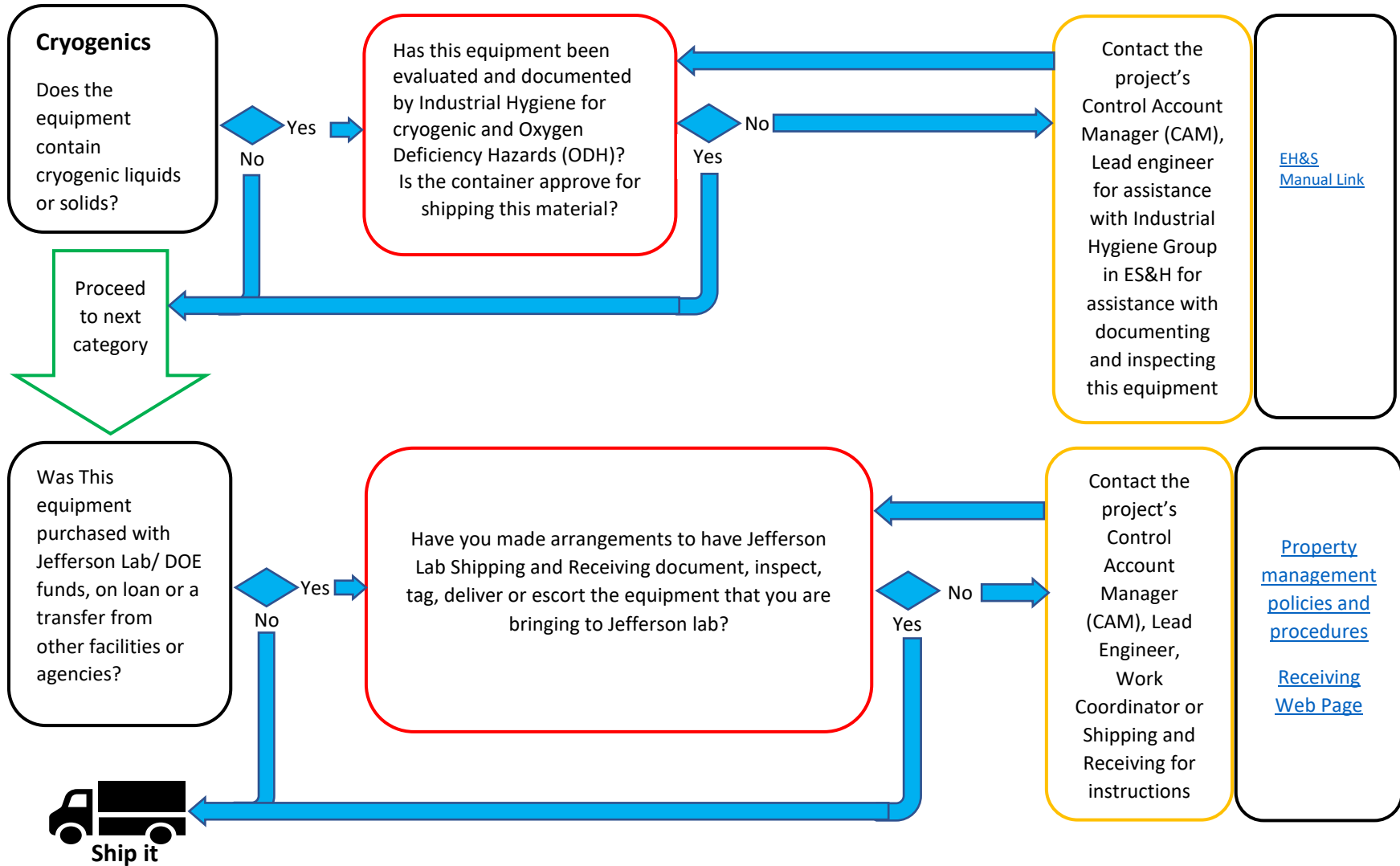
# Designing, fabricating, procuring and shipping equipment for use at Jefferson Lab



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## Design and Fabrication

### Conduct of Engineering Manual

The purpose of the Conduct of Engineering (CoE) Manual is to provide clear and uniform guidance to the lab's Engineering and Technical staff. This enables them to effectively implement sound work practices in support of the JLab mission and the CoE Policy, establish a baseline for executing all Engineering activities in a consistent, repeatable manner, and provide a single point reference for communicating established Engineering procedures.

The goals for Implementing the CoE Manual are to

- Execute all engineering work under clearly defined roles, responsibilities, authorities, and accountability, using established processes.
- Maintain high levels of innovation and creativity while increasing consistency and repeatability of performed Engineering work.
- Coordinate all engineering work appropriately with other lab functions such as quality assurance; environment, safety, and health; fire protection; security; maintenance; facilities; procurement; operations, etc.
- Yield quality products and systems which enable and support the lab's fundamental purpose: performing Nuclear Physics Experiments.
- Plan, perform, check, and approve all engineering work appropriately.
- Assess all engineering work using a consistent and clearly defined risk-based graded approach.
- Accomplish all engineering work in compliance with all applicable standards.
- Perform all engineering work by appropriately trained, qualified, and authorized personnel.
- Provide the foundation elements for Configuration Management at JLab.
- Support the lab's commitment to safety, quality, and the environment.
- Satisfy contractual items with DOE.

