



WICHITA STATE  
UNIVERSITY

NATIONAL INSTITUTE  
FOR AVIATION RESEARCH

Crash Dynamics Lab

# General Information and CDL Practices

*Effective January 10, 2012*

Standard policies for commercial and research testing in the Crash Dynamic Laboratories (CDL) of the National Institute for Aviation Research (NIAR) at Wichita State University (WSU) are covered in this document. Contracting with NIAR also includes acceptance of NIAR's Standard Terms and Conditions located at:

<http://www.niar.wichita.edu/media/Terms.pdf>

## Crash Dynamics Laboratory Rate Structure

### ***Standard Sled Test – Aviation***

**\$3,500 per test, which includes:**

1. Basic sled and mounting fixtures setup (10° yaw, 60° pitch, deformation)
2. Use of Anthropomorphic Test Dummies (ATDs)
3. Requested ATD instrumentation
4. Restraint system load cells
5. Seat leg/track load cells
6. Video data
7. Time history for sled accelerations, lumbar loads, femur loads, HIC analysis, head, chest, and pelvic accelerations, restraint system loads, and seat leg loads.

Other rate structures and rate structures for bulk pricing may be available. Please contact the CDL Manager for more information.

### ***Head Path Trajectory Plots***

**\$250 per plot**

Head path trajectory plots are available upon client request prior to the test. It is necessary to know if a head path trajectory may be requested prior to the test to allow the CDL staff to setup accordingly. No charge will be applied for the setup of a head path trajectory.

2-Dimension and 3-Dimension trajectory plots are available and will be utilized by the CDL staff based on the test article, setup, and orientation unless otherwise specified by the Client. 2-D and 3-D trajectory plots are not limited to an ATD head; the CDL has the ability to track any semi-rigid surface.

### ***Rental Costs***

Occasionally, the CDL is requested to provide ATDs or other instrumentation for a particular test that it does not have available on-site. The CDL will rent these items, at the Client's request, and add the actual charges of rental (including rental, calibration, and shipping) to the invoice.

### ***Normal Working Hours***

Occupancy in the CDL is based on an eight (8) hour day and five (5) day work week Monday through Friday. Normal working hours are 8:00am to 5:00pm with a one hour lunch break from from approximately 12:00pm to 1:00pm.

## ***Overtime***

Hours worked in excess of the eight (8) hour and five (5) day work week define overtime for the CDL. Scheduled overtime must be agreed upon by the Lab Manager and the Client and requested at least three (3) working days in advance of the desired extra shift entry. The CDL will attempt to meet all requests for additional working shifts.

## **Deliverable Product**

Included in the sled test charges, the Client will receive upon completion of the test the following:

- Test Report including time histories of recorded data, pre-test and post-test photographs, and any deformation measurements and locations, if applicable.
- Digital High-Speed Video data.
- Raw test data, if requested.

## **Scheduling**

### ***Scheduling Process***

The process for scheduling a test in the CDL is as follows:

1. If required, A Non-Disclosure Agreement (NDA) is negotiated and signed by both the client and WSU.
2. Client discusses technical details of the test with the CDL Lab Manager and/or Director.
3. Client discusses potential testing dates with the CDL Lab Manager. Lab Manager assigns tentative test dates for client.
4. CDL Lab Manager and/or Director obtain all billing and technical contact information from the client.
5. CDL Manager issues a written or verbal quote to client with this policy statement.
6. Client provides a written Purchase Order (PO) to NIAR for the test.
7. Tentative test date becomes a firm test date upon issuance of PO to Lab Manager.
8. Client visits the NIAR CDL facility on the date scheduled and testing commences.

### ***Scheduling Policy***

1. If a Non-Disclosure Agreement (NDA) is required between the Client and NIAR, we require at least two (2) weeks to review and accept the NDA. In most circumstances, it is normal that the NIAR Contracts Specialists will need to discuss the terms in the NDA with the Client's contracts department before it is accepted by NIAR.
2. All test scheduling will be considered 'tentative' until a written Purchase Order (PO) which accepts NIAR's Terms and Conditions (T&Cs) has been issued to the CDL Manager. We kindly ask that this PO be provided at least one (1) week in advance of the testing date.
  - 2.1 NIAR reserves the right to refuse any and all services if a PO has not been provided by the Client.
3. If the amount of the PO must be increased to cover more testing during your visit, a new PO to cover the additional tests must be issued before the tests are completed.
4. If the Client needs to change the scheduled testing date, the Client shall inform the CDL Lab Manager as soon as practical. The CDL Lab Manager will work with the Client to schedule the next open date available.

## Property

Client personnel are responsible for the test article and any changes to the test article. The CDL staff will assist at the Client's request, but the Client assumes full responsibility for the test article. The Client is also responsible for providing an appropriate interface (i.e. seat track, seat track adapter) to attach the test article to the CDL fixtures. The CDL can design and manufacture custom fixtures for an additional cost at the request of the Client. If damages are incurred, outside of conventional crash testing results, to any CDL or NIAR property due to the result of a Client's test article failure, the Client will be held financially responsible for the repair costs.

## Shipping

### *Incoming Shipments*

If you are sending test articles via freight, please use the address below:

Attn: Rob Huculak – NIAR  
Wichita State University  
Central Receiving  
4010 E. 17th St.  
Wichita, KS 67208

Please note that Central Receiving is open to accept shipments Monday-Friday 8AM-4PM.

