Enclosure 8 to E-56415

Referenced Documents in RAI Responses

(Public)

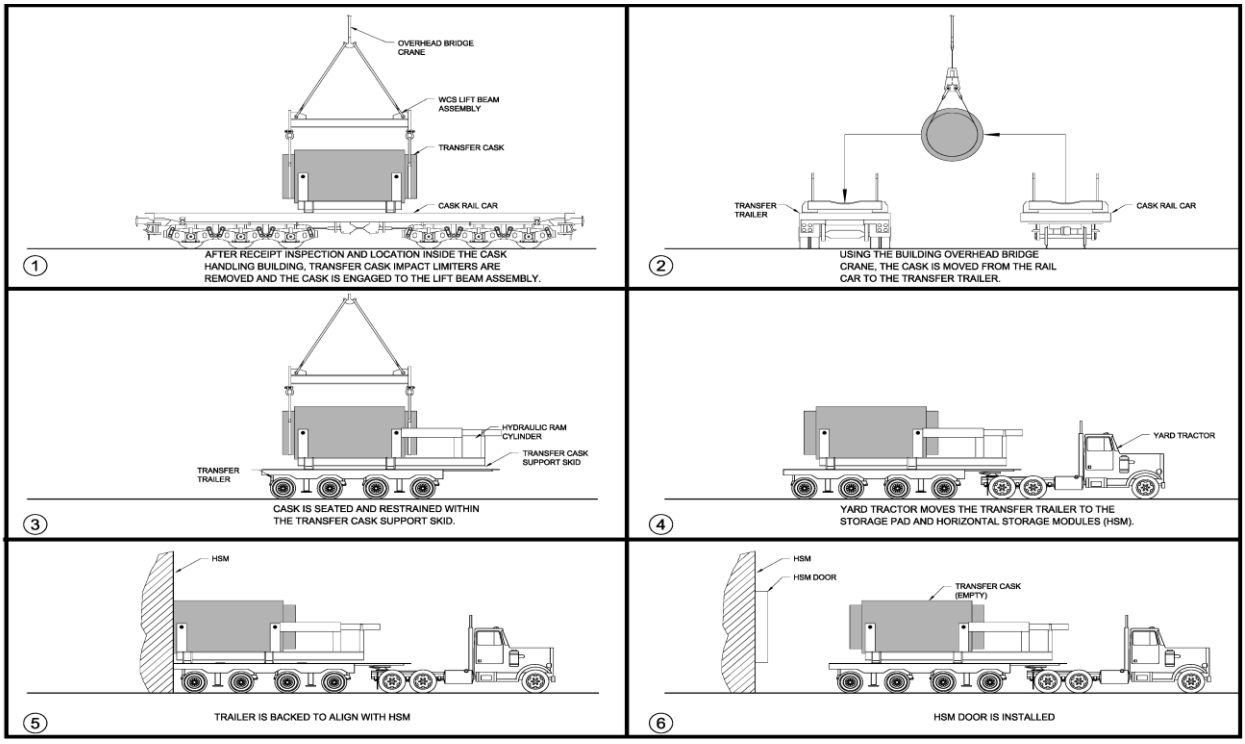
a. “WCS CISF NUHOMS® Dry Run Training Exercise,” Plan 1004118, Revision 0 Draft

b. “WCS CISF NAC Systems Dry Run Training Exercise,” Plan 1004119, Revision 0 Draft

Plan 1004118, Revision 0 (Draft)

WCS CISF

NUHOMS® Dry Run Training Exercise



Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

Approved By: _____ Date: _____

Director of Operations/Construction

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INTRODUCTION

Orano TN Americas NUHOMS® technology is used to store canisters at the WCS Consolidated Interim Storage Facility (WCS CISF).

Dry Run Training Exercises shall be planned to perform functional tests of the transfer operations, and canister insertion and retrieval operations at the WCS CISF Storage Pad. These tests are intended to verify that the transfer system components (e.g., Horizontal Storage Module (HSM), transportation/transfer cask (TC), transfer equipment, etc.) operate safely and effectively. Best practices from the industry including all previous Orano TN Americas fuel loading campaigns are incorporated into the procedures in preparation for the upcoming campaign and Dry Run Training Exercise at WCS CISF.

METHODS

Dry Run Training Exercise activities consist of a single cycle of the loading activities to allow the Operators to demonstrate proficiency and to validate equipment and work instructions readiness.

WORK CONTROL

Dry Run Training Exercise activities are controlled using the WCS CISF approved procedures. The procedures establish initial conditions that closely replicate the actual conditions which are expected during loading operations.

To the extent possible, procedure steps are demonstrated by actually performing the task. Some procedure steps may be demonstrated through simulation. The Work Control Process provides the direction to simulate procedure steps as well as the basis and reasoning behind using the simulation method as appropriate.

