Frederick National Laboratory for
Cancer Research, Frederick, MD

BDP

Biopharmaceutical Development Program

Standard Operating Procedure

Title: Training and Qualification of Personnel in a **CGMP** Environment

SOP Number: 21600

Revision Number: 05

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Effective Date: OCT 17 2018

Originator/Date: [redacted]

Approval/Date:

Approval/Date:

Table of Contents

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted]

1.0 Purpose

This document defines the process for training and qualification of personnel responsible for the manufacture and testing of Current Good Manufacturing Practice (CGMP) and Good Laboratory Practices (GLP) products in the Biopharmaceutical Development Program (BDP).

2.0 Scope

This SOP applies to personnel participating in the manufacture and testing of biopharmaceuticals following applicable regulations. Personnel include those who participate in the manufacturing process as well as those who support the manufacture and testing of biopharmaceuticals.

3.0 Authority and Responsibility

3.1 Managers and Supervisors are responsible for:

3.1.1 Ensuring that employees are hired based on the proper combination of education and experience to adequately perform the duties as listed in the job description.

3.1.2 Developing and maintaining a training plan for the employees reporting to them, including updating curricula when new processes or procedures are implemented.

3.1.3 Communicating the training plan to the employee.

3.1.4 Selecting qualified staff to serve as trainers for specific tasks/operations/ equipment, et cetera.

3.1.5 Evaluating the competency of employees as required by the employee's training plan.

3.1.6 Providing time to the trainee and trainer to complete training and for trainees to attend standardized training as required.

3.1.7 Monitoring the status of their staff's training to ensure that it is being accomplished in the manner and timeframes required.

3.2 Quality Assurance Management is responsible for:

3.2.1 Developing and proposing a training policy to ensure regulatory compliance.

3.2.2 Preparing CGMP training modules and conducting training on these modules.

3.2.3 Assisting Managers and Supervisors in the documentation and maintenance of a training plan for BDP employees.

3.2.4 Ensuring Managers and Supervisors update curricula when new processes or procedures are implemented.

3.2.5 Reviewing and approving employee training plans and curricula.

3.2.6 Facilitating the development of standardized training courses.

3.2.7 Developing a schedule for presentation of standardized training courses.

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

3.2.8 Maintaining documentation or electronic records, as appropriate, for an employee's training plan, completed training, and competency assessments.

3.3 The Director of Biopharmaceutical Quality Assurance is responsible for:

3.3.1 Monitoring the effectiveness and compliance status of the training program.

3.3.2 Periodic assessment of the training program through internal audits.

4.0 Overview of the Training Process

Job-specific training is provided to employees upon entry into a job and continually throughout an employee's employment. A training plan is developed and maintained for each employee. The plan documents the general job responsibilities assigned to the employee and identifies the appropriate training necessary to develop and maintain competence in these job responsibilities. New or revised processes, new job responsibilities, etc., will cause a change to the employee's training plan requiring action to maintain up-to-date training.

Training can consist of reading and understanding SOPs (or other written information), on-the-job training, training on skills using a "trainer," training courses provided internally, computer-assisted training courses, and courses/seminars offered off-site.

Competence is evaluated for critical job-specific skills, and competence must be demonstrated in these skills before an employee is considered to be "trained." For some specific analytical tests, analysts must complete a certification program before they may perform the test for GMP or GLP purposes. Managers and Supervisors monitor the status of employee training against the employee's training plan. Quality Assurance has oversight of the process. The employee's training plan (curriculum assignments), completed training, competency assessments, and analytical test certifications are documented.

5.0 Employee Training Plan

The preparation and maintenance of an appropriate training plan for each employee is needed to ensure that the employee has the necessary training to adequately perform assigned job responsibilities. The implementation of appropriate training relies in large part on developing and maintaining an appropriate training plan. Status of training is monitored and evaluated based on the plan that has been developed for the employee.

5.1 Developing the Training Plan

5.1.1 The employee's training plan is developed by the QA Manager and the employee's Manager/Supervisor by selecting the appropriate "curricula" that reflect the major job responsibilities that will be assigned to the employee. Additional courses can be recommended to enhance an employee's understanding or to prepare an employee for assuming new responsibilities.

