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July 15, 2024

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Subject: REPLY TO NOTICE OF NONCONFORMANCE  
ASCO L.P. DOCKET NO. 99901054  
VENDOR INSPECTION REPORT 99901054/2024-201, AND  
NOTICE OF NONCONFORMANCE: June 28, 2024

References: 1.) NRC Vendor Inspection Report No. 99901054/2024-201  
2.) NRC Notice of Nonconformance 99901054/2024-201-01  
3.) NRC Notice of Nonconformance 99901054/2024-201-02  
4.) NRC Notice of Nonconformance 99901054/2024-201-03

ASCO L.P. (ASCO) provides in the **Attachment 1** identified as hereto the written statement or explanation requested in the Notice of Nonconformance (Reference 2,3,4) dated June 28, 2024. The Nonconformance was identified during the Nuclear Regulatory Commission's (NRC) inspection of ASCO L.P.'s Aiken SC facility (Reference 1) conducted May 6 – 10, 2024.

Inspectors: Michael Fitzgerald NRR/DRO/IQVB Team Leader (Training)  
Yamir Diaz-Castillo NRR/DRO/IQVB Team Leader  
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Sincerely,

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CC. Chief, Quality Assurance and Vendor Inspection Branch, Division of Reactor Oversight, Office of Nuclear Reactor Regulation.





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## Attachment 1

This Attachment sets forth ASCO L.P.'s (ASCO's) written statement or explanation in response to the Notice of Nonconformance 99901054/2024-201-01, 99901054/2024-201-02, 99901054/2024-201-03 dated June 28, 2024.

## Nonconformance 99901054/2024-201-01

1. *ASCO failed to provide for the training of personnel performing manufacturing and special process activities as necessary to assure that suitable proficiency is achieved and maintained. Specifically, ASCO failed to establish adequate training requirements for personnel performing manufacturing activities and special processes activities and adequately document training for those personnel performing activities affecting quality. ASCO could not provide objective evidence that soldering, and laser welding personnel were adequately qualified to perform these activities. ASCO did not establish adequate measures to ensure soldering or laser weld technicians are qualified to perform their required job responsibilities and document these activities affecting quality.*

## ASCO's Response

ASCO's Quality System Manual (QAM), Revision U, dated November 30, 2023, states, in part, that "All personnel working on the nuclear products go through an annual nuclear training program and other job-related training necessary to achieve and maintain proficiency." ASCO maintains a training matrix that covers all areas of manufacturing and Quality.

The ASCO Quality Assurance Department intends to utilize as many means as possible in order to obtain trained personnel for the various job functions performed by the department. Training and qualification of Quality Assurance personnel may be obtained by, but not limited to the following means:

1. On the job training with close supervision during training.
  2. Newly hired personnel based upon previous job training, experience or education.
  3. Job rotation with on-job training with previously qualified personnel.
  4. In plant training sessions.
  5. Seminars, meetings and conferences.
- A. Quality Assurance Management is responsible to determine, by the above methods, whether individuals are trained and qualified to perform the required job duties.
  - B. All qualification training and formal education is documented for each inspector and Quality Engineer utilizing a certification form. These certifications are reviewed and approved by ASCO Quality Assurance Management. ASCO maintains a training matrix that covers all areas of manufacturing and Quality.

## Corrective Actions:

1. ASCO define hourly employees by description (i.e. Assembler I, Assembler II, etc). Employee will demonstrate ability to complete tasks in job descriptions.
2. Once all tasks in job description completed satisfactorily, a document will be signed by employee, supervisor, and manager indicating employee is competent for tasks described in job description.
3. Training will be developed for special process which includes soldering and laser welding.



4. Training records will be stored in a training database on the Emerson server.
5. ASCO's procedure QC-ER-080 will be updated to define the types of training, how training is documented and storage of these records.

**Preventative Actions:**

1. Staff members performing work affecting product quality will be determined competent based on appropriate education, training, skills and experience. Reference: Job Descriptions – HR Dept.
2. The HR Representative and the Environmental/Safety Coordinator will be responsible to ensure that all new employees (including temporary employees / contract labor) receive the appropriate "On Board Training". Topics included are Quality Management System, General Shop Rules, Security and Safety. Records of this training are maintained. These records will be stored in the training database.
3. Hourly Employees – The area Manager or Supervisor is responsible to ensure that all employees under their supervision receive the appropriate job specific training. The topics include Equipment & Job Safety, expected Duties or Tasks, Procedures, Work Instructions, Documents, Forms, and Quality Objectives. The employee will then be mentored and monitored by a lead or other experienced employee. Once the Manager or Supervisor has deemed the employee is competent to perform the specific job requirements (via observation and/or random audits) an entry will be made in the appropriate "Training Log Matrix" indicating their confidence in the competency of the employee. These entries will be revised as performance dictates.

**Nonconformance 99901054/2024-201-02**

2. *ASCO failed to assure that special processes were controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable standards, specifications, criteria, and other special requirements. Specifically, ASCO did not perform the minimum three weekly inprocess audits of the laser welding process. Furthermore, ASCO did not perform the required dimensional measurements, and axial load and leakage testing on the laser welded joints for valve SBSA 432910 to ensure they met the required engineering specifications. ASCO did not perform any verification of the manufacturer's traceability controls to verify the validity of the CoC for solder.*

**ASCO's Response**

Laser weld process is otherwise a well-controlled and a documented process. Samples are life tested in lab for every lot number. Test information is recorded on Form 1908. A daily log of date, cycles & test status. External leak checks are performed and noted in the daily log.

Laser weld audits were not completed according to ASCO's Procedure MP-AK-205. Axial testing and weld measurements of assemblies from current order were verified to be acceptable during NRC audit. No forced control of in-process laser weld audits.

**Corrective Actions:**

1. ASOC's procedure will be revised to address the appropriate frequency of laser weld audits and process to record results.
2. Products used for nuclear assemblies will be dedicated by inspection before laser welding and verify testing according to ASCO's procedure.
3. MOS 108175 revised to include section for operator to enter expiration date and document that it was verified. ECN 409413. A copy of the completed MOS 108175 will be included when submitted to quality for inspection, this document will be scanned in with the completed work order.

**Preventative Actions:**

1. Samples are life tested in lab for every lot number, production setup and receipt from new supplier.
2. ECR 135867 issued to address frequency of laser weld audits, adding nuclear dedication inspection to laser weld process and update laser weld processes.
3. A second load cell gage will be acquired and used as a back-up when the other is due for calibration, calibration due dates will be staggered to prevent overlap.

**Nonconformance 99901054/2024-201-03**

3. *ASCO failed to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits. Specifically, ASCO did not perform calibration of a load cell used to verify the strength of a laser weld. In addition, ASCO could not provide objective evidence that the weight used to test the mechanical joints on solder cup terminals was properly controlled.*

**ASCO's Response**

ASCO performs acceptance testing of laser welded assemblies according to ASCO's procedure ELP100. A minimum of 5 assemblies are hydrostatically tested to burst and 10 tubes are to be endurance tested. Welded assemblies are submitted for performance testing for the following conditions: A. New material heat number (for each part number). B. Each production set-up date. C. New supplier. Pull test weight was verified when purchased and identified as reference only, this weight is only used to verify lead wire solder joint.

**Corrective Actions:**

1. Load Cell Gage will be entered into the calibration system and calibrated at a designated interval; a second load cell will be purchased so the test will not be down waiting on the load cell to return from calibration.
2. Solder weight will be entered into calibration system and calibrated at a designated interval.



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#### Preventative Actions

1. Original load cell has been quarantined and not available for use until second load cell gage is available for use.
2. Solder weight control has been entered into calibration system with Gage ID: WEIGHT-8.6 and designated with a calibration interval appropriate for a dead weight.
3. ASCO is revising the testing procedure do change the way the axial load test is verified by doing a burst test to simulate the axial load test so a load cell will not be required.

End Attachment 1