Here is a link to the [Conduct of Engineering Manual](#). At the time of this writing you must be logged on to a JLab computer account to access this link.

### Pressure Systems

In response to DOE 10CFR851 JLab formed a Pressure System Committee to define the Lab's policies and procedures and "ensure that pressure systems are designed, fabricated, tested, inspected, maintained, repaired, and operated by trained and qualified personnel in accordance with applicable and sound engineering principles."

Pressure Systems are defined as:

- All pressure vessels and pressure sources including cryogenics, pneumatic, hydraulic and vacuum
- Vacuum systems are considered pressure systems due to their potential for catastrophic failure from backfill pressurization
- Associated hardware (e.g., gauges and regulators), fittings, piping, pumps and pressure relief devices are integral parts of a pressure system

Here is a link to the [Pressure systems web page](#) . At the time of this writing you need not be logged on to a JLab computer account to access this link.

# Designing, fabricating, procuring and shipping equipment for use at Jefferson Lab

## ES&H and Performance Assurance

These ES&H Manual Supplements are especially relevant to bringing equipment to Jefferson Lab

[Construction and Modification Requirements for Custom and Non-NRTL Electric Equipment Supplement](#)

[Fire Protection Supplement](#)

[Flammable Gas for Physics Experiments Supplement](#)

[Industrial Hygiene Supplement](#)

[Pressure and Vacuum Systems Supplement](#)

[Radiation Control Supplement](#)

[Welding and Brazing Program Supplement](#)

For the ES&H web page click [here](#). At the time of this writing you must be logged on to a JLab computer account to access these links.

## Procurement

**This is a list of question each Jlab requisition must have answered. For outside procurement to be used at Jefferson Lab they must also be answered**

Radioactive Material?	Does this requisition contain items that have been made radioactive by some process, or contain He-3 gas?
Hazardous Material/Chemicals?	Does this requisition contain items considered hazardous material or chemicals? (anything requiring an MSDS sheet including items such as metals, batteries, epoxy resins/glues)
Will Personnel Be Working on Site?	Will a Subcontractor, User or student be on site for any reason or for any period of time? If, YES, work on site must be pre-approved and the subcontractor, User or student must be processed through Jefferson Lab orientation, in processing and training.
Inspection Required?	Does this requisition contain items subject to receipt inspection or testing prior to acceptance? (eg. items subject to ASME code requirements, certified materials with pedigree, specified components requiring an acceptance test, etc.)
Welding/Braizing Required?	Is this a requisition for fabricated materials, construction or services that contain any requirements for <u>Code</u> welding or brazing? Note: The source must come from the <a href="#">Approved Vendor List</a> .
Network-enabled Equipment?	Does this requisition contain items that will be connected to a wired or wireless network?
Calibration Equipment?	Does this requisition contain items that will require calibration in the future?
NRTL Electronics Equipment?	If equipment is not NRTL registered, it must be Identified, Inspected and cataloged by a JLab certified inspector.

**Answering these questions and discussing them with the cognizant Jlab contacts will help to insure a trouble-free transition of your equipment to Jefferson Lab.**

The Jefferson Lab procurement department is required to comply with MANY DOE, OSHA, DOT and other regulations required by the JSA contract. If you have questions as to what is required or why, the procurement contacts for the MOLLER project are Mitch Laney at [laney@jlab.org](mailto:laney@jlab.org) 757-269-5338

# Designing, fabricating, procuring and shipping equipment for use at Jefferson Lab

## Shipping

The following is an excerpt from the Jefferson Lab Property Management Policy and Procedures document Dated 03 Sept. 2019. It is believed to be what is pertinent to shipping equipment to JLab for the MOLLER Project. The full document can be found through the link in the flow chart below.

### 3.1 Shipping & Receiving

All property delivered or brought to Jefferson Lab must be delivered through the Laboratory's central Shipping and Receiving function. This includes property on loan from other research facilities, new purchases, property acquired via transfer from other agencies, and property returned from being repaired. The only exceptions are the tanker truck delivery of helium, nitrogen, and fuel oil, material delivered as part of a construction subcontract. These items are received separately under the supervision of the Technical Representative (TR).

The shipping address is Jefferson Lab Shipping & Receiving, Bldg.9012000 Jefferson Ave Newport News, VA 23606

### 3.2 Direct Delivery Shipments to Other Than Jefferson Lab

A direct delivery shipment is when the shipment of goods directly from the source to a user and is frequently used when a third party acts as purchasing agent for a user. A typical shipment of this type is when material samples or a piece of equipment needs to be tested before being forwarded to its destination. All direct delivery shipments shall be coordinated with Procurement and Property Management. Procurement documents shall clearly specify the direct delivery location and specific instructions for the recipient. Jefferson Lab procurement officials will direct vendors making the direct delivery shipments, to forward a copy of delivery documents to Jefferson Lab Property Management.

