

**A. PURPOSE:**

The Division of Scientific Services utilizes one domain to run and maintain the LIMS system (Laboratory Information Management). The LIMS system is JUSTICETRAX LIMS PLUS (JT). The system is used for evidence management from case number assignment to chain of custody tracking and in some disciplines for case reporting.

The JusticeTrax system is maintained on one SQL Server running two separate databases, two domain controllers and one file server. In 2014 the two JusticeTrax systems were merged; two databases are maintained. Controlled Substance and Toxicology cases prior to January 2014 must be searched through the section specific database. All cases received after January 1, 2014, regardless of the section, can be found on the merged database.

The LAN (Local Area Network) is used for intranet access, internet access, and access to data storage areas for the DSS.

**B. RESPONSIBILITY:**

**Director:** The Director has designated the Assistant Director of the State Forensic Laboratory (ADFL) to oversee the operations of the LAN and LIMS systems for the DSS. In the absence of the ADFL another Deputy Director will be designated as responsible.

**System Administrator:** is responsible for maintaining both servers including the domain and LIMS capabilities.

**LIMS Administrator:** is responsible for the upkeep to the JusticeTrax system and to aid users of the system as issues arise. The LIMS and System Administrators (or designee) act as backup to each other.

**Assitant Director of the State Forensic Laboratory (ADFL):** is responsible to oversee the operations of the LAN and LIMS via the system administrators. This role may be filled by another Manager as designated by the Director.

**All DSS Employees:** are responsible to use LIMS as appropriate for the work assigned and to use the LAN (Local Area Network) and Internet features as appropriate to the job, adhering to State of CT computer/internet use guidelines.

**C. PROCEDURE:****1. LIMS/LAN General Information:**

- a. The LIMS system is served by two central server units, located in a secure room, the servers are maintained by the System Administrator. The room conditions are those to provide proper environmental conditions for the servers.
- b. To protect the overall systems, only the designated System Administrator and specified designees will have authorization and the necessary passwords to work on the server unit or conduct system administrator functions.

- i. LAN and LIMS passwords will be issued by the LIMS or System Administrator, as appropriate.
- ii. Security classifications will be issued by the System Administrator on the LAN and by the LIMS administrator for LIMS. This will be commensurate with an individual's responsibilities, as determined by the Director or their designee.
- iii. Addition, deletion, or modification of any software contained on a networked computer is prohibited without prior authorization from the System Administrator.
  - (a) Note the nature of the work in some areas, such as Multi-Media and Computer Crimes may require specialized software based on case specifications. This is allowed based on guidance in the unit procedures.
- c. To protect the records/data within the LIMS system, the majority of the files in the system are backed-up electronically (weekly on Friday and incrementally Monday-Thursday) except for report and photograph files. These files are backed up to tapes at the server site (not at lab). Monthly, these tapes are brought off site (to the lab and kept with the IT personnel) and this process is documented in an electronic file on the shared drive. The system administrator is responsible to maintain this system and the integrity of the data.
- d. All problems and questions concerning the LAN and LIMS systems should be directed to the System Administrator or LIMS Administrator.
- e. Thumb drives, discs or other storage devices must be scanned for viruses if they have been used on a computer not belonging to the DSS before opening any documents or programs.
- 2. Security of the LAN and LIMS systems: the DSS protects the systems from unauthorized access through the use of assigned user names and secure passwords. In general only DSS employees or DESPP IT employees have access to these systems.
  - a. The only outside vendor allowed access, per the Director, is the JusticeTrax company for product updates. This is only allowed under supervision by the LIMS Administrator or their designee.
  - b. LAN Security:
    - i. To access the LAN system individual user names and passwords are used. User names are assigned by the system administrator with a generic password; employees must change this password. It is expected that these will be kept secure.
      - (a) When creating a password it must be at least 9 characters long and contain a mix of letters, and numbers. The system will direct the user as to the needed number of characters.
      - (b) Employees should periodically update their passwords.
    - ii. Users with access to the LAN can access documents and create documents using the various security features.