NOTE: The major activities of each department have been identified as various "curricula." For example, aseptic filling would be identified as a curriculum and include the required SOPs, training, and competencies to adequately perform the job responsibility of aseptic filling. The courses in each training curriculum can be found in the report "Curriculum Course Contents" at [redacted]

5.1.2 The plan is documented in the Pinnacle Learning Manager (PLM) Administrator Module (see SOP 21603, Using the PLM Administrator Module). The specific curriculum assignments for an employee can be found in the report "Curriculum Assignments – By Person" at: [redacted].

5.2 Amending the Training Plan

5.2.1 An employee's training plan can be amended at any time to maintain a current status. Changes or additions to job responsibilities, reassignment to another department, etc., generally require an update to the employee's training plan. The Department Manager/Supervisor and QA work together to maintain the employee training plan. Updates to the Training Plan documented in PLM are reflected in the various reports available: [redacted].

6.0 Initial, New Hire Training

While training of new employees will occur over the course of several months, certain information must be understood by new hires immediately (generally within two weeks of hire). This critical information includes:

- Introduction to GMPs (review training modules and SOP 21409).
- Review of the BDP training system.
- How work is properly documented and corrected.
- How signatures and initials are registered.
- How to access SOPs.
- Distinctions between controlled and uncontrolled copies of documents.
- How laboratory notebooks are controlled and used.

This training is documented on Form 21600-03. Managers identify the new hire training that is appropriate for the new hire (for example, new hires that will not be using laboratory notebooks do not need to complete initial training for laboratory notebooks) and assist new hires to make appointments with the subject experts in these training areas. Subject experts present an overview of these topics, discuss any issues, and document the training provided. Completion of this initial training is targeted for two weeks from the date of hire. When complete, Form 21600-03 is returned to QA Management.

7.0 Job-Specific Training

7.1 General guidance for conducting job-specific training includes the following activities in the order presented.

7.1.1 Reading and discussing (as necessary) the SOPs or applicable written documents with the trainer.

7.1.2 Observing the trainer, or other person, perform the process.

7.1.3 Performing the process with coaching by the trainer.

7.1.4 Independent practice (as necessary).

7.1.5 Competency Assessment (if required).

Individual job-specific training needs to be adapted by the trainer based on the employee's past experience, educational level, and general understanding of the process. Employees who have experience with the process (from a previous job, etc.) may be able to move through the training process quickly, perhaps not requiring any independent practice, and be prepared for a competency assessment. Other students may need focused, in-depth training on the process perhaps with much independent practice to be prepared for a competency assessment. Trainers should be aware of the different training needs and different learning styles of their trainees.

7.2 Documentation is generated for the training process when the applicable SOP, MPR, and/or or other written document is "read and understood" and when competency (if required) in the process is evaluated.

7.2.1 Form 21600-01 or 21600-01A is used to document that the employee has read and understood the SOP or training document. Supervisors or trainers must countersign this document.

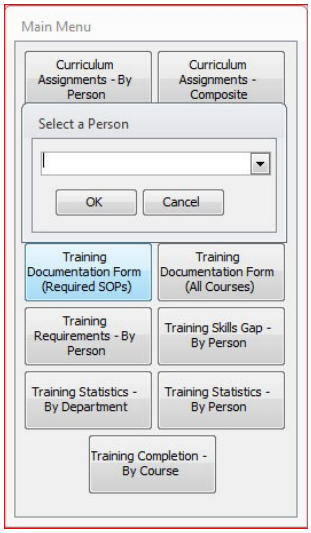
- Authors and final reviewers are considered to be trained in the procedures they author or review. Completed Form 21600-01 or 21600-01A is submitted to record this training.