Note:
It is normal to identify issues which may require procedure revisions during the Dry Run Training Exercise.

Should any condition arise where a procedure step cannot be performed as written, work shall stop, work shall be placed in a safe condition as directed by supervision, the issue is corrected using pen and ink markup for approval, the Operators shall be briefed on changes to the process and work is allowed to continue. The Director of Operations/Construction shall provide concurrence for procedure corrections and enhancements.

ROLES AND RESPONSIBILITIES

Director of Operations/Construction

1. Confirms that Operators priorities are consistent with nuclear safety and quality standards.
2. Confirms that Operator performance meets expectations for the following:
    a. Command and control
    b. Communication
    c. Radiological practices
    d. Procedure compliance
    e. Housekeeping
    f. Pre-job and ALARA briefings
    g. Human Performance
2. Assesses the Operators understanding of expected responses to specific procedural actions.
3. Assesses the team's ability to recognize and respond to unexpected results.
4. Confirms Operators are continually performing self-critiques to ensure continuous improvement.
5. Identifies technical and/or performance enhancements that would improve safe processing operations.

Operations Supervisor

- Person designated by Director of Operations/Construction who has overall responsibility for the Operators' Performance.
- Person designated by Director of Operations/Construction to oversee shift operations.
- Person designated by Director of Operations/Construction who supervises in field work activities and resolve technical issues involved with any abnormal conditions.

Operators

- Perform TC offloading and transfer operations as directed by the Operations Supervisor.
- Perform all work in a safe and controlled manner.
- Execute all work activities in accordance with the governing documentation.

Evaluator(s)

Evaluators use the guidelines contained in Attachment 1, Observation Comment Sheet and Attachment 2, Attribute Standards to determine performance readiness of the project team and to make recommendations regarding performance. Acceptable Operator performance is determined by the evaluations and resolution of areas of concern by performance of post-job critiques or a repeat performance of scenarios as required. The evaluators debrief with the Operations Supervisor during the Dry Run Training Exercise.

DAILY ROUTINE

Daily Plan of the Day Briefs occur at the beginning of shift, followed by task focused pre-job and ALARA briefings which are performed in accordance with project procedures and forms. Briefing attendees shall consist of all Operators, support groups and the Operations Supervisor involved in the daily activity. Observers are encouraged to attend these briefings to ensure briefing expectations are met. During these briefings each aspect of the demonstration to be simulated is discussed.

Best practices are tracked and implemented real time throughout the demonstration as are the practice during actual processing activities. A formal best practices and lessons learned debrief are conducted with the Operators following completion of the Dry Run Training Exercise.

TERMINATION CRITERIA

If any of the following conditions are encountered, personnel are directed to stop Dry Run Training Exercise activities and place the component/system in a safe and stable condition as directed by the Operations Supervisor or Director of Operations/Construction:

- A procedure step can NOT be completed as written
- Results are NOT within expected parameters
- There is a declared site emergency

SIMULATION STRATEGY

1. All procedure steps are performed as written. Certain activities may be repeated as directed by the Operations Supervisor for the purpose of training Operators.
2. To the extent possible procedure steps are demonstrated by actually performing the step. Simulations however may be necessary when the actual activity cannot be performed, or when ALARA considerations deem the use of simulation to be prudent. The procedure provides direction when simulations are approved.
3. When simulations are used, Operators are expected to conduct themselves just as if live spent nuclear fuel was being handled.
4. Ancillary equipment required for the unloading operations are exercised during the simulation.

INITIAL CONDITIONS

- Rigging and lift beam assembly components are staged in the CHB building for the overhead crane.
- Limit switch settings are coordinated with the configuration of rigging and lift beam assembly components to ensure that TC is not lifted above 80 inches.
- Loaded NUHOMS® TC arrives on railcar
- HSM available
- 480 volt 3 phase 30 amp service available at HSM pad.

DEMONSTRATION

Scope:

- Stage following items on Storage pad:
    - Hydraulic Ram Cylinder with HPU
    - Mobile crane
    - Validate correct motor rotation of HPU
    - Theodolite stand
    - Theodolite and auto levels
- TC arrives by rail at WCS CISF.
- Remove personnel barriers
- Remove Impact Limiters
- Remove TC tie down straps
- Remove trunnion plugs
- Install trunnions
- Perform evacuated helium leak test per “Post Transport Package Evaluation,” QP-10.02
- Overhead crane limit switch is tested to verify that it is set at the correct height and that it is functioning correctly
- TC is removed from the Transport Skid using the overhead crane
- Place TC on the Transfer Trailer (TT)
- Move TC to the Storage Pad
- Rough align TC to HSM
- Remove TC lid and RAM access cover