- c. LIMS Security:
- i. To access the LIMS system individual user names and passwords are used. User names are assigned by the System Administrator or LIMS Administrator with a generic password; employees must change this password. LIMS passwords must be securely maintained.
  - ii. PIN (Personal Identification Numbers) are assigned by the LIMS Administrator. These must be changed by each employee and kept secure, PINs must not be shared. PINs represent an electronic signature within LIMS.
    - (a) All evidence transfers (either of complete cases or sub-items) amongst employees are tracked using user JusticeTrax barcode (or employee number) and PIN. The PIN is the basis for secure transfers. Both persons involved in a person to person transfer will use their PINs.
    - (b) Evidence transfers from an individual to a storage location require only the individual to enter their user name and PIN.
  - iii. The System/LIMS Administrator assigns "Roles" in JusticeTrax. The roles designate the areas in JusticeTrax that can be utilized by the employee. The assignment of specific "Roles" is as designated by the Director.
    - (a) Along with the "role" assignments, case results can only be added or changed by the analyst assigned to the case.
  - iv. Currently, only those with assigned user names and passwords can log into LIMS. Reports are not transferred electronically via the LIMS outside of the DSS.
    - (a) As the DSS transitions to iPrelog and iResults customers will have the ability to enter their own case demographics and download their own reports; this is done externally to the DSS JusticeTrax database.
3. LAN Features: the LAN systems are set up to provide access to employees based on the needs of their job. There are shared drives and private drives allowing employees to create and access documents.
- a. The internet is set up on a number of computers throughout the facility. All employees have user names and passwords to access these computers.
    - i. Internet use is limited to job-related purposes. Employees must follow state of CT guidelines for internet use.
4. LIMS Features: Each DSS discipline uses the features of JT to different extents, to best suit the needs of the unit. All units use the case numbering, and evidence transfer features of the system, including those for sub-itemization tracking, as needed. As appropriate units will give guidance in how JT is used within the Unit SOPs. All units use the case milestone tracking features.

- a. Case Numbering: cases received by the DSS are assigned unique case identifiers by the JT system. This alpha numeric designation is the identifier for the evidence for the time it remains in the DSS. The case number is used to identify paperwork and case files associated with the case. The JT system numbering system is set up in the following format:
- i. XXX-YY-ZZZZZ
    - (a) The first three digits are DSS. The next set of digits (YY) represent the year the case was opened, final set of numbers is the sequential designation for a specific case.
      - (i) Cases entered between 2010 and December 31, 2013 were entered into two separate JusticeTrax systems. For these cases the first two digits are "TX" for the Controlled Substance and Toxicology Units and "ID" for all other units.
      - (ii) Controlled Substance and Toxicology cases entered into JusticeTrax (under a separate server) from 1999 to 2010 have "ID" as the two letter designation.
  - ii. For older cases (pre-1998) the case number is represented as IDXXLNNNNDN.
    - (a) "ID" for the Forensic Laboratory.
    - (b) XX indicates the year the case was submitted.
    - (c) L (letter) indicates the month that the case was submitted to the laboratory with (A= January, B= February, C=March, D=April, and so on).
    - (d) NNNN is the sequential case number.
    - (e) D indicates the alphabetic designation of the lab sections as referred in the 2007 Laboratory Quality Manual, section 3, revision 4 (04/2007).
    - (f) The final N- number represents the submitting agency designation as referred in the 2007 Laboratory Quality Manual, section 3, revision 4 (04/2007).
  - iii. Other unique identifiers are acceptable for special tracking. DNA Database samples and Breath Alcohol instruments each have unique prefixes allowing for specific tracking. Other unique designators may be used if cases are resubmitted and were part of an old numbering system.
  - iv. Once a case number is assigned bar code labels can be generated for the case, these are attached to the evidence and can be attached to any paperwork submitted.
  - v. Sub-itemization: a JusticeTrax function allows for sub-itemizing case materials with the COC tracking of those items. In general, if the sub-item is taking a separate path than the parent item it must be sub-itemed within JT to allow for the Chain of Custody to be accurately represented. Note: this does not relate to substances designated as "Aliquots" (see below).
    - (a) If the sub-item is being returned after testing, with the parent item, the sub-item should be containerized into the parent item.