7.3 Using Form 21600-01A (Training Documentation Form).

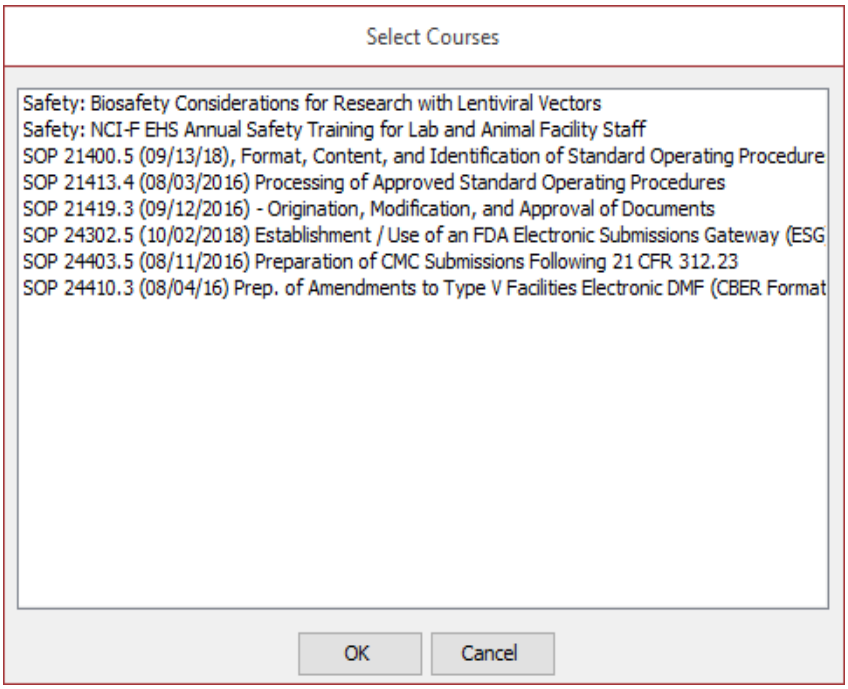
7.3.1 Form 21600-01A is generated from the PLM training database at: [redacted]

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

7.3.2 Select the option for “Training Documentation Form” and follow prompts to select the name of the person that the form is being generated for.



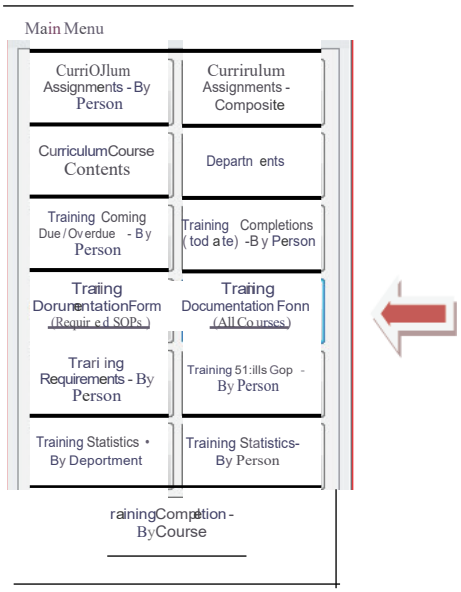
7.3.3 A listing will be displayed of training that is overdue and coming due (within 30 days). Select the courses for training. (Click on a course to highlight it. To select more than one course, use the Shift key to select adjacent course listings or the Ctrl key to select non-adjacent course listings.)



This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

7.3.4 4 Select ing "OK " will present Form 21600-01A "SOP Training Due/Overdue for (person). The form will need to be printed out. Reference **Attachment 2** for anexample of the training form.

7.3.5 Alternatively, a training documentation form may be created by selecting the option for 'Training Documentation Form" (All Courses) and selecting the courses to be placed on the form as above. Once the courses are selected, follow prompts to select the name of the person that the form is being generated for. The form will need to be printed out.



8.0 Training - Standardized Courses (including GMP Training)

8.1 Several curricula may include a requirement for the same knowledge or task. Standardized courses on this information may be developed and presented at appropriate intervals.

8.2 Standardized courses tend to be lecture-based but may also be offered as "computer-assisted training" or with a laboratory component. Often, a student's knowledge is assessed at the end of the course by a written test/quiz. A passing grade may be established for specific courses. Failing a course would require retaking the course until a passing grade (if established) is achieved and the trainer is confident that the individual adequately understands and can successfully follow the procedure.