- Final alignment and docking of TC to HSM, install Cask Restraint System
- Align Hydraulic Ram Cylinder(HRC)
- Extend Ram, engage grapple to RWC
- Insert canister into HSM
- Retract canister into TC
- Undock TT from HSM and pull away 8-10 feet
- Simulate installing HSM door
- Install TC lid and Ram Access Cover Plate
- Transport TC to the CHB
- Install TC on the Transport Skid on rail car
- Remove trunnions
- Install trunnion plugs
- RP survey TC
- Install TC tie down straps
- Install the impact limiters
- Install personnel barriers
- Conclusion of demonstration

RECOVERY FROM DRY RUN TRAINING EXERCISES

Following the completion of the demonstration, use the procedure to perform the following:

- Place transfer equipment in storage
- Configure the NUHOMS® TC for transport via rail
- Tools stored in proper location

FINAL CONDITIONS

- NUHOMS® TC packaged for shipment via rail
- HRC and HPU properly stored
- Tugger and transfer trailer properly stored
- Tools and ancillary equipment properly stored

ATTACHMENT 1, OBSERVATION COMMENT SHEET

Comment Sheet _____ of _____

Demonstration Observed: _____

Date: _____

Evaluator: _____

Item #	Comment

ATTACHMENT 2, ATTRIBUTE STANDARDS

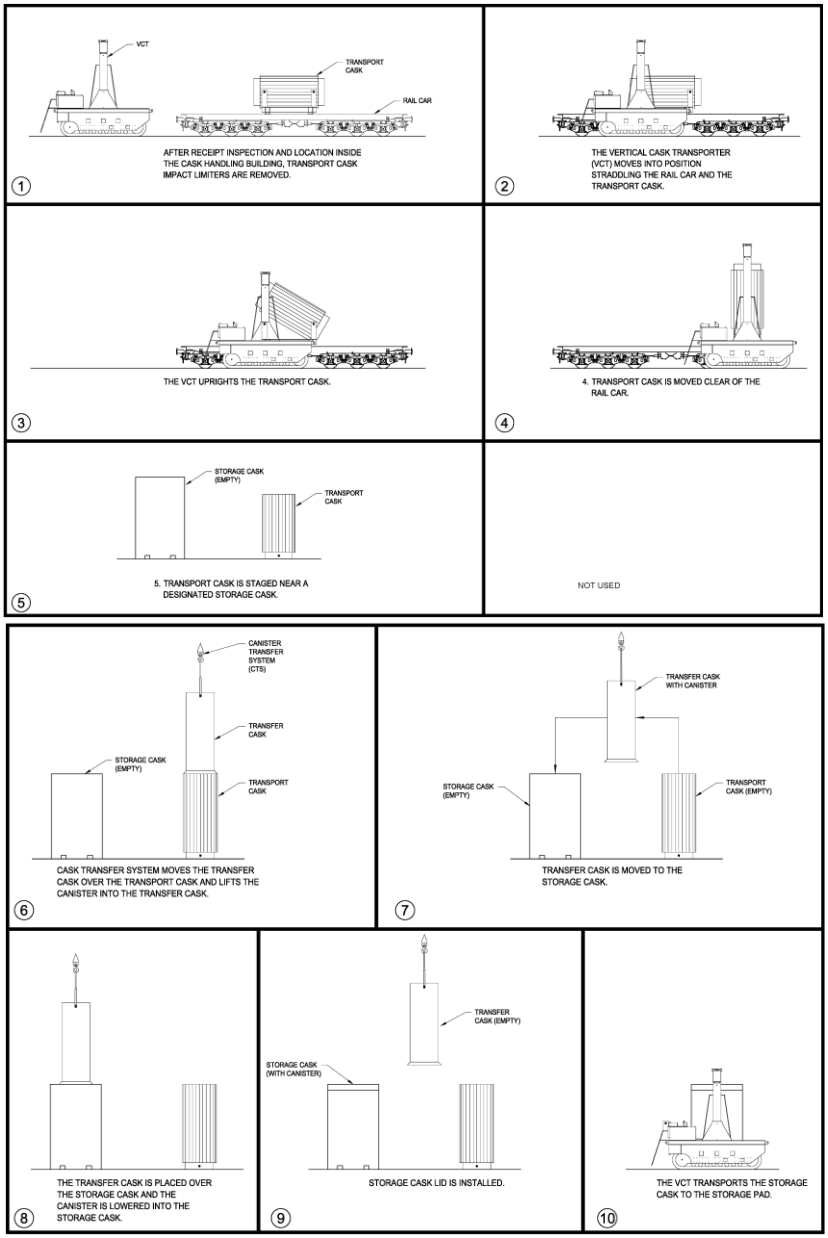
Attribute	Standard
Demonstration Objectives	a) Project has plan for required demonstrations b) Plan segmentation provides proper overlap of necessary demonstrations
Procedures Approved	a) Procedures approved by formal process. b) Procedures written and followed to direct each required action.
Training	a) Personnel completed required training. b) Personnel qualified to operate special equipment. c) Training records available for review.
Pre-job Brief	a) Establish priority- safety, quality, and quantity. b) Precautions/Limitations reviewed. c) Communication methods. d) Work activities reviewed. e) Termination conditions. f) Industry events. g) Work assignments.
ALARA Brief	a) Expected dose levels. b) Protective clothing requirements. c) Transient dose situations/threats. d) Time/distance/shielding actions. e) Termination conditions.
Equipment Availability	a) Required equipment present. b) Optional equipment present. c) Equipment checkout complete and documented.
Self-Checking Techniques	a) Workers demonstrate the use of good self-checking techniques to prevent errors. b) Workers use of peer checking as a means of error prevention.
Safety	a) Proper use of PPE b) Proper rigging practices c) Proper use of fall protection
Communications	d) Use of repeat-back communication. e) Level of understanding by all parties in interaction. f) Direction provided through chain of command.
Radiological Practices	a) Workers minimize time in high dose zones. b) Workers use good contamination spread minimization techniques. c) Workers communicate times in which transient dose periods could occur due to activities. d) Good preplanning is evident in required work steps to minimize activities in radiation area – required tools, equipment etc. known and present to support task.
Housekeeping	a) General area maintained clean. b) FME areas established when required. c) Hoses, lines, etc. orderly, secured and identified.