- vi. Once items are separated from a submission and are packaged separately, item number(s)/sub-item numbers must be designated. Entry of the item/sub-item number into LIMS will be performed at the earliest appropriate and convenient time within the day the item is created.
  - (a) When possible a barcode label will be attached to the item. It is understood some materials may not be directly labeled.
- vii. The item number (or sub-item) will be assigned using the JusticeTrax default sequence. A single item or sub-item will only have 1 designation even when shared between units.
  - (a) Sub-items from a single submission can be batched if the items are not to be immediately analyzed or transferred to another unit. Batched items can be given the same item designation.
  - (b) Sub-items that are designated as aliquots (example: a small portion of powder substance isolated from a larger portion for analysis in the CS unit) need not be transferred in JT if the aliquot remains in the custody of the analyst performing the testing.
  - (c) Extractions need not be sub-itemized and tracked in JusticeTrax, if the extract is to be tested in the normal course of analysis (will not be held for supplemental testing). If the extract is to be tested but also to be maintained for possible future testing then a chain of custody must be maintained.
  - (d) The sequence of sub-itemization will be defaulted in JusticeTrax to follow the following pattern: Submission number –00X-00X-0X (X being a number). All Units will use this numbering scheme for evidence itemization.

NOTE: The transition to the updated numbering system may not be immediate for all units it is expected that full transition will be completed by September 1, 2019.

Example 1 of numbering system:

6<sup>th</sup> submission is a sealed box containing a firearm with BLS and a separate magazine containing ammunition.

006 “Firearm and one magazine” contained in a sealed box. (This will be as listed on the RFA).

The request is for Latent Prints, DNA and Firearms.

006-001 Firearm

006-001-01 Swab of BLS (for Freezer storage)

006-001-01\* Swab of BLS (for DNA analysis)

006-001-01\*-1 Extract (for DNA analysis and storage)

006-001-02 Latent Print of value isolated from Barrel of gun

006-001-03 Latent print of value isolated from handle of gun

006-002 Magazine with ammunition

006-002-01 5 rounds of ammunition

Note: The use of the \* is specific to FB/DNA samples to annotate that a portion of a swabbing has been saved for further analysis; this will be added manually in JusticeTrax.

Example 2 of numbering system:

There is 1 submission it is a sealed evidence bag containing a knotted plastic bag containing 70 glassine bags containing a powdery substance.

The request is for Latent Prints, DNA and Controlled Substances.

001 “70 bags with powder” contained in a sealed plastic bag. (This will be as listed on the RFA).

001-001 Knotted plastic bag

001-001-01 Swabbing for Freezer storage

001-001-01\* Swabbing for DNA analysis

001-001-01\*-1 Extract (for DNA analysis and storage)

001-001-02 Latent print #1 of value

001-001-03 Latent Print #2 of value

001-002 Seventy glassine bags containing powder

001-002-01 Swabbing for freezer storage

001-002-01\* Swabbing for DNA analysis

001-002-01\*-1 Extraction (for DNA analysis and storage)

001-002-02 Latent print of value from 1 glassine bag

001-002-03 Latent print of value from 1 glassine bag

001-002-04 Powder contained in 1 glassine bag

001-002-05 Powder contained in 1 glassine bag

Reports will be sub-itemized in the same sequence with the description being ‘Report: XXX’ (where XXX is the unit name). The report can be attached to the most appropriate item/sub-item. In the example above the latent print report

would be: 001-001-04-1 Report: LP and the Controlled Substances report would be 001-002-05-1 Report: CS. Additionally for supplemental reports or Amended reports the description can be adjusted to clarify this (example: 001-001-04-1 Report: LP Supplemental).

When itemizing the report, ensure that the PARENT agency and representative are chosen when creating the sub-item. When itemizing, these are the first two boxes in the left corner of the screen. These may auto populate but if they do not, please ensure to add the information. Doing this is very important; it allows the evidence receipt to print for this item

Note: designations in case notes may be abbreviated as long as the abbreviation is identifiable to the specific item. Similarly abbreviations may be used for instrumentation file names when acceptable character lengths are of issue. From example 2 above 001-002-06 could be noted as 1-2-6 the lack of '0' place holders is not of issue as long as it is clearly identifiable.

Note: The above examples are for numbering only, not for the unit specific wording used to describe the sub-item. As itemization occurs the description in LIMS should be succinct. Unit case notes can give fuller descriptions.