8.3 Completion of group training or completion of standardized courses must be documented. There is no specified format for this record, but it must include information on the topic of the training, the name and signature of the trainer, date(s) the training occurred and name and signature of course participants. When available, attach a copy of any handouts or agendas related to the training to the training sign-off record.

This procedure is made available through federalfunds from the National Cancer Institute, NIH, undercontract [redacted]

NOTE: For group training, the completed sign-in sheet is copied for each employee's training file. As a general rule, the original (and any course handout) is filed in the training file for the presenter or facilitator. If there is no presenter or facilitator, the original is filed in the training file of the first person signing in for the course. For GMP training modules, the sign-in sheet and exams are maintained in a training folder for that specific module and date the training was given.

8.4 The Biopharmaceutical Development Program (BDP) conducts training on Good Manufacturing Practice (GMP) regulations (21 CFR 210, 211). The modules provide a complete set of training that fulfill cGMP training requirements for individuals involved in cGMP manufacturing, process analytics/quality control, and supporting operations. Each module takes about 1.5 to 2.5 hours to complete and is followed by a test. A score of ≥80% is required to pass each module. Reference **Attachment 5** for a description of these modules. The program includes an initial training on 13 modules and then employees are retrained on two refresher modules on a biennial rotation. The other 13 modules are rotated every six-years thereafter.

9.0 Competency Assessments

9.1 Some specific skills within curricula are designated to require competency assessments to demonstrate acceptable competence in the skill. Evaluation of competency is documented on Form 21600-02, Personnel Competency Assessment, and requires trainers or Managers/Supervisors to document their evaluation of individual competence in the specified task.

9.2 The trainer or the department Managers/Supervisors have the responsibility to assess competence and must select the method of assessment. Options include performing the process independently during a formal production, performing the process independently during a "mock" production, generating results consistent with a sample's "standard value" or previous test results, passing an exam with minimum passing score of 80% or as defined for a specific exam, passing a gowning qualification without exceeding a maximum CFU count, etc.

9.3 For each competency assessment, the Trainer or Managers/Supervisors must document how competency was assessed. All formal evaluations of competency shall be documented so that the employee and the department management can monitor the competency status of the employee.

9.4 Performance Competency is judged as either, Acceptable demonstrating basic competence, Acceptable demonstrating advanced competence, or Unacceptable.

9.4.1 Acceptable, Basic Competence

9.4.1.1 This level of competence certifies the individual as competent in the specified skill under routine conditions.

- Employees who have been certified in Basic Competence may be re-evaluated to certify them to an Advanced Competence level.

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

9.4.2 Acceptable, Advanced Competence

This level of competence certifies the individual as competent in the specified skill in non-routine conditions. Individuals who serve as leads during productions or who perform advanced troubleshooting will be certified to advanced competence.

NOTE: Individuals assessed as being competent at an advanced level are also competent at a "basic" level. Competency assessment documentation should reflect this.

9.4.3 Unacceptable

- Individual is unable to demonstrate an acceptable competence in the specified skill.

  Individuals that demonstrate "unacceptable" competencies in the specified skill are not permitted to perform that skill / task until they are re-trained and or can demonstrate an acceptable competency level in that skill.

9.5 Review competency is judged as either Acceptable or Unacceptable. Acceptable review competence certifies the individual as competent in reviewing the documentation generated from a process (for example, a manufacturing or quality control test record).

9.6 Periodic re-evaluation of competency for specific tasks is generally not required unless the process has changed significantly as to warrant another competency assessment OR there is some indication (through trend analysis or employee observation) that competence in a specific task has been compromised or lost.

10.0 Updating Curricula

10.1 As processes are revised or developed, as SOPs are revised or generated, or as additional training becomes available, the training requirements for each curriculum may be amended.

10.2 Employees who are required to maintain an up-to-date status in a designated curriculum will be alerted that a change in training requirements has occurred. Affected employees are expected to update training (including documentation) within the designated timeframe.

11.0 Monitoring the Training Process

11.1 Adequate training for a specific employee is judged against the current approved training plan. Information needed to make this assessment is available to the employee, the employee's Supervisor/Manager, and BQA at. [redacted]

11.2 The adequacy of the training plan can be evaluated based on the employee's current job responsibilities.

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

11.3 A number of reports are available at [redacted] as a resource for monitoring the training process. Specific reports are accessed from the Main Menu.

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

These reports include:

11.3.1 **Curriculum Assignments – By Person**: For a specified person, lists curriculum assignments.

11.3.2 **Curriculum Assignments – Composite**: For each curriculum, lists the people that are registered in the curriculum.

11.3.3 **Curriculum Course Contents**: Lists the courses included in each curriculum.

11.3.4 **Departments**: Lists the various departments within the BDP and the department members.

11.3.5 **Training Coming Due/Overdue – By Person**: For a specified person, lists the required courses that are overdue or are coming due (within 30 days) sorted into the categories of “Competency”, “General”, “GMP”, and “SOP”.

11.3.6 **Training Completions (to date) – By Person**: List all completed training that is in-date (including required and not required courses). The listing is sorted into categories of “Competency”, “General”, “GMP”, and “SOP”.

11.3.7 **Training Documentation Form (Required SOPs):** For a specified person, a training documentation form is generated from the list of selected training requirements for that individual.

11.3.8 **Training Documentation Form (All Courses):** From the listing of all training available, a training documentation form is generated from the list of selected training for an individual.

11.3.9 **Training Requirements – By Person:** For a specified person, lists the required courses. Listing is sorted into categories of “Competency”, “General”, “GMP”, and “SOP”.

11.3.10 **Training Skills Gap – By Person**: For a specified person, lists the required courses, whether training is complete, and the last date of training. If the training is not completed, the list shows “Incomplete” Listing is sorted into categories of “Competency”, “General”, “GMP”, and “SOP”.

11.3.11 **Training Statistics – By Department**: List statistics for each department (in a table format) for the number of courses required and the percentage of courses completed for the categories of total training, competency training, SOP training, and GMP training.

11.3.12 **Training Statistics – By Person**: List statistics for each person (in a table format) for the number of courses required and the percentage of courses completed for the categories of total training, competency training, SOP training, and GMP training.

11.3.13 **Training Completion – By Course**: Provides a listing of those employees who are current on their training for the selected training, when they last completed that training, and when they are due for retraining.

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

12.0 Quality Assurance Oversight

12.1 BQA may bring issues to the attention of senior management that demonstrates that employee training or the training plan is not being maintained in a current status.

13.0 Records and Reports

13.1 A file is maintained in Biopharmaceutical Quality Assurance Documentation for each employee. The file includes:

13.1.1 The employee's resume or CV.

13.1.2 Completed Training and/or Competency Assessment Documentation (Forms 21600-01, 21600-01A, 21600-02, and/or 21600-03).

13.1.3 Documentation of attendance at in-house standardized training courses (including copy of any tests to assess the effectiveness of training).

13.1.4 Documentation of attendance at off-site training seminars and conferences.

13.1.5 The employee's current training plan and associated tracking reports are available at [redacted]

14.0 References and Related Documents

14.1 **SOP 21603** *Using the PLM Administrator Module*

14.2 **SOP 21409** *Good Documentation Practices*

14.3 Various reports to track/monitor training at: [redacted]

14.4 21 CRF 211.25 Personnel Qualifications

14.4.1 "(a) Each person engaged in the manufacture, processing packing, or holding a drug product shall have education, training, and experience, or any combination thereof, to enable that person to perform the assigned functions. Training shall be in the particular operations that the employee performs and in current good manufacturing practice (including the current good manufacturing practice regulations in this chapter and written procedures required by these regulations) as they relate to the employee's functions. Training in current good manufacturing practices shall be conducted by qualified individuals on a continuing basis and with sufficient frequency to assure that employees remain familiar with CGMP requirements applicable to them."