If you are sending a parcel via USPS, UPS, FedEx, etc., please use the following address:

Attn: Rob Huculak  
Wichita State University  
1845 N. Fairmount  
NIAR room 214  
Wichita, KS 67260-0093

### *Outgoing Shipments*

If you would like to ship freight from WSU, please make arrangements with the freight carrier to pick up the shipment from the Central Receiving location above within the allotted hours. A copy of the Bill of Lading must be provided to the Laboratory Manager before the shipment is picked up by the freight carrier. It can be either emailed to [rhuculak@niar.wichita.edu](mailto:rhuculak@niar.wichita.edu) or faxed to (316) 978-3175 to the attention of Rob Huculak.

Please provide shipping labels with the correct destination address as well.

To ship a parcel, provide the item(s) being shipped along with the destination and carrier account number.

## Security

Our facilities regard security and proprietary to be the utmost of importance. The security highlights of the CDL are as follows:

1. All points of entry are locked during Client occupation.
2. Only authorized CDL employees have access.
3. A list of authorized personnel is posted at points of entry if requested.
4. Collected data is stored in a secure folder on the NIAR network only accessible to the CDL staff. All NIAR IT employees that may have access to data are US Citizens or Permanent Residents. Clients may request to have data removed from the network at the end of each day.

5. Campus Police check for locked doors after hours.
6. Only US Citizens or Permanent Residents are allowed to be employed in the NIAR CDL.
7. The NIAR Crash Dynamics Laboratory is ITAR and EAR compliant.

If more formal security procedures are necessary, please contact the CDL Lab Manager or Director and reasonable arrangements can be made accordingly.

## **Tours**

The CDL is a public facility on the campus of WSU that is occasionally requested for touring by visiting dignitaries, politicians, industry executives, advisory board members, groups, etc. There may be an occasion when a tour is requested while a Client is occupying the CDL. It is the policy of NIAR that the security and proprietary interests of the Client have the utmost regard. If a request for a tour occurs during a Client occupation of the CDL, the CDL Manager will discuss this request with the lead Client contact. If and only if the Client concurs will tours be allowed during Client occupation of the CDL. The client may declare at any time that under no circumstances are tours permitted during their occupation.

## **General CDL Information**

### ***Customer Facilities***

The CDL has set aside a meeting room for the sole use of the customer. The room contains most, if not all, of what is needed to conduct business. The room contains:

- Large conference table and 6 executive-style reclining chairs
- Computer with 42" plasma monitor
- Refrigerator stocked with snacks and beverages
- Free coffee
- Scanner/copier/printer
- Wireless internet
- Power outlets
- Whiteboard
- Speakerphone
- Microwave oven

The CDL also provides multiple work benches and laboratory space for customer usage, as well as extra space for additional test article storage during Client occupancy. After the test series is completed, the Client is responsible for organizing any outgoing shipment of their test articles as mentioned above. All test articles shall be removed from the CDL as soon as practical.

### ***Tools***

The CDL possesses a collection of tools that are available for customer use. If you require any specialized tools, please contact the Laboratory Manager to determine if the CDL can provide it.

### ***Safety***

***Due to the nature of dynamic testing, please remain in the customer room during the duration of the test once directed to do so.*** There may be NO warning that the accelerator sled will fire should there be a malfunction. Being in the path of the sled WILL result in serious injury or death. Should you need to communicate with the lab staff prior to the test, use the phone provided and dial 5239.

Please watch your step at all times. There is a pit between the sled rails marked by yellow stripes on the floor. If you need to cross to the other side of the rails, please do so around the end or over stairway over the rails. Please avoid crossing over the sled itself if there is a test being prepared on it. If it is necessary to cross over the sled, or to perform work on the sled, DO NOT step on any instrumentation or camera cables that may be on the sled;

these cables are delicate and can be damaged easily. Please do not step on the rails themselves, they are lubricated and constitute a slipping hazard if stepped upon.

## **Hotels**

For hotels in the area that have special rates for NIAR visitors, please visit our “How to Find Us” page at [http://www.niar.wichita.edu/profile/how\\_to\\_find\\_us.asp](http://www.niar.wichita.edu/profile/how_to_find_us.asp).

## **Directions and Parking**

NIAR is located on the main campus of Wichita State University at 1845 N. Fairmount, Wichita, Kansas. From Mid-Continent Airport:

- Follow the signs for Hwy 54 East.
- Once on Hwy 54 East, go 5.3 miles and take the exit for I-135 North toward Salina.
- Go 3.4 miles on I-135 North to exit 9 for 21st Street.
- Turn right on 21st Street and go 1.3 miles to Yale Street onto the WSU campus.
- Turn right on Yale Street and take a left onto Perimeter Road at the “T” intersection.
- Follow Perimeter Road until you pass the Campus Police Station on your right; take the next right.
- The NIAR visitor parking lot is immediately on your left. Alternatively, if there is no space available, you may park behind the main NIAR building.

Regardless of where you park, you are required to display a visitor’s parking pass which any CDL staff member will provide to you.

The CDL is located inside the main NIAR building adjacent to the visitor parking lot. Enter through the front doors and look for room 109. Ring the doorbell and we will let you in. Be advised we will unlock the door remotely upon hearing the doorbell, so you may enter on your own at that time.

# Campus Map