- b. Evidence Transfers: cases entered into the LIMS system are transferred from person to person or person to/from storage locations using JT. Each transaction is listed in the Chain of Custody section for the case. This tracks who/where the case came from and at what date and time and to whom/where it went. Any individual involved in a transfer will use their PIN to secure the transfer; an X next to a name on a transfer indicates that a PIN was used. The COC can be printed at any time from JT.
  - i. JT allows for the generation of evidence receipts when a case is first submitted to the DSS and when it is returned to the submitting agency. These receipts are signed by the ECO and the submitting agent. A copy of the receipt goes to the submitting agent and the original goes into the case file maintained in the Evidence Receiving unit.
    - (a) Samples received by mail, email or fax (such as DUI Urine samples, Breath Alcohol conversions or Latent Prints) will have a receipt generated, however there will be no signature under the submitting agency.
  - ii. The "note" box in the Evidence Transfer field is to be used if there is an unusual circumstance associated with the transfer. This will not be used for commonplace evidence transfers. The note box can only accommodate 30 characters so the note may need to be simple such as "see notes in the case synopsis" or "see note in case file", with a note added to the appropriate location.

The use of the note field will make it clear when the chain of custody is reviewed or printed that there is something outstanding/notable concerning the chain of custody. A

‘Chain of Custody Edit’ workflow is to be initiated in Qualtrax when a COC requires editing.

(a) Example of when the note function should be used:

A Deputy Director needs to reassign evidence to a new analyst. The evidence is in the custody of an analyst that is on extended leave. The Deputy Director should add a note as to why the transfer is being performed without the original analysts PIN.

Example of when a COC Edit Qualtrax workflow will be used:

There is an error in the chain of custody. An analyst thought they transferred evidence to a storage location but they did not and it is discovered at a later date. The analyst should add a note such as “transfer error see synopsis”.

- c. Case Assignment: cases are assigned, generally by Evidence Receiving or Case Management, to a specific unit by choosing the various analytical modules (or request type). Once assigned to a unit the case can be assigned to a specific analyst with in the unit. Assignment is generally done by the Supervisor/Lead or their designee.
  - i. Once a case is assigned to an analyst in JT only that analyst can enter results for the case.
- d. Rush Levels can be designated through JT, in general rush levels will be annotated in LIMS by a member of Case Management:
  - i. Rush Level 1: The highest level expedited case. In general, the results may be associated with a public safety issue or a flight risk. These cases are approved by the Division of Scientific Services Director. Based on the needs associated with the case, analysts may need to work outside of normal DSS hours. Typical turn-around time for these cases is less than 48 hours.
  - ii. Rush Level 2: A case that is approved by the Division of Scientific Services Director to be expedited and prioritized. The priority is based on the specific needs associated with the case. These cases may require the analyst to work a minimal amount of time outside the normal DSS working hours. Typical or expected turn-around time is less than one week.
  - iii. Rush Level 3: A case that the Division of Scientific Services Director has approved for expedited analysis. There is no perceived public safety issue. These will be assigned and worked into the next set of testing performed. Typical turn-around time is approximately 3 weeks.
  - iv. Rush – Court Date: Designation used for cases that are needed to meet judicial expectations. Generally given a “JIT” (just in time) priority level.
  - v. The time frame for rush cases is guidance, it is understood that when case materials must cycle through multiple units this may extend the process. The Deputy Directors are responsible to track this flow to ensure timely analysis.

- e. Case Reporting: some DSS units use templates which are set within JT for case reports, other units generate laboratory reports using templates created as word documents. The JT reporting features include evidence description, and results. The current crystal reports are set to download demographics for the case into the report format. Units using word reports will save all reports in an electronic read only format in a secure accessible location on the server once the report is administratively reviewed. The case report will be scanned and attached to the case in JusticeTrax.
- f. Case reports are, in general, sub-itemized in JusticeTrax and a bar code will be generated for the envelope of the report being returned to the submitting agency (see GL-11 for exceptions to this process).
- g. Milestones: this section allows for the tracking of the progression of a case, cases can be called up and using this function the stage of analysis can be determined.. The milestones are:
  - i. Unassigned
  - ii. Assigned
  - iii. Findings entered
  - iv. Draft complete
  - v. Technical review (assigned/completed)
  - vi. Administrative review (assigned/completed)
  - vii. Report Released