15.0 Attachments

15.1 **Attachment 1** Form 21600-01, Personnel Training Documentation

15.2 **Attachment 2** Form 21600-01A, SOP Training Due / Overdue for (Person) (Example)

15.3 **Attachment 3** Form 21600-02, Personnel Competency Assessment

15.4 **Attachment 4** Form 21600-03, Initial Overview Training for New Hires

15.5 **Attachment 5** BDP GMP Training Modules

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

Attachment 1

Form 21600-01, Personnel Training Documentation

FNLCR, BDP
Form No.: 21600-01
SOP No.: 21600
Revision 05: OCT 17 2018

PERSONNEL TRAINING DOCUMENTATION
for

_____
(print name, one name per form)

An employee's signature certifies that the employee has read the referenced course (SOP, journal article, etc.) and has discussed any questions regarding the material with his/her supervisor or trainer. (Competencies for the performance of courses are documented on Form 21600-02.)

COURSE ID NUMBER AND TITLE	REVISION LEVEL &/OR EFFECTIVE DATE	Employee Initials	Date of Training

Print Supervisor Name: _____

Supervisor Initials / Date: _____

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

Attachment 2
Form 21600-01A, SOP Training Due / Overdue for (Person) (Example)

FNLCR, BDP
Form Number: 21600-01A
SOP Number: 21600
Revision 05: OCT 17 2018

SOP Training Due/Overdue For

An employee's initials certifies that the employee has read the referenced course (SOP, MPR, Instructional Worksheet, journal article, etc.) and has discussed any questions regarding the material with his/her supervisor or trainer

Completed	Document	Effective Date	Read By/Date
☐	SOP 21400.5 (09/13/18), Format, Content, and Identification of Standard Operating Procedures		
☐	SOP 21413.4 (08/03/2016) Processing of Approved Standard Operating Procedures		
☐	SOP 21419.3 (09/12/2016) - Origination, Modification, and Approval of Documents		
☐	SOP 24302.5 (10/02/2018) Establishment / Use of an FDA Electronic Submissions Gateway (ESG) Account		
☐	SOP 24403.5 (08/11/2016) Preparation of CMC Submissions Following 21 CFR 312.23		
☐	SOP 24410.3 (08/04/16) Prep. of Amendments to Type V Facilities Electronic DMF (CBER Format)		

Print Supervisor Name: _____

Supervisor Initials/Date: _____

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

Attachment 3

Form 21600-02, Personnel Competency Assessment

FNLCR, BDP
Form No.: 21600-02
SOP No.: 21600
Revision 05: OCT 17 2018

PERSONNEL COMPETENCY ASSESSMENT
Name (print): _____

EVALUATION OF COURSE COMPETENCIES

COURSE TITLE	EVALUATION			
	PERFORMANCE COMPETENCY		REVIEW** COMPETENCY	METHOD OF ASSESSMENT
	BASIC ** (circle one)	ADVANCED** (circle one)	(circle one)	(indicate # from listing below)
	acceptable unacceptable NA	acceptable unacceptable NA	acceptable unacceptable NA	
	acceptable unacceptable NA	acceptable unacceptable NA	acceptable unacceptable NA	
	acceptable unacceptable NA	acceptable unacceptable NA	acceptable unacceptable NA	
	acceptable unacceptable NA	acceptable unacceptable NA	acceptable unacceptable NA	

** **BASIC Competence** indicates a competency level suitable for routine operations. **ADVANCED Competence** indicates a competency level suitable for a trainer or for advanced troubleshooting. Individuals assessed as being competent at an advanced level are also competent at a "basic" level. **REVIEW Competence** indicates a competency level suitable for review of the documentation associated with a course (for example, a QC report for a specific technique). For competencies associated with an SOP, associated SOPs must have "read and understand" SOP documentation on file before competencies may be evaluated.

METHOD OF ASSESSMENT (Select most appropriate option for chart above.)

1. Process was performed independently (but with supervision) during an actual production. (List batch ID #).
2. Process was demonstrated to a qualified trainer.
3. A previously-assayed "unknown" was tested with results consistent with previously performed testing (attach documentation for testing).
4. Author/trainer of the procedure.
5. Other, describe: _____

EVALUATOR CERTIFICATION

Name: (print) _____

Signature _____ Date: _____

EMPLOYEE CERTIFICATION:

Agree/Disagree (circle) with evaluation. If disagree, explain below:

Signature: _____ Date: _____

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

Attachment 4
Form 21600-03, Initial Overview Training for New Hires

FNLCR, BDP
Form No.: 21600-03
SOP No.: 21600
Revision 05: OCT 17 2018

INITIAL OVERVIEW TRAINING FOR NEW HIRES

NEW HIRE: _____ **DEPT CONTACT** _____

The following topics are immediately important to new hires as they start their training period. The new hire's assigned department contact (or designee) will assist the new hire in arranging meeting times with the individuals listed within the FIRST TWO WEEKS of employment in the BDP. Training will be documented by the individual providing the training.

TOPIC FOR TRAINING	Training to be provided by/extension	Training completion (initial/date of trainer)
INTRODUCTION TO GMPs Review with the Director of Quality Assurance the GMP training modules offered by the BDP and review the Good Documentation Practices SOP 21409.	_____ BQA _____ (ext)	
OVERVIEW OF TRAINING SYSTEM Explanation of training system (SOP 21600), Employee's Training Plan, documenting training (Forms 21600-01, -01A, -02, -03)	_____ BQA _____ (ext)	
SIGNATURE FILE Completion of Signature File Form (21406-01)	_____ BQA _____ (ext)	
DOCUMENTATION Attach Checklist (to be provided by Documentation)	_____ BQA _____ (ext)	
USE OF LABORATORY NOTEBOOKS Using Laboratory Notebooks (SOP 21408)	_____ TBD _____ (ext)	

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted]

Attachment 5
BDP GMP Training Modules

Good Manufacturing Practice (GMP) Training Modules

GMP Module – Orientation

This module provides an overview of the GMP regulations including a historical review of the early experiences with drug products. Topics covered include:

- How the drug industry became a regulated industry,
- How FDA applies Good Manufacturing Practice (GMP) regulations to the various products they regulate,
- What "current" GMPs mean,
- How the GMPs relate to the concept of product adulteration,
- A quick overview of the drug GMPs and the areas the GMPs specify for control,
- How individuals affect compliance

GMP Module – GMP Documentation

This module reviews Good Documentation Practices. Topics covered include:

- The need for good documentation practices
- General GMP requirements for documentation
- Specific GMP requirements for documentation
- Attributes of controlled documents (including examples of how BDP controls their documentation)
- Clarity of documents
- Documentation practices to protect document accuracy and credibility

GMP Module – Buildings and Facilities

This module reviews the GMP requirements for Subpart C of the GMPs (Buildings and Facilities). During this training, you will learn:

- The GMP requirements for Buildings and Facilities
- Clean Air Classification (including HEPA filtration, laminar flow and air flow patterns)
- Recent Warning Letter citations related to Buildings and Facilities
- How to address common problems

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

Attachment 5 (Continued)
BDP GMP Training Modules

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GMP Module – Equipment

This module reviews the GMP requirements for Subpart D of the GMPs (Equipment). During this training, you will learn:

- The GMP requirements for Equipment
- Issues of calibration and validation
- Recent Warning Letter citations related to Equipment
- How to address common problems

GMP Module – Control of Components (Raw Materials)

This module reviews the requirements for the control of raw materials found in Subpart E of the GMPs. It also includes discussions of other sections of the GMPs that affect the control of raw materials (Holding and Distribution, Laboratory Controls, and Records & Reports). Topics covered include:

- How raw material control affects the quality of drug products
- How raw material control works in conjunction with other GMP subparts
- Requirements for handling raw materials to protect quality
- Requirements for identifying raw materials
- Qualification of vendors
- How to receive and store raw materials
- When is testing required
- Controls for use of raw materials
- Review of applicable Warning Letter citations

GMP Module – Production and Process Controls

This module reviews the GMP requirements for Subpart F of the GMPs (Production and Process Controls). Topics include:

