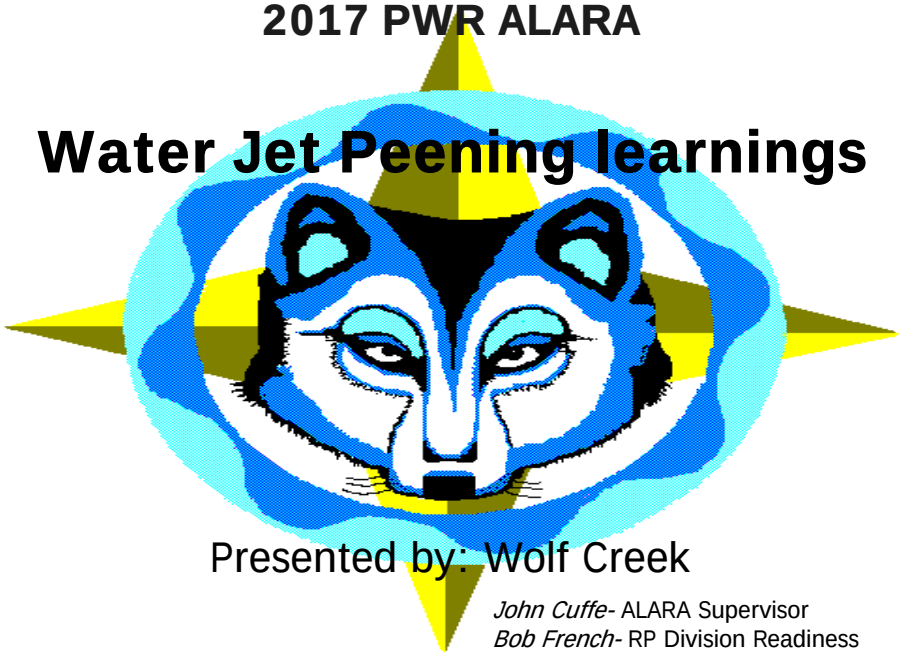
2017 PWR ALARA

Water Jet Peening learnings



Presented by: Wolf Creek

John Cuffe- ALARA Supervisor
Bob French- RP Division Readiness

Agenda

Safety	
Why WJP	**WC Learning**
WJP- Terminology	**WJP in Action**
Project Description	**Results**
Tools/ Interactions-videos	**Condition Reports**

Feedback

Safety

Radiation Protection had 3 contract first aids with

NO

Recordable or loss time injuries!!!

&

No posting or regulatory infractions!!

Why WJP instead of MSIP?

Water Jet Peening vs. MSIP (Mechanical Stress Improvement Process)

Dose, **D**uration, **D**ollars

- ~ 10 Rem vs. ~80 Rem
- ~17 days vs. ~40 days
- ~ $$ vs. $$$$ (Wolf creek would have to remove/replace the permanent cavity seal ring)

- Doing Nothing was not an option. Currently Wolf Creek operates with a high hot leg temperature (3rd highest T-hot in the US) compounding the risk of primary water stress corrosion cracking.