### 3.3 Receipt of Incoming Shipments

Property delivered to Jefferson Lab must be cleared through Shipping and Receiving where it will be classified (Accountable, Sensitive, and High Risk\*, etc.), marked as DOE property, asset tagged(F#####) and entered in the Jefferson Lab property tracking system as appropriate. This includes property on loan from other research facilities, new purchases, property acquired via transfer from other agencies, and property returned for repair. Pieces of property found on the installation belonging to other entities will be "field tagged" with a temporary label or marked with the owning entity's name. \*see Definitions

The receiving process is not complete until the shipment is inspected for discrepancies, entered into the accounting system, delivered to the user (with the packing slip and/or purchase order) any Accountable Property documented, all copies of the documentation scanned into the Shipping and Receiving Log (SRL)and (if accountable property), signature obtained from the custodian.

It is the responsibility of the Jefferson Lab "P" credit card holders to ensure all non-consumable property "picked-up" directly from local vendors using "P" credit card purchases is brought to Shipping & Receiving for classification within one (1) workday of purchase. All "P" credit card purchases shall be reviewed at least monthly by Property Management to ensure that a Government property classification process is completed and property items are asset tagged per the Property Management instructions.

The Shipping and Receiving staff, with assistance from the custodian, will process claims for freight damaged during transit.



# Designing, fabricating, procuring and shipping equipment for use at Jefferson Lab

## **3.3.1 Receiving Hazardous Materials**

Shipping & Receiving staff will process all hazardous material as soon as the shipment arrives. Hazardous materials are identified by the warning placards required by Department of Transportation rules, 49CFR 172. Shipping & Receiving staff must ensure that the proper Safety Data Sheet (SDS) is available for each hazardous item received at Jefferson Lab. If a SDS sheet is not with the shipment, Shipping & Receiving staff must contact the vendor, the Jefferson Lab requester or ES&H personnel to obtain a copy. The SDS must be provided to the user for each type of hazardous material in the shipment. The requirement for an SDS shall be noted on the acquisition document by the Procurement staff. The processor will contact the ES&H Group by phone including sending them a hard copy of the SDS concerning the arrival of hazardous material on the Shipping and Receiving dock. A copy of each SDS is scanned into the "SRL" and a copy is also forwarded to Jefferson Lab ES&H staff.

## **3.3.2 Time Sensitive Shipments**

If delivery of specific material once received at the Lab is time sensitive, the requestor shall contact Shipping & Receiving to make special delivery arrangements.

## **3.3.3 Direct On-Site Delivery**

The Shipping & Receiving staff may arrange direct delivery of large shipments to locations on site. Included in this function are escorting delivery vehicles in the "controlled" section of the accelerator site. If a vendor improperly delivers a shipment directly to a Jefferson Lab user, the Shipping & Receiving staff must ensure the shipment is properly processed once they are aware of the mistaken shipment.

## **3.4 Outgoing Shipments**

The Shipping & Receiving staff will coordinate and document all Jefferson Lab shipments including obtaining the lowest price for shipments. The Jefferson Lab user must complete the on-line Authorization for Shipment Form located on the Property Management & Shipping & Receiving websites for all shipments, including hand carried items, other than laptop computers. All forms are forwarded to Procurement for review and approval. All items being shipped internationally are submitted to Property Management for review and authorization and to Export Control for review and approval. After all signatures are acquired the form is submitted to shipping for processing. The form is submitted to Finance for review after Shipping has completed the shipment. All shipping documents are scanned to SRL. All outgoing shipments are to be processed within two (2) working days once submitted to Shipping, unless directed otherwise.

Dimensions (size and weight) of an item and time constraints determine appropriate mode of transportation. Unless specified by the user, shipment will be made by the most economical means. Over-shipments, damaged or incorrect material will be returned at the vendor's expense. The mode of transportation for this returned material will be coordinated with the vendor.

### **3.4.1 Property Sent Out for Repair**

For Accountable property sent off site for repair the custodian completes an Authorization for Shipment form, Refer to 3.4 for the process. The Property Management staff updates the Property database.

### **3.4.2 International shipments**

## Designing, fabricating, procuring and shipping equipment for use at Jefferson Lab

International shipments must include a Proforma Invoice found on the Shipping/Receiving website describing contents, manufacturer, destination, reason for shipment, a return date if appropriate, and value for customs purposes. No international shipments are to be shipped until the commodity is reviewed and the shipment is released by signature of the Jefferson Lab Export Control Officer, or designee.

### 3.4.3 Hazardous Materials

Pre-shipment activity and shipments of hazardous materials shall strictly follow the Department of Transportation regulations contained in 49 Code of Regulations Parts 170 to 185. Additional DOE shipping requirements for fissile material, Type A and B quantities of radioactive material, explosive material and plutonium are specified below:

- DOE Order 460.2A Contract Requirements Document sections 3(a) and 3(b)
- DOE Order 460.1CB Contract requirements document sections 2, 3(a) and 3(c) and 3(d)
- Explosive substances – material defined by 49 CFR as explosive will not be transported or offered for transportation by Jefferson Lab.

Here is a link to the [JLab Property Manual](#). At the time of this writing you need not be logged on to a JLab computer account to access this link.