- Requirements for written, authorized procedures
- Documenting work at the time it is performed
- How to handle deviations
- Requirements for formulating product , calculating yield, and second person verification
- Identification of equipment used
- Controls for sampling and testing activities
- Controls to prevent microbial contamination
- Review of applicable Warning Letter citations

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

Attachment 5 (Continued)
BDP GMP Training Modules

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GMP Module – Packaging and Labeling Control

This module reviews the requirements for controls for packaging and labeling operations found in Subpart G of the GMPs. Topics covered include:

- Recalls resulting from a lack of control in packaging and labeling operations
- Requirements for label content
- The BDP's system for approving label content
- How to receive and store labeling and packaging materials
- Controls for label issuance
- Controls for packaging and labeling operations
- Review of applicable Warning Letter citations

GMP Module – Laboratory Controls

This module reviews the GMP requirements for Subpart I of the GMPs (Laboratory Controls) and applicable sections of Subpart J (Records and Reports). Topics include:

- How laboratory data is used in GMP applications
- Requirements for testing and release of product
- Requirements for stability testing
- Requirements for maintaining reserve samples
- Special considerations for penicillin
- Information needed to qualify / validate an assay
- Discussion of US FDA vs. Barr Laboratories (Out of Specification policies)
- Review of applicable Warning Letter citations

GMP Module – Regulatory Inspections and Audits

This session will present BDP's plans for hosting an inspection by the FDA or other international agencies. During this session you will learn:

- Your responsibilities during an inspection
- What other people are responsible for
- What information FDA has a right to see
- How to respond to questions from an inspector
- BDP's plans for responding to inspectional observations.

GMP Module – Video, "You'll Soon Feel Better" (~60 minutes)

"You'll Soon Feel Better" was produced for the Association of British Pharmaceutical Industries in 1987 to highlight what can happen when Good Manufacturing Practices are not followed. It presents three vignettes to illustrate valuable GMP lessons. After this session, you should be able to:

- Describe who is responsible for Quality Assurance
- Identify the cause of mistakes
- Identify the primary purposes of Good Manufacturing Practices
- Describe how to ensure the quality of pharmaceutical products
- Identify and correct common GMP violations
- Describe some causes of mistakes in the manufacturing process

This procedure is made available through federal funds from the National Cancer Institute, NIH, under contract [redacted].

Attachment 5 (Continued)
BDP GMP Training Modules

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GMP Module - The Devonport Disaster

The Devonport Disaster is an actual event that occurred in England and resulted in at least 5 deaths due to contamination of IV sucrose solutions. As a group, the class "serves" as the public health official and works through the investigation of this incident to determine the various contributing factors that resulted in product contamination. Group findings on the GMP deficiencies in this situation are compared to the findings from the official investigation conducted by the UK Department of Health and Human Services.

GMP Module – Investigation of Non-conformances

One of the leading observations in FDA-483s and Warning Letters is the insufficiency of investigations performed to evaluate the various types of non-conformances. This module presents:

- What are non-conformances
- How should non-conformances be handled
- FDA expectations
- Root Cause Determination
- Impact Assessment
- Reporting requirements
- Corrective and Preventative Actions

GMP Module – Data Integrity

In recent years FDA has increasingly observed CGMP violations involving data integrity issues during inspections. This module covers:

- Defining Data Integrity
- FDA Expectations
- Examples of Data Integrity Issues
- Common Data Integrity Traps
- How Does This Apply to Staff

GMP Modules – Refresher Training

GMP training is required annually. Each employee must take the complete set of GMP training modules every 6 years. In the intervening years, they will take one of the two GMP Refresher Training modules, alternating each year. Each GMP refresher training module takes about 2.5 hours to complete. Each is followed by a test that must be passed to obtain credit for taking the course.

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GMP Module – Refresher Training, Part 1

This module covers:

- Personnel Requirements
- Good Documentation Practices
- Buildings and Facilities
- Equipment
- Raw Materials

GMP Module – Refresher Training, Part 2

This module covers:

- Production and Process Controls
- Labeling
- Laboratory Controls
- Data Integrity
- Investigation of Non-conformances

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