These include the assignment, and completion of the milestones. Milestones are to be updated in real time in JusticeTrax. The Technical review and the Administrative review will be assigned in the same manner a case is assigned. Assignment may be by the analyst, the Supervisor or other designee based on the needs of the unit.
- h. Case Synopsis: allows for notations to be added to the case. Communications concerning the case should be annotated here. The Image Application may be used to attach communications concerning the case as needed.
- i. Activity Tracking: JT allows work related activities to be tracked. Analysts can use this to account for time not performing case work, such as court testimony, giving or attending lectures, working on proficiency tests, attending a crime scene, or other activity. The notes section can be used to describe the event and the time attended. All employees will utilize this for subpoena and court activities. (Refer to GL-17)
- j. Other tools available within JT:
  - i. Crystal reports which can be created to mine statistical case information such as cases received/released and unit backlog tracking.

- ii. Query function – can be used to create reports such as cases assigned or cases in a specific evidence location.
  - iii. Notes – there is a note field associated with each item and sub-item. Information specific to that item/sub-item can be added in this location and printed as needed.
  - iv. Create Worklist – some units that batch case work are able to create batches, assign the batches and print worklists using this function.
  - v. iPrelog – this feature of JusticeTrax allows DSS customers to initiate a case by entering some of the case demographics. Upon initiating a case externally the customer is supplied with a bar code which when delivered to the DSS with the evidence the ECO can “fast track” the entry of the case minimizing the time the customer spends at the DSS. This process can only be used by customers provided with a logon by the DSS. This process does not allow the customer access to secure data maintained in JusticeTrax.
  - vi. iResults – this feature allows customers to access DSS case reports once they are released for review by the laboratory. This process can only be used by customers provided with a logon by the DSS. This process does not allow the customer access to secure data maintained in JusticeTrax.
5. If a component of a case (i.e. case demographics) must be edited in JusticeTrax a note must be added to JusticeTrax in the synopsis area, describing the change(s). Additionally the same information will be added to the main case jacket and the unit case jacket. The person making the edit must ensure that if the edit affects multiple units that they inform all appropriate units; this can be coordinated thru the Case Management unit.
- a. If the case on a whole or multiple submissions of the case is affected, the note is to be placed in the case synopsis with the initials of the person making the edit, and date the edit was made.
  - b. If only a portion of the case was affected (say one submission only) the note may be added to the notes section on the Evidence tab in JusticeTrax.
  - c. In general only the JT administrator or their designees are authorized to make edits to specific fields in JT, edits are approved on a case by case basis and through approval of the ADFL or Director. Authorization in JT are defined based on user designations in JT.
  - d. In the event the chain of custody must be edited a Qualtrax chain of custody edit workflow will be initiated for this process; once the Director has approved the edit the LIMS administrator may update the COC.
6. Data Archiving:
- a. The System Administrator is responsible to maintain the servers including archiving data as needed. Any files not accessed by a date as designated by the Director, will be copied to the

SAN (Storage Area Network) and deleted from the servers. This is done to ensure adequate storage space on the servers.

- b. The SAN is replicated and backed up virtually in increments daily and in full on a weekly basis.
- c. Tapes generated from the back-ups are transferred monthly to off-site storage locations.
- d. To retrieve information from a file prior to 2012 a request should go to the System Administrator through the ADFL.

7. Updates to the LAN and LIMS Systems

- a. Updates to the LAN and LIMS system will be authorized by the Director.
- b. Prior to implementing updates the updates will be validated to ensure proper function.
  - i. The level of validation will depend on extent of the update. Refer to GL-22 'Policy on Validation and Performance Checks' for guidance.
- c. The LIMS and/or System administrator will document the validation and maintain the appropriate documentation.

8. LIMS failures/issues:

- a. The LIMS administrator (or designee) will maintain a log book of changes/issues that arise with the use of LIMS.
- b. In the event of system failures the LIMS administrator (or designee) will document the issue and corrective measures in the LIMS log books. The LIMS administrator will report the issue to the appropriate Deputy Director or the Director.
  - i. If appropriate the issue will be documented through a quality action request (CAR or IR).

9. REFERENCES:

- a. JusticeTrax Users Guide