Attribute	Standard
Post job debriefing	a) The post-job review is performed with those who participated in the pre-job briefing and performed the work. b) Feedback is solicited from all employees to identify any problems encountered during the task. c) When problems or issues are identified the supervisors/foreman/employee record and establish who has responsibility and the method for resolving deficiencies

Plan 1004119, Revision 0 (Draft)

WCS CISF

NAC Systems Dry Run Training Exercise



Prepared By: _____ Date: _____

Reviewed By: _____ Date: _____

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INTRODUCTION

NAC vertical storage technology is used to store canisters at the WCS Consolidated Interim Storage Facility (WCS CISF).

Dry Run Training Exercises shall be planned to perform functional tests of the transfer operations and placement of the vertical concrete cask (VCC) on the WCS CISF Storage Pad. These tests are intended to verify that the transfer system components (e.g., Vertical Cask Transporter (VCT), Cask Transfer System (CTS), etc.) operate safely and effectively. Best practices from the industry including all previous NAC fuel loading campaigns are incorporated into the procedures in preparation for the upcoming campaign and Dry Run Training Exercise at WCS CISF.

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3. When simulations are used, Operators are expected to conduct themselves just as if live spent nuclear fuel was being handled.
4. Ancillary equipment required for the unloading operations are exercised during the simulation.

INITIAL CONDITIONS

- VCC staged in the CHB building ready for offloading of the transportation cask from the railcar.
- CTS has the appropriate transfer cask (MTC) in place ready for use
- Required lifting equipment is staged and ready for use
- Loaded NAC transportation cask arrives on railcar
- VCC in place under the CTS

DEMONSTRATION

Scope:

- Prepare VCC and MTC to transfer the canister
    - Install transfer adapter on top of VCC
    - Connect lift yoke to engage the MTC trunnions
    - Connect hydraulic supply system to transfer adaptor
- Transportation cask arrives by rail at WCS CISF.
- Remove personnel barriers
- Remove Impact Limiters
- Remove tie down assembly
- Remove trunnion plugs
- Install trunnions
- Perform evacuated helium leak test per “Post Transport Package Evaluation,” QP-10.02
- Move VCT over railcar and attach to lifting trunnions
- Transportation cask is removed from the Transport Skid using the VCT
- Place transportation cask in designated location under the CTS
- Remove transportation cask lid, including alignment pins
- Install the transfer shield ring on transportation cask
- Install the transfer adapter on the top of the transportation cask
- Install hoist rings on the canister
- Raise MTC and move to the transportation cask and connect to cansiter for transfer operations
- Transfer the canister to the VCC

- Move the MTC from the top of the VCC
- Remove all equipment from the top of the VCC
- Install VCC lide
- Move VCC to the Storage Pad using the VCT
- Transport VCT to the CHB
- Place transportation cask on the Transport Skid on rail car using the VCT
- Remove trunnions
- Install trunnion plugs
- RP survey transportation cask
- Install transportation cask tie down assembly
- Install the impact limiters
- Install personnel barriers
- Conclusion of demonstration

RECOVERY FROM DRY RUN TRAINING EXERCISES

Following the completion of the demonstration, use the procedure to perform the following:

- Place transfer equipment in storage
- Configure the transportation cask for transport via rail
- Tools stored in proper location

FINAL CONDITIONS

- MPC placed into storage
- VCT properly stored
- Transfer equipment properly stored
- Tools and ancillary equipment properly stored

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