UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

May 3, 2021

Gregory Piefer, Ph.D.
Chief Executive Officer
SHINE Medical Technologies, LLC
101 E. Milwaukee Street, Suite 600
Janesville, WI 53545

SUBJECT: SHINE MEDICAL TECHNOLOGIES, LLC – NRC INSPECTION REPORT 05000608/2021001

Dear Dr. Piefer:

On April 2, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at SHINE Medical Technologies, LLC (SHINE) and discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

The inspection examined a sample of construction activities conducted under your construction permit and operating license application as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of these documents. The inspectors reviewed selected procedures and records and interviewed personnel.

No findings or violations of more than minor significance were identified during this inspection.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Bradley J. Davis, Chief
Construction Inspection Branch 2
Division of Construction Oversight

Docket No. 05000608
Construction Permit No. CPMIF-001

Enclosure: NRC Inspection Report (IR) 05000608/2021001
w/attachment: Supplementary Information

cc w/ encls:

Jeff Bartelme
Licensing Manager
SHINE Medical Technologies, LLC
101 E. Milwaukee Street, Suite 600
Janesville, WI 53545

Nathan Schleifer
General Counsel
SHINE Medical Technologies, LLC
101 E. Milwaukee Street, Suite 600
Janesville, WI 53545

Christopher Landers
Director, Office of Conversion
National Nuclear Security Administration, NA 23
U.S. Department of Energy
1000 Independence Ave SW
Washington, DC 20585

Mark Paulson
Supervisor
Radiation Protection Section
Wisconsin Department of Health Services
P.O. Box 2659
Madison, WI 53701-2659

Test, Research and Training Reactor Newsletter
Attention: Amber Johnson
Dept of Materials Science and Engineering
University of Maryland
4418 Stadium Drive
College Park, MD 20742-2115

Mark Freitag
City Manager
P.O. Box 5005
Janesville, WI 53547-5005

Bill McCoy
1326 Putnam Avenue
Janesville, WI 53546

Alfred Lembrich
541 Miller Avenue
Janesville, WI 53548

SUBJECT: SHINE MEDICAL TECHNOLOGIES, LLC – NRC INSPECTION REPORT 05000608/2021001 Dated May 3, 2021

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A. Ponko, RII
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OFFICE	RII:DRS/EB1	RII:DCO/CIB1	RII:DCO/CIB2		
NAME	P. Carman	A. Ponko	B. Davis		
DATE	4/27/2021	4/28/2021	4/29/2021		

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

INSPECTION REPORT

Docket Number:	05000608
Construction Permit Number:	CPMIF-001
Report Numbers:	05000608/2021001
Applicant:	SHINE Medical Technologies, LLC
Location:	Janesville, WI
Inspection Dates:	March 22, 2021 to April 2, 2021
Inspectors:	P. Carman, Senior Reactor Inspector, Division of Reactor Safety A. Ponko, Senior Construction Inspector, Division of Construction Oversight
Approved By:	Bradley J. Davis, Chief Construction Inspection Branch 2 Division of Construction Oversight

Enclosure

EXECUTIVE SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the applicant's performance by conducting a civil, welding, and quality assurance inspection at SHINE Medical Technologies, LLC (SHINE). The NRC program for overseeing the construction of non-power utilization facilities is described in Inspection Manual Chapter (IMC) 2550, Non-Power Production and Utilization Facilities (NPUFs) Licensed Under 10 CFR Part 50: Construction Inspection Program (CIP).

List of Findings and Violations

No findings or violations of more than minor significance were identified.

Additional Tracking Items

None.

REPORT DETAILS

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. The inspectors reviewed selected procedures and records and interviewed personnel to assess applicant performance and compliance with Commission rules and regulations, construction permit conditions, operating license application conditions, site procedures, and standards.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), inspectors were directed to begin teleworking. In addition, regional inspections were evaluated to determine if all or portion of the objectives and requirements stated in the IP could be performed remotely. The activities discussed in this report were performed remotely and were conducted per the applicable IP.

SAFETY-RELATED ITEMS AND SERVICES DURING CONSTRUCTION

Structural Concrete (IP 69020, Appendix B)

a. Inspection Scope

The inspectors conducted interviews and reviewed documents associated with structural concrete work to determine if:

- structural concrete work and related quality assurance (QA) activities for Seismic Category I structures were performed in accordance with the Final Safety Analysis Report (FSAR), construction specifications, drawings, and work procedures
- the applicant's system for preparing, reviewing, and maintaining records relative to structural concrete activities was functioning properly
- records reflected work accomplishment consistent with specifications and procedures
- the as-built condition of reinforced concrete structures met the specified design requirements, specifications, and drawings
- the implementation of the quality assurance program relative to work activities associated with structural concrete was effective; and deviations from requirements were appropriately resolved

b. Observations and Findings

The inspectors reviewed a sample of procurement, installation, and inspection records to determine if structural concrete activities for the main production facility structure (FSTR) were accomplished in accordance with construction specifications, procedures, drawings, American Concrete Institute (ACI) 349-13, "Code Requirements for Nuclear Safety Related Concrete Structures," and the quality assurance program description (QAPD). The inspectors evaluated the following structural concrete samples:

- Central interior wall along column line G from elevation 0'-0" to the roof
- Mezzanine floor slab at elevation 22'-0"
- Roof over the FSTR

The inspectors reviewed the inspection plans developed for the receipt inspection of reinforcing steel and mechanical splices, and concrete placement. The inspectors reviewed these documents to determine if appropriate inspection attributes were defined and translated into quality control (QC) activities which could be documented in inspection reports and fabrication documents in accordance with QA implementing procedures. Additionally, the inspectors reviewed the plans to determine if the inspection attributes met construction specification requirements and codes and standards, such as:

- Chemical composition, physical, and dimensional properties of reinforcing steel and mechanical splices, as applicable, are verified to meet project specifications and applicable American Society for Testing and Material (ASTM) standards,
- Reinforcing steel and mechanical splices are marked appropriately,
- Concrete pre-placement, placement, and post-placement inspections are performed to assure as-built construction meets technical and quality requirements,
- Hold points are established to verify quality requirements are being met,
- In-process testing is specified at appropriate intervals, and
- Records demonstrating as-built construction meets technical and quality requirements are generated and retained.

For the samples identified above, the inspectors reviewed receipt inspection reports to determine if the reinforcing steel conformed to the applicable construction specifications and design drawings. The inspectors reviewed a sample of material test reports to determine if the chemical composition and physical properties of the reinforcing steel met the applicable ASTM standard. The inspectors also reviewed the receipt inspection reports to determine if QC inspections were performed and material traceability was maintained from the supplier to receipt in accordance with QA implementing procedures.

The inspectors reviewed concrete pre-placement inspection records to verify if the inspection attributes were being verified prior to concrete placement. Specifically, the inspectors reviewed batch plant inspection records to determine if the concrete constituents and mix were being verified prior to placement and batch plant operations were performed in accordance with the construction specification. The inspectors also reviewed concrete pre-placement, reinforcing bar, and mechanical splicing inspection records to verify if the reinforcing steel and embedment's, such as anchor bolts, water stops, or embedded plates, were installed in accordance with specifications, codes, drawings, and procedures, and records were completed in accordance with applicable procedures.

The inspectors reviewed concrete placement inspection records to verify if concrete in-process testing was being performed at appropriate intervals and inspection attributes were being verified in accordance with the construction specification, the commercial grade dedication plan, and applicable codes and standards.

The inspectors reviewed post-placement inspection records and concrete compressive strength test records for the central interior wall along column line G and the mezzanine slab to verify if concrete curing was being performed in accordance with the construction specification and the installed concrete met the acceptance criteria.

The inspectors reviewed qualification records for the QC inspectors that performed receipt inspections and installation inspections for the samples listed above. The inspectors reviewed these reports to determine if the inspectors were qualified for the activities they were performing, and to determine if they meet examination and proficiency requirements in accordance with QA implementing procedures.

No findings were identified.

c. Conclusions

The inspectors conducted interviews and reviewed documents related to structural concrete to determine if construction was accomplished in accordance with the construction permit; operating license application conditions; site procedures; and other applicable quality, technical, and regulatory requirements. The inspectors reviewed pre-placement, placement, and post-placement records for the interior central wall along column line G from elevation 0'-0" to the roof, the mezzanine slab at elevation 22'-0", and the main roof over the FSTR. No findings were identified.

Structural Steel and Supports (IP 69020, Appendix C)

a. Inspection Scope

The inspectors conducted interviews and reviewed documents associated with structural steel and supports work to determine if:

- structural steel and supports work and related QA activities for Seismic Category I structures was performed in accordance with the FSAR, construction specifications, drawings, and work procedures
- the applicant's system for preparing, reviewing, and maintaining records relative to structural steel and supports activities was functioning properly
- records reflected work accomplishment consistent with specifications and procedures
- the as-built condition of structures met the specified design requirements, specifications, and drawings
- the implementation of the quality assurance program relative to work activities associated with structural steel and supports was effective; and deviations from requirements were appropriately resolved

b. Observations and Findings

The inspectors reviewed the structural calculations, drawings, and specifications prepared by Sargent & Lundy addressing the analysis, design, and construction of structural steel components of the Seismic Category I structures to verify if the documents conformed to the FSAR, American National Standards Institute/American Institute of Steel Construction (ANSI/AISC) N690-12, "Specification for Safety-Related Steel Structures," and were prepared, reviewed, and approved in accordance with the applicable design control procedures.

The inspectors reviewed the construction specifications governing structural steel procurement, fabrication, and installation to verify if the requirements specified within

were consistent with the commitments in the FSAR and adequately addressed the following areas:

- Receipt inspection and storage
- Use of specified materials and components
- Installation and erection
- Inspection, testing, non-destructive examination, and records

The inspectors reviewed a sample of procurement, fabrication, installation, and inspection records to determine if structural steel and supports activities were accomplished in accordance with construction specifications, drawings, work procedures, and applicable codes and regulations. The inspectors evaluated the following structural steel and supports samples:

- Column assembly (10M1001C1U-1) at E-4, elevation 21'-4", mezzanine floor
- Beam assembly (10M1013B1M-1) between concrete wall at E-2 and column 10M1001C1U at E-4, elevation 21'-4", mezzanine floor
- Beam assemblies (10M1011B1M-1 through 10M1011B1M-7) between beam 10M1013B1M-1 and west end of the mezzanine, elevation 21'-4", mezzanine floor
- Beam assembly (10M1015B1M-1) along column line B, elevation 21'-4", mezzanine floor
- Beam assembly (10M1018B1M-1) along column line B, elevation 21'-4", mezzanine floor
- Beam seat assemblies along column line B (10M1021P3U-1 through 10M1021P3U-4) and along the west end of the mezzanine (10M1021P1U-1 through 10M1021P1U-3), elevation 21'-4", mezzanine floor
- Roof truss assembly 3A (30R1006T1U-1)
- Roof truss assembly 3B (30R1003T1U-1)
- Roof truss assembly 8A (30R1005T1U-3)
- Roof truss assembly 8B (30R1002T1U-3)
- Roof truss beam seats (30R1042P1U-1 through 30R1042P1U-13, 30R1042P2U-1 through 30R1042P2U-13, 30R1042P3U-1 through 30R1042P3U-13)

For the samples above, the inspectors reviewed receipt inspection reports and a sample of procurement and material records to determine if the beam and plate material type and grade was in accordance with the construction specification for structural steel procurement and fabrication, design drawings, and shop drawings. The inspectors reviewed a sample of material test reports from the samples above to determine if chemical composition and mechanical properties met the applicable ASTM standard. The inspectors reviewed material test reports for the roof truss samples to determine if impact testing was performed in accordance with the construction specification for structural steel procurement and fabrication. The inspectors reviewed receipt inspection reports for the samples above to determine if QC inspections were performed and material traceability was maintained from the supplier to receipt in accordance with QA implementing procedures.

The inspectors reviewed weld travelers and weld history cards from the supplier of the samples above to determine if they were fabricated in accordance with the construction specification for structural steel procurement and fabrication, design drawings, and applicable codes. The inspectors reviewed these records to determine if the weld filler metal type and combination with the base material was in accordance with the

construction specification, design drawings, and American Welding Society (AWS) D1.1/D1.1M:2010, “Structural Welding Code – Steel.” The inspectors reviewed material test reports and certificates of compliance/conformance for the weld filler metal to determine if chemical composition, mechanical properties, impact testing, and non-destructive examination met the requirements of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPVC) Section II. The inspectors reviewed the weld travelers and weld history cards to determine if visual inspections of welds were performed in accordance with the construction specification and AWS D1.1/D1.1M:2020.

The inspectors reviewed the inspection plan developed for structural steel installation. The inspectors reviewed this document to determine if the inspection attributes were translated into QC activities which could be documented in inspection reports and fabrication documents in accordance with QA implementing procedures. Additionally, the inspectors reviewed the plan to determine if the inspection attributes met construction specification requirements and codes and standards, such as:

- Material condition and location
- Approved welding procedures, material, and welders
- Fit-up inspection
- Visual inspection of welds in accordance with AWS D1.1/D1.1M:2020 and ANSI/AISC N690-12
- Pre-installation bolt testing and equipment calibration
- Bolted connections inspected in accordance with ANSI/AISC N690-12
- Faying surface condition of slip critical connections
- Bolt pre-tensioning requirements
- Post erection tolerances

The inspectors reviewed fabrication records and inspection reports from work packages WP-FSTR-PF-STEEL-MEZZ-001 and WP-FSTR-PF-STEEL-ROOF-001 to determine if on-site installation and erection activities were conducted in accordance with applicable QA implementing procedures, the construction specification for structural steel installation, design and shop drawings, and applicable codes and standards. The inspectors reviewed work activity signature pages, pre- and post-erection inspection reports, inventory issue/return reports, and special inventory issue/return reports to determine if the samples above and associated field connections were installed and erected in accordance with the construction specification for structural steel installation and design drawings. The inspectors reviewed these documents to determine if hold points were established to allow for inspection of activities and to maintain traceability of material from receipt to installation in accordance with QA implementing procedures and the construction specification for structural steel installation.

The inspectors reviewed bolting data cards and bolting daily verification travelers to determine if QC inspections were performed on the bolts used in the field connections to verify proper bolt usage, pre-installation testing, installation surface conditions, connection, and location in accordance with design drawings, the construction specification, and ANSI/AISC N690-12. The inspectors reviewed a sample of receipt inspection reports and material records for the bolts used in the field connections of the assemblies above to determine if the size, type, and grade of the bolts were selected in accordance with the construction specification, design drawings, and shop drawings,

and to determine if pretension testing was performed in accordance with the construction specification for structural steel installation.

The inspectors reviewed qualification records for the QC inspectors that performed receipt inspections and installation inspections for the samples listed above. The inspectors reviewed these reports to determine if the inspectors were qualified for the activities they were performing, and to determine if they meet examination and proficiency requirements in accordance with QA implementing procedures.

The inspectors reviewed a sample of nonconformance reports (NCRs) associated with the structural steel samples identified previously to determine if nonconforming items were controlled in accordance with QA implementing procedures. This sample included three purchaser document review forms containing NCRs from the supplier of the structural steel samples related to material nonconformances, one Baker Concrete Construction (Baker) NCR (21-0012) related to Charpy V-Notch testing of material used in the fabrication of the roof trusses, and one Baker NCR (21-0001) related to the roof truss beam seats. The inspectors reviewed these NCRs to determine if the disposition was approved by the designated Baker and SHINE personnel and required documentation was generated in accordance with QA implementing procedures. The inspectors reviewed the technical justifications in NCRs 21-0001 and 21-0012 to determine if they addressed why the condition was acceptable relative to the item's design basis in accordance with QA implementing procedures.

No findings were identified.

c. Conclusions

The inspectors conducted interviews and reviewed documents related to structural steel and supports to determine if construction was accomplished in accordance with the construction permit; operating license application conditions; site procedures; and other applicable quality, technical, and regulatory requirements. The inspectors reviewed fabrication records for structural steel and supports at elevation 21'-4" of the mezzanine floor (work package WP-FSTR-PF-STEEL-MEZZ-001) and for the roof trusses (work package WP-FSTR-PF-STEEL-ROOF-001). No findings were identified.

Structural Welding (IP 69020, Appendix K)

a. Inspection Scope

The inspectors conducted interviews and reviewed documents associated with structural welding work to determine if:

- structural welding activities were performed in accordance with the FSAR, construction specifications, drawings, and work procedures
- structural welding practices, specifications, and procedures meet the requirements of codes committed to in the licensing basis and contract requirements
- records were prepared, evaluated, and maintained in accordance with applicable licensing basis commitments and QA program requirements
- welding practices, specifications, procedures, production equipment, and existing QC systems were adequate for the production of sound welds

b. Observations and Findings

The inspectors reviewed a sample of QA implementing procedures related to welding and inspections to determine if they contained requirements of codes committed to in the FSAR and required in the construction specification for structural steel installation. The inspectors reviewed these procedures to verify they established requirements for:

- Development and qualification of AWS welding procedure specifications (WPSs)
- Qualification and management of qualification of welders and welding operators
- Control of weld filler metal
- Documentation of welding activities
- Workmanship and standard practices for compliance with AWS D1.1/D1.1M:2020
- Welding inspection and testing in accordance with AWS D1.1/D1.1M:2020 and ANSI/AISC N690-12

The inspectors reviewed procurement, fabrication, installation, and inspection records for the following field welds associated with work packages WP-FSTR-PF-STEEL-MEZZ-001 and WP-FSTR-PF-STEEL-ROOF-001:

- C-CW1, C-CW2: fillet welds associated with the beam assemblies in the southeast corner of the mezzanine floor at elevation 21'-4"
- D-DW1: fillet weld associated with the beam assembly to embed plates at E-2 of the mezzanine floor at elevation 21'-4"
- D1W1, D1W2, D1W3, D1W4: fillet welds associated with the beam seat assemblies to embed plates along the east side of the mezzanine floor at elevation 21'-4"
- D3W1, D3W2, D3W3: fillet welds associated with the beam seat assemblies to embed plates along the west side of the mezzanine floor at elevation 21'-4"
- GL-A-3, GL-A-8: fillet welds associated with roof trusses 3A and 8A beam seats along A-line
- GL-G-3, GL-G-8: fillet welds associated with roof trusses 3A, 3B, 8A, and 8B beam seats along G-line
- GL-K-3, GL-K-8: fillet welds associated with roof trusses 3B and 8B beam seats along K-line
- 3A-BR-NE, 3A-BR-NW, 3A-BR-SE, 3A-BR-SW: fillet welds associated with roof truss 3A bridging to gusset plate
- 3B-BR-NE, 3B-BR-NW, 3B-BR-SE, 3B-BR-SW: fillet welds associated with roof truss 3B bridging to gusset plate
- 8A-BR-NE, 8A-BR-NW, 8A-BR-SE, 8A-BR-SW: fillet welds associated with roof truss 8A bridging to gusset plate
- 8B-BR-NE, 8B-BR-NW, 8B-BR-SE, 8B-BR-SW: fillet welds associated with roof truss 8B bridging to gusset plate

For the samples above, the inspectors reviewed receipt inspection reports and a sample of procurement and material records to determine if base material and weld filler metal type and grade was in accordance with the construction specification for structural steel installation and AWS D1.1/D1.1M:2010. The inspectors reviewed material test reports and certificates of compliance/conformance for the base material and weld filler metal to determine if chemical composition, mechanical properties, impact testing, and non-destructive examination met the requirements of the applicable ASTM standard for base

material and ASME BPVC Section II for weld filler metal. The inspectors reviewed portions of the weld filler material log and a sample of requisitions for welding filler material to determine if traceability of weld filler metals was maintained from receipt, issuance, and fabrication in accordance with QA implementing procedures.

The inspectors reviewed the two WPSs used in the samples above to determine if they were developed in accordance with QA implementing procedures and met the requirements of AWS D1.1/D1.1M:2010 for prequalified WPSs.

The inspectors reviewed qualification records for the welders who performed the welds identified above. The inspectors reviewed these records to determine if welders were qualified for the welding process they performed, and to determine if they meet examination and proficiency requirements in accordance with QA implementing procedures and AWS D1.1/D1.1M:2010.

The inspectors reviewed weld tracking forms, weld maps, and welding daily verification travelers to determine if welding for the samples above was performed in accordance with the WPS, design drawings, the construction specification for structural steel installation, and AWS D1.1/D1.1M:2010. Specifically, the inspectors reviewed:

- Weld process and joint type
- Base material size and location
- Weld filler metal type and size
- Weld size and type
- Welder identification
- Hold points and verifications for fit-up, tack weld, preheat temperature, interpass temperature, and final visual inspection of all welds

The inspectors reviewed the inspection plan developed for structural steel installation to determine if it required 100% visual examination of all welds in accordance with the construction specification for structural steel installation and AWS D1.1/D1.1M:2010. The inspectors reviewed the plan to determine if the visual inspection acceptance criteria of AWS D1.1/D1.1M:2010 and ANSI/AISC N690-12 was required to be met. The inspectors reviewed weld tracking forms to verify visual examinations were performed for all welds. The inspectors reviewed qualification records for the QC inspectors that performed the visual inspections to determine if they were qualified in accordance with QA implementing procedures and AWS D1.1/D1.1M:2010.

No findings were identified.

c. Conclusions

The inspectors conducted interviews and reviewed documents related to structural welding to determine if construction was accomplished in accordance with the construction permit; operating license application conditions; site procedures; and other applicable quality, technical, and regulatory requirements. The inspectors reviewed records for welds at elevation 21'-4" of the mezzanine floor (work package WP-FSTR-PF-STEEL-MEZZ-001) and for the roof trusses (work package WP-FSTR-PF-STEEL-ROOF-001). No findings were identified.

QUALITY ASSURANCE PROGRAM

Quality Assurance Program Implementation (IP 69021, Appendices C, D, E, G, I, J and O)

a. Inspection Scope

The inspectors conducted interviews and reviewed quality assurance (QA) documents to determine if the applicant has effectively implemented its QA program during construction activities in accordance with applicable sections of the SHINE quality assurance program description (QAPD), the Baker QAPD, implementing procedures, and American National Standards Institute/American Nuclear Society (ANSI/ANS)-15.8-1995. Where the applicant has delegated portions of the QA program implementation to other organizations working on behalf of the applicant, the inspectors conducted interviews and reviewed applicable documents for those organizations.

b. Observations and Findings

Design Control (Appendix C)

The inspectors reviewed records associated with the owner's acceptance review of technical documents produced by others and the resolution of any comments generated during those reviews to verify if the requirements of SHINE QA procedure 1200-01-03, "Owner's Acceptance Review," Revision 3 were being adequately implemented. Specifically, the inspectors reviewed forms and comments associated with the acceptance of structural calculations, specifications, and drawings prepared by Sargent & Lundy; reinforcing bar shop drawings prepared by Commercial Metals Company (CMC) Rebar, and structural steel shop drawings prepared by Paxton & Vierling Steel Co. (PVS) Structures. The inspectors reviewed these to verify if the design control measures for the acceptance of technical documents prepared by others were being adequately implemented and the results documented.

The inspectors reviewed 21 field change requests (FCRs) associated with design changes to the structural concrete and steel samples in the sections above (Structural Concrete (IP 69020, Appendix B) and Structural Steel and Supports (IP 69020, Appendix C)). The inspectors reviewed the FCRs to determine if the requirements of SHINE procedures 1200-09-04, "Design Control Program," Revision 0 and 1200-01-06, "Engineering Change Control," Revision 2 were adequately implemented. The inspectors reviewed the FCRs to determine if they received the proper level of engineering review and approval in accordance with 2100-01-06. The inspectors reviewed the list of impacted documents identified in the FCRs to determine if all affected calculations, drawings, and analyses were identified. The inspectors reviewed the affected documents to determine if they were updated or in the process of being updated to reflect the design changes in accordance with 1200-01-06 and 2100-01-06.

No findings of significance were identified.

Procurement Document Control (Appendix D)

The inspectors reviewed the purchase order for structural and miscellaneous steel used for the fabrication of the structural steel and supports samples in the section above (Structural Steel and Supports (IP 69020, Appendix C)) to determine if it was prepared

and processed in accordance with Baker procedure NQAP SHINE-4.01, “Controlling Procurement Documents,” Revision 5.

No findings of significance were identified.

Procedures, Instructions, and Drawings (Appendix E)

The inspectors reviewed a sample of procedures, design drawings, and specifications to determine if the content was in accordance with SHINE procedure 1200-01-08, “Drawings,” Revision 3 and Baker procedure NQAP SHINE-5.01, “Controlling Instructions and Procedures,” Revision 1. The inspectors reviewed records developed from the implementation of procedures to determine if procedures were being used during construction activities. Refer to the sections above (Structural Steel and Supports (IP 69020, Appendix C) and Structural Welding (IP 69020, Appendix K)) for specific procedures, design drawings, and specifications reviewed.

No findings of significance were identified.

Control of Purchased Items and Services (Appendix G)

The inspectors reviewed records associated with the evaluation of PVS, who supplied the structural steel and supports reviewed during the inspection. The inspectors reviewed an annual evaluation and the approved suppliers list to determine if the supplier was selected and measures were established to control the supplier’s performance in accordance with Baker procedures NQAP SHINE-7.01, “Controlling Purchases of Items and Services,” Revision 3 and NQAP SHINE-18.01, “Performing Assessments,” Revision 2

No findings of significance were identified.

Control of Special Processes (Appendix I)

The inspectors reviewed records to determine if the following Baker procedures were implemented during welding activities:

- NQAP SHINE-2.02, “Co-worker Qualification and Certification,” Revision 1
- NQAP SHINE-9.01, “Controlling Special Processes,” Revision 1
- CI-SHINE-9.01-1, “Welding Procedure Development and Qualification,” Revision 1
- CI-SHINE-9.01-2, “Welder and Welding Operator Performance Qualification,” Revision 2
- CI-SHINE-9.01-3, “Welding Electrode Control,” Revision 2
- CI-SHINE-9.01-4, “Welding Documentation Requirements,” Revision 1
- CI-SHINE-9.01.5, “AWS Welding Performance and Workmanship Standard,” Revision 1

Specific inspection activities are discussed in the section above (Structural Welding (IP 69020, Appendix K)).

No findings of significance were identified.

Inspection (Appendix J)

The inspectors reviewed receipt inspection reports, pre- and post-erection inspection reports, and weld tracking forms documenting visual examination associated with the structural concrete and steel samples previously discussed to determine if inspections were conducted in accordance with Baker procedure NQAP SHINE-10.01, "Performing Inspections," Revision 1. The inspectors reviewed qualification records for the quality control (QC) inspectors performing the inspections to determine if they were qualified in accordance with Baker procedure NQAP SHINE-2.02, "Co-worker Qualification and Certification," Revision 1. Refer to the sections above (Structural Concrete (IP 69020, Appendix B), Structural Steel and Supports (IP 69020, Appendix C), and Structural Welding (IP 69020, Appendix K)) for specific samples and inspection activities.

No findings of significance were identified.

Control of Nonconforming Items and Services (Appendix O)

The inspectors reviewed a sample of nonconformance reports (NCRs) associated with the structural concrete and steel samples in the sections above (Structural Concrete (IP 69020, Appendix B), Structural Steel and Supports (IP 69020, Appendix C), and Structural Welding (IP 69020, Appendix K)) to determine if nonconforming items were controlled in accordance with SHINE procedure 2000-01-14, "Control of Nonconforming Items," Revision 2 and Baker procedure NQAP SHINE-15.01, "Controlling Nonconforming Items," Revision 3. This sample included three purchaser document review forms containing NCRs from PVS related to material nonconformances, one Baker NCR (21-0012) related to Charpy V-Notch testing of material used in the fabrication of the roof trusses, and one Baker NCR (21-0001) related to roof truss beam seats. The inspectors reviewed these NCRs to determine if the disposition was approved by the designated Baker and SHINE personnel and required documentation was generated in accordance with 2000-01-14 and NQAP SHINE-15.01. The inspectors reviewed the technical justifications in NCRs 21-0001 and 21-0012 to determine if they addressed why the condition is acceptable relative to the item's design basis in accordance with 2000-01-14 and NQAP SHINE-15.01.

No findings of significance were identified.

c. Conclusions

The inspectors conducted interviews and reviewed QA documents to determine if the applicant has effectively implemented its QA program during construction activities. The inspectors conducted these activities for portions of QA implementation associated with the following QA requirements as described in the SHINE QAPD and ANSI/ANS-15.8: design control; procurement document control; procedures, instructions, and drawings; control of purchased items and services; control of special processes; inspection; and control of nonconforming items and services. No findings of significance were identified.

EXIT MEETING SUMMARY

On April 2, 2021, the inspectors presented the inspection results to Dr. Gregory Piefer and other members of the applicant's staff. The inspectors verified no proprietary information was retained or documented in this report.

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

J. Arellano, Baker, Project QA/QC Manager
J. Bartelme, SHINE, Director of Licensing
J. Costedio, SHINE, VP of Regulatory Affairs & Quality
A. Cowne, SHINE, Director of Engineering Construction
J. Getchius, SHINE, Licensing Engineer
J. Hausfeld, Baker, Director of Quality
T. Huerter, SHINE, Nuclear Quality Manager

LIST OF DOCUMENTS REVIEWED

IP 69020

Corrective Action Documents
IMR 2020000026, Error Identified in CALC-2016-2001 Revision 2, completed 08/11/2020
IMR 2020000028, Error identified in CALC-2019-0011 Revision 0, completed 09/17/2020
IMR 2020000031, Baker Concrete Construction - Adverse Trending, completed 09/04/2020
IMR 2020000091, Rebar Cut at CDB South Wall Prior to NCR Disposition, completed 04/03/2020
IMR 2020000117, G-line wall pour - Lycon Concrete Truck – Broken Drum Counter, completed 04/13/2020
IMR 2020000179, Size #10 Reinforcing steel Form-Savers displaced or missing, completed 06/05/2020
IMR 2020000200, Welding repairs performed without Welder qualifications being submitted or approved, completed 06/18/2020
IMR 2020000250, Cross-tie Shear Reinforcement Spacing Exceeds Code Requirements, completed 09/09/2020
IMR 2020000317, (14) Mezzanine Embed Plates missing studs (NCR-20-0049), completed 08/24/2020
IMR 2020000343, Studs failed minimum elongation (PVS Non-Conformance Report NC #51991), completed 09/14/2020
IMR 2020000526, Area of poor consolidation G-line wall RPF face at 0'-0" elevation requiring structural repair, open – not yet completed
IMR 2021000009, (18) Roof Truss Steel Top-of-Wall Embeds out of Level, 3/4/2021
IMR 2021000010, G-line top of wall overpoured past approved construction joint elevation, completed 03/12/2021
IMR 2021000024, Roof Truss Supplier Non-Conformance Reports (NCR's) dispositioned without notification or approval of Design Authority (Baker NCR-21-0012), completed 02/26/2021
IMR 2021000061, Failed C33 Aggregate gradations for Mezzanine Placement, completed 02/08/2021
IMR 2021000066, WPS not submitted for approval prior to welds performed on Roof Truss Beam Seats (Baker NCR-21-0020), completed 03/12/2021
IMR 2021000079, FCR Not Generated for Mezzanine Slab On Metal Deck Pour, completed 03/25/2021

Corrective Action Documents Resulting from Inspection
2021000155, NRC Civil Inspection Typographical Error in Shop Drawing, 3/24/2021

2021000160, Recommended Improvement Baker IP SPEC 1013, 3/24/2021
2021000167, Mezzanine slotted holes for 1” diameter bolts not listed as slip critical on design drawings, 3/26/2021
2021000169. Calculation CALC-2017-1000 Rev. 8 Tributary Width Error, 3/26/2021
2021000171, Typographical error identified during NRC Civil Inspection, 3/29/2021
2021000173, WPS enhancements identified during NRC Civil Inspection, 3/30/2021
2021000179, Typographical errors in qualification record, 3/31/2021

Design Drawings
DWG-FSTR-1500, CONCRETE GENERAL NOTES SHEET 1, REVISION 2
DWG-FSTR-1501, CONCRETE GENERAL NOTES SHEET 2, REVISION 4
DWG-FSTR-1505, DRAWING KEY PLAN, REVISION 6
DWG-FSTR-1506, I.U. CELL AREA NORTH PLAN ELEVATION 0’-0”, REVISION 3
DWG-FSTR-1507, I.U. CELL AREA SOUTH PLAN ELEVATION 0’-0”, REVISION 4
DWG-FSTR-1508, PRODUCTION AREA NORTH PLAN ELEVATION 0’-0”, REVISION 4
DWG-FSTR-1509, PRODUCTION AREA SOUTH PLAN ELEVATION 0’-0”, REVISION 8
DWG-FSTR-1514, PRODUCTION AREA NORTH PLAN ELEVATION -12’-0” AND -16’-0”, REVISION 4
DWG-FSTR-1515, PRODUCTION AREA SOUTH PLAN ELEVATION -12’-0”, -16’-0” AND -23’-0”, REVISION 4
DWG-FSTR-1516, I.U. CELL AREA NORTH PLAN ELEVATION 18’-7”, REVISION 4
DWG-FSTR-1517, I.U. CELL AREA SOUTH PLAN ELEVATION 18’-7”, REVISION 5
DWG-FSTR-1518, BUILDING SECTIONS SECTIONS 1 AND 2, REVISION 6
DWG-FSTR-1519, BUILDING SECTIONS SECTIONS 3 AND 4, REVISION 8
DWG-FSTR-1520, BUILDING SECTIONS SECTIONS 5 AND 6, REVISION 5
DWG-FSTR-1521, BUILDING SECTIONS SECTIONS 7 AND 8, REVISION 7
DWG-FSTR-1523, BUILDING SECTIONS SECTION 10, REVISION 9
DWG-FSTR-1526, FOUNDATION SECTIONS SECTIONS 15 AND 16, REVISION 5
DWG-FSTR-1527, FOUNDATION SECTIONS AND DETAILS, (SHEET 1 0F 2), REVISION 7
DWG-FSTR-1527, FOUNDATION SECTIONS AND DETAILS, (SHEET 2 0F 2), REVISION 7
DWG-FSTR-1528, FOUNDATION SECTIONS AND DETAILS, REVISION 3
DWG-FSTR-1600, STEEL GENERAL NOTES, Rev. 5
DWG-FSTR-1601, MEZZANINE FLOOR FRAMING PLAN, SECTIONS AND DETAILS, Rev. 2
DWG-FSTR-1602, MEZZANINE FLOOR FRAMING MISCELLANEOUS DETAILS SHEET 1, Rev. 1
DWG-FSTR-1603, MEZZANINE FLOOR FRAMING MISCELLANEOUS DETAILS SHEET 2, Rev. 1
DWG-FSTR-1609, SAFETY RELATED ROOF FRAMING PLAN, Rev. 2
DWG-FSTR-1610, ROOF TRUSS ELEVATIONS AND DETAILS, Rev. 2
DWG-FSTR-1611, ROOF TRUSS SECTIONS AND DETAILS, Rev. 2

Fabrication Records
5.01-5, Work Activity Signature Pages, Work Package No.: WP-FSTR-PF-STEEL-MEZZ-001, 3/2/2021
5.01-5, Work Activity Signature Pages, Work Package No.: WP-FSTR-PF-STEEL-ROOF-001, 3/19/2021
10.01-15-005, Bolting Data Card, Work Package No.: WP-FSTR-PF-STEEL-MEZZ-001, 2/2/2021
10.01-15-006, Bolting Data Card, Work Package No.: WP-FSTR-PF-STEEL-MEZZ-001, 2/2/2021

10.01-15-007, Bolting Data Card, G Line to K Line (1B to 5B), Work Package No.: WP-FSTR-PF-STEEL-ROOF-001, 2/25/2021
10.01-15-008, Bolting Data Card, A Line to G Line (1A to 5A), Work Package No.: WP-FSTR-PF-STEEL-ROOF-001, 2/25/2021
10.01-15-009, Bolting Data Card, Area 2 Deck (A Line to K Line), Work Package No.: WP-FSTR-PF-STEEL-ROOF-001, 3/2/2021
Bolting Daily Verification Traveler, Att 11, Work Package No.: WP-FSTR-PF-STEEL-MEZZ-001, 1/6/2021 – 2/2/2021
Bolting Daily Verification Traveler, Att 11, Work Package No.: WP-FSTR-PF-STEEL-ROOF-001, 2/15/2021 – 3/2/2021
Truss Installation Sequence, Rev. 10

Field Change Requests

FCR-FSTR-0211, Charpy V-Notch Test Temperature for Safety-Related Steel, 10/21/2020
FCR-FSTR-0257, Mezzanine and Roof Truss Steel Modifications, 1/20/2021

Inspection Plans

Baker IP-FSTR-1006, INSPECTION PLAN CONCRETE MIXING, BATCHING, AND CONSTITUENT'S INSPECTION AND TESTING (BATCH PLANT): SPECIFICATIONS SPEC-FSTR-1006, Rev. 4
Baker IP-FSTR-1007, INSPECTION PLAN CONCRETE PLACEMENT SPECIFICATION SPEC-FSTR-1007, Revision 2
Baker IP SPEC-FSTR-1013, INSPECTION PLAN SAFETY RELATED STRUCTURAL STEEL INSTALLATION, Revision 1

Inspection Reports

10.01-1-014, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 12/4/2019
10.01-1-021, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 1/23/2020
10.01-1-027, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 3/20/2020
10.01-1-028, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 4/6/2020
10.01-1-030, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 4/8/2020
10.01-1-058, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 6/30/2020
10.01-1-060, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 7/6/2020
10.01-1-062, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 8/1/2020
10.01-1-064, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 8/1/2020
10.01-1-068, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 8/12/2020
10.01-1-069, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 8/13/2020
10.01-1-076, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 8/31/2020
10.01-1-077, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 9/2/2020
10.01-1-078, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 9/3/2020
10.01-1-098, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 10/12/2020
10.01-1-100, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 10/19/2020
10.01-1-101, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 10/21/2020
10.01-1-102, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 10/22/2020
10.01-1-103, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 10/26/2020
10.01-1-106, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/11/2020
10.01-1-107, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/11/2020
10.01-1-108, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/11/2020
10.01-1-109, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/12/2020
10.01-1-112, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/19/2020
10.01-1-113, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/19/2020

10.01-1-114, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/20/2020
10.01-1-115, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/23/2020
10.01-1-116, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 11/23/2020
10.01-1-120, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 1/13/2021
10.01-1-122, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 1/13/2021
10.01-1-123, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 1/13/2021
10.01-1-125, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 2/2/2021
10.01-1-126, Receipt Inspection of Reinforcing Steel and Mechanical Splices, 1/13/2021
10.01-2-063, Concrete Batch Plant Inspection, J2 Wall, 9/4/2020
10.01-2-065, Concrete Batch Plant Inspection, H1 Wall, 9/25/2020
10.01-2-070, Concrete Batch Plant Inspection, J1 Wall, 9/25/2020
10.01-2-094, Concrete Batch Plant Inspection, H3 Wall, 11/9/2020
10.01-2-095, Concrete Batch Plant Inspection, H4 Wall, 11/9/2020
10.01-2-106, Concrete Batch Plant Inspection, E8 Wall, 12/15/2020
10.01-2-109, Concrete Batch Plant Inspection, J7 Wall, 12/14/2020
10.01-2-153, Concrete Batch Plant Inspection, Mezzanine Slab, 2/4/2021
10.01-2-156, Concrete Batch Plant Inspection, Area 1-5A Roof Slab, 3/4/2021
10.01-2-158, Concrete Batch Plant Inspection, Area 1-B & 1-5C Roof Slab, 3/4/2021
10.01-2-161, Concrete Batch Plant Inspection, Roof Placement 2-5A/3-5A, 3/4/2021
10.01-2-162, Concrete Batch Plant Inspection, Roof Area 1B (12” Topping Slab), 3/6/2021
10.01-2-163, Concrete Batch Plant Inspection, Roof Area 2-5B/3-5B, 3/6/2021
10.01-2-164, Concrete Batch Plant Inspection, Roof Area 2B & 3B, 3/12/2021
10.01-3a-063, Concrete Pre-Placement Inspection, J2 Wall, 8/12/2020
10.01-3a-065, Concrete Pre-Placement Inspection, H1 Wall, 9/23/2020
10.01-3a-070, Concrete Pre-Placement Inspection, J1 Wall, 9/23/2020
10.01-3a-094, Concrete Pre-Placement Inspection, H3 Wall, 11/4/2020
10.01-3a-095, Concrete Pre-Placement Inspection, H4 Wall, 10/21/2020
10.01-3a-106, Concrete Pre-Placement Inspection, E8 Wall, 12/10/2020
10.01-3a-109, Concrete Pre-Placement Inspection, J7 Wall, 11/30/2020
10.01-3a-153, Concrete Pre-Placement Inspection, Mezzanine Slab, 2/3/2021
10.01-3a-156, Concrete Pre-Placement Inspection, Area 1-5A Roof Slab, 2/26/2021
10.01-3a-158, Concrete Pre-Placement Inspection, Area 1-5B & 1-5C Roof Slab, 2/27/2021
10.01-3a-161, Concrete Pre-Placement Inspection, Roof Placement 2-5A/3-5A, 3/3/2021
10.01-3a-162, Concrete Pre-Placement Inspection, Roof Area 1B (12” Topping Slab), 3/10/2021
10.01-3a-163, Concrete Pre-Placement Inspection, Roof Area 2-5B/3-5B, 3/5/2021
10.01-3a-164, Concrete Pre-Placement Inspection, Roof Area 2B & 3B (12” Topping Slab), 3/14/2021
10.01-3b-063, Concrete Placing Inspection, J2 Wall, 8/12/2020
10.01-3b-065, Concrete Placing Inspection, H1 Wall, 9/23/2020
10.01-3b-070, Concrete Placing Inspection, J1 Wall, 9/23/2020
10.01-3b-094, Concrete Placing Inspection, H3 Wall, 11/4/2020
10.01-3b-095, Concrete Placing Inspection, H4 Wall, 11/4/2020
10.01-3b-106, Concrete Placing Inspection, E8 Wall, 12/15/2020
10.01-3b-109, Concrete Placing Inspection, J7 Wall, 12/1/2020
10.01-3b-153, Concrete Placing Inspection, Mezzanine Slab, 2/5/2021
10.01-3b-156, Concrete Placing Inspection, Area 1-5A Roof Slab, 2/26/2021
10.01-3b-158, Concrete Placing Inspection, Area 1-5B & 1-5C Roof Slab, 2/27/2021
10.01-3b-161, Concrete Placing Inspection, Roof Placement 2-5A/3-5A, 3/10/2021
10.01-3b-162, Concrete Placing Inspection, Roof Area 1B (12” Topping Slab), 3/6/2021
10.01-3b-163, Concrete Placing Inspection, Roof Area 2-5B/3-5B, 3/6/2021
10.01-3b-164, Concrete Placing Inspection, Roof Area 2B & 3B (12” Topping Slab), 3/12/2021

10.01-3c-63, Concrete Post Placement Inspection, J2 Wall, 3/14/2021
10.01-3c-94, Concrete Post Placement Inspection, H3 Wall, 3/15/2021
10.01-3c-95, Concrete Post Placement Inspection, H4 Wall, 3/15/2021
10.01-3c-106, Concrete Post Placement Inspection, E8 Wall, 3/16/2021
10.01-3c-109, Concrete Post Placement Inspection, J7 Wall, 3/16/2021
10.01-3c-153, Concrete Post Placement Inspection, Mezzanine Slab, 3/14/2021
10.01-4-050, Structural Steel Receipt, BOL 35, Receipt Inspection Report for 10M1021P1U-1 PLATE PL 1x14 through 10M1021P1U-3 PLATE PL 1x14, 11/30/2020
10.01-4-050, Structural Steel Receipt, BOL 35, Receipt Inspection Report for 10M1021P3U-1 PLATE PL 1x14 through 10M1021P3U-4 PLATE PL 1x14, 11/30/2020
10.01-4-051, Structural Steel Receipt, Receipt Inspection Report for E7018H4R, 1/8” ESAB Weld Rod Electrodes, HEAT # 76045P/LOT # 2D713B01, 11/19/2020
10.01-4-055, Structural Steel Receipt, BOL 36, Receipt Inspection Report for 10M1001C1U-1 COLUMN W 14x90, 12/10/2020
10.01-4-055, Structural Steel Receipt, BOL 36, Receipt Inspection Report for 10M1015B1M-1 BEAM W 30x116, 12/10/2020
10.01-4-055, Structural Steel Receipt, BOL 36, Receipt Inspection Report for 10M1013B1M-1 BEAM W 30x116, 12/10/2020
10.01-4-055, Structural Steel Receipt, BOL 36, Receipt Inspection Report for 10M1018B1M-1 BEAM W 30x116, 12/10/2020
10.01-4-052, Structural Steel Receipt, BOL 34, Receipt Inspection Report for 10M1011B1M-1 BEAM W 21x73 through 10M1011B1M-7 BEAM W 21x73, 12/9/2020
10.01-4-057, Structural Steel Receipt, BOL 44, 12/16/2020
10.01-4-059, Structural Steel Receipt, BOL 46 30R FB, 3/1/2021
10.01-4-061, Structural Steel Receipt, BOL 47, 1/4/2021
10.01-4-067, Structural Steel Receipt, BOL 41, Receipt Inspection Report for 30R1042P1U-1 PLATE ASSEMBLY PL 1x12 through 30R1042P1U-13 PLATE ASSEMBLY PL 1x12, 1/6/2021
10.01-4-067, Structural Steel Receipt, BOL 41, Receipt Inspection Report for 30R1042P2U-1 PLATE ASSEMBLY PL 1x12 through 30R1042P2U-13 PLATE ASSEMBLY PL 1x12, 1/6/2021
10.01-4-067, Structural Steel Receipt, BOL 41, Receipt Inspection Report for 30R1042P3U-1 PLATE ASSEMBLY PL 1x12 through 30R1042P3U-13 PLATE ASSEMBLY PL 1x12, 1/6/2021
10.01-4-069, Structural Steel Receipt, Receipt Inspection Report for SPOOLS, 1/16”, 25 SPOOLS, ESAB, E71T-8, HEAT: 10413298, 12/18/2020
10.01-4-070, Structural Steel Receipt, Receipt Inspection Report for ELECTRODES, 1/8”, 50LB HSC, ESAB, E7018H4R, 1/11/2021
10.01-4-079, Structural Steel Receipt, BOL 57, 1/7/2021
10.01-4-084, Structural Steel Receipt, BOL 49, Receipt Inspection Report for 30R1003T1U-1 TRUSS WT 20x147, 1/20/2021
10.01-4-092, Structural Steel Receipt, BOL 60, Receipt Inspection Report for 30R1006T1U-1 TRUSS WT 20x147, 2/18/2021
10.01-4-094, Structural Steel Receipt, BOL 63, Receipt Inspection Report for 30R1002T1U-3 TRUSS WT 20x147, 2/15/2021
10.01-4-095, Structural Steel Receipt, BOL 62, Receipt Inspection Report for 30R1005T1U-3 TRUSS WT 20x147, 2/18/2021
10.01-14-003, Safety Related Structural Steel Installation Inspection Report, Work Package No.: WP-FSTR-PF-STEEL-MEZZ-001, 3/5/2021
10.01-14-005, Safety Related Structural Steel Installation Inspection Report, Work Package No.: WP-FSTR-PF-STEEL-MEZZ-001, 3/5/2021

10.01-14-008, Safety Related Structural Steel Installation Inspection Report, Area 1 Deck (A-Line to K-Line), Work Package No.: WP-FSTR-PF-STEEL-ROOF-001, 3/5/2021
10.01-14-009, Safety Related Structural Steel Installation Inspection Report, Area 2 Deck (A-Line to K-Line), Work Package No.: WP-FSTR-PF-STEEL-ROOF-001, 3/8/2021
58191092.0378, Concrete Compressive Strength Test Report, Wall (WP-FSTR-PF-CON-TOGS-IU-001-001), 8/7/20
58191092.0468, Concrete Compressive Strength Test Report, G/1-2 wall lift 1 WP-FSTR-PF-CON-TOGS-IU-001-002/-003, 09/23/20
58191092.0516F, Concrete Compressive Strength Test Report, H4 wall (WP-FSTR-PF-CON-WALLS-001-016), 10/21/20
58191092.0532A, Concrete Compressive Strength Test Report, H3 Wall WP-FSTR-PF-CON-WALLS-001-015, 10/30/20
58191092.0590E, Concrete Compressive Strength Test Report, South End of J7 Wall, WP-FSTR-PF-CON-WALLS-001-027, 12/01/20
58191092.0621A, Concrete Compressive Strength Test Report, G/1 at Elevation 32"-5", WP-FSTR-PF-CON-WALLS-001-024, 12/14/20
58191092.0716B, Concrete Compressive Strength Test Report, WP-FSTR-PF-CON-SOMD-001-001, 2/3/21
Att 8, Form Saver Torque Log, WP-FSTR-PF-CON-FRMSVR-001
Att 19, Form Saver Torque Log, WP-FSTR-PF-CON-TOGS-IU-001
Att 19, Form Saver Torque Log, WP-FSTR-PF-CON-WALLS-001
Att 19, Form Saver Torque Log, WP-FSTR-PF-CON-SOMD-001

Material Records

45792220, Certified Material Test Report for E70C-6M-H4, Lot # 1447K, 2/24/2020
8079597, Certified Material Test Report from Algoma Steel Inc, Heat # 2925G4, 9/25/2019
CA08-098-11, Certified Material Test Report for CA 1/2 X 6-1/8 Headed Weld Stud B/W, Heat # 20689260, Lot # 391620177, 8/31/2020
Certificate of Compliance/Conformance, PO # 12238-906-01, E7018H4R, Heat # 76045P, Lot # 2D713B01, 10/23/2020
Certificate of Compliance/Conformance, PO # 12238-906-02, E7018H4R, Heat # 86080C, Lot # 4S905B02, 12/8/2020
Certificate of Compliance/Conformance, PO # 12238-908-01, E71T-8, Lot # 10413298, 12/15/2020
Certified Material Test Report, Order # 907428 C03, E7018H4R, Lot # 2D713B01, 3/30/2020
Certified Material Test Report, Order # 908085, E7018H4R, Lot # 4S905B02, 10/7/2019
Certified Material Test Report, Order # 969603, E71T-8, Lot # 10413298, 12/15/2020
L08046DS-0, Certified Test Report for PL1-1/2” A572 GR 50 Plate, Lot # A6B272 NA, 10/13/2016
L10945DS-0, Certified Test Report for 1 x 96 A572 GR 50 Plate, Heat # 812H37640 B-D, 8/9/2019
L11094DS-0, Certified Test Report for PL ¼ x 96 A36 Plate, Lot # 0682G4 A, 10/7/2019
L11221DS-0, Certified Test Report for PL 3/8 x 96 A572 GR 50 Plate, Lot # B9H546 F-G, 12/3/2019
L11224DS-0, Certified Test Report for PL 1/2 x 96 A572 GR 50 Plate, Lot # 822J37960 A-D, 4/20/2020
L12238DS-0, Certified Test Report for PL1 x 96 x 20’ A572 GR 50 Plate, Lot # 823K67980-A, 8/10/2020
L12343DS-0, Certified Test Report for W 21 X 73 X 55’ A992 Beam, Lot # 521257-A-F, 10/9/2020

L12345DS-0, Certified Test Report for W 21 X 73 X 60’ A992 Beam, Lot # 524066-A-B, 10/9/2020
L12346DS-0, Certified Test Report for W 30 X 116 X 45’ A992 Beam, Lot # 523548-A, 10/6/2020
L12347DS-0, Certified Test Report for W 30 X 116 X 60’ A992 Beam, Lot # 523553-A-B, 10/9/2020
L12349DS-0, Certified Test Report for W 40 X 294 X 65’ A992 Beam, Lot # 523454-A, 10/22/2020
L12350DS-0, Certified Test Report for W 40 X 294 X 65’ A992 Beam, Lot # 524366-A-B, 10/21/2020
L12351DS-0, Certified Test Report for W 40 X 294 X 65’ A992 Beam, Lot # 511758-A-B, 10/22/2020
L12352DS-0, Certified Test Report for W 40 X 294 X 65’ A992 Beam, Lot # 525682-A-D, 10/21/2020
L12354DS-0, Certified Test Report for W 40 X 294 X 55’ A992 Beam, Lot # 473336-A, 10/16/2020
L12355DS-0, Certified Test Report for W 40 X 294 X 55’ A992 Beam, Lot # 523364-A, 10/22/2020
L12356DS-0, Certified Test Report for W 40 X 294 X 55’ A992 Beam, Lot # 525681-A-G, 10/22/2020
L12360DS-0, Certified Test Report for W 14 X 90 A992 Beam, Lot # 506670-A, 10/6/2020
L12368DS-0, Certified Test Report for PL 1/4 x 60 A36 Plate, Lot # B000626-A-B, 10/9/2020
L12441DS-0, Certified Test Report for L 6 x 6 x 3/8 A572 GR 50 Plate, Lot # 55067173-A-O, 9/24/2020
L12449DS-0, Certified Test Report for PL1 x 96 A572 GR 50 Plate, Lot # E0H016-A-B, 10/15/2020
L12455DS-0, Certified Test Report for L 6 x 4 x 3/8 A572 GR 50 Angle, Lot # 1067524-A-B, 8/12/2020
L12560DS-0, Certified Test Report for PL 5/8 x 96 A572 GR 50 Plate, Lot # 811H04300-A, 11/11/2020
L12605AS-0, Certified Material Test Report for 7/8” x 4 1/4" F3125 GR F1852 TC Bolt Assembly, 12/3/2020
L12697DS-0, Certified Test Report for L4 x 4 x 3/4 A572 GR 50 Angle, Lot # L113038-A-AN, 12/29/2020
L12743DS-0, Certified Test Report for L 5 x 5 x 3/4 A572 GR 50 Angle, Lot # A179501-A-BH, 12/21/2020
SHINE-IRF-2020-0230, Inventory Issue / Return, 6/30/2020
SHINE-IRF-2020-0322, Inventory Issue / Return, 8/18/2020
SHINE-IRF-2020-0706, Inventory Issue / Return, 12/28/2020
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CI-SHINE-9.01-4, Welding Documentation Requirements, Rev. 1
CI-SHINE-9.01.5, AWS Welding Performance and Workmanship Standard, Rev. 1

Inspection
NQAP SHINE-2.02, Co-worker Qualification and Certification, Rev. 1
NQAP SHINE-10.01, Performing Inspections, Rev. 1

Control of Nonconforming Items and Services
2000-01-14, Control of Nonconforming Items, Rev. 2
NQAP SHINE-15.01, Controlling Nonconforming Items, Rev. 3
20-0020, #10 Form Savers displaced or missing, Rev. 0
20-0038, Mezzanine Anchor Bolts installed Out of Tolerance at 3 Locations, Rev. 0
20-0049, (14) Mezzanine embed plates, Rev. 0
20-0056, Concrete placed in excess of approved designed Water-Cement (W/C) ratio, Rev. 0
20-0086, The first concrete specimen set for placement did not meet 28-day strength, Rev. 0
20-0098, Improper consolidation requiring structural repair on West face of G-line wall, Rev. 0
20-0111, Mezzanine Steel Top-of-Wall Embed (F3 placement), Rev. 0
21-0001, (18) Roof Truss Steel Top-of-Wall Embeds out of Level, Rev. 0
21-0006, G-line top of wall overpoured past approved construction joint elevation, Rev. 0
21-0008, Honeycombing IU Cell #4 on East face of G-line Wall, Rev. 0
21-0010, 30R1000 SERIES ROOF TRUSSES, Rev. 0
21-0011, Supplier NCR's for 30R1001I1U-11 30R1002T1 U-1 dispositioned incorrectly, Rev. 0
21-0012, Supplier NCR's for 30R1001T1U-1/ 30R1002T1U-1/ 30R1003T1U-1/ 30R1001T1U-2/ 30R1003T1U-2/ dispositioned incorrectly, Rev. 0
21-0018, C33 #67 3/4" Aggregate does not meet Gradation Requirements for Concrete placements on 2/3/2021, Rev. 1
21-0020, Beam Seats In Radioisotope Production Facility (RPF) at Grid Lines K, seats 3 and 5/ Grid Line G, Seats 3 and 5. Also, Beam Seat 1A at Grid Line A In the Irradiation Facility (IF), Rev. 0
6.01-4, Purchaser Document Review Form for NCR 52025, 2/9/2021
6.01-4, Purchaser Document Review Form for NCR 52092, 2/9/2021
6.01-4, Purchaser Document Review Form for NCR 52087, 2/1/2021
IMR 2021000009, (18) Roof Truss Steel Top-of-Wall Embeds out of Level, 3/4/2021
IMR 2021000024, Roof Truss Supplier Non-Conformance Reports (NCR's) dispositioned without notification or approval of Design Authority (Baker NCR-21-0012), 2/26/2021

LIST OF INSPECTION PROCEDURES USED

IP 69020	Inspection of Safety-Related Items (and Services) During Construction of Non-Power Production and Utilization Facilities
IP 69021	Inspections of Quality Assurance Program Implementation During Construction of Non-Power Production and Utilization Facilities

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Type	Status	Description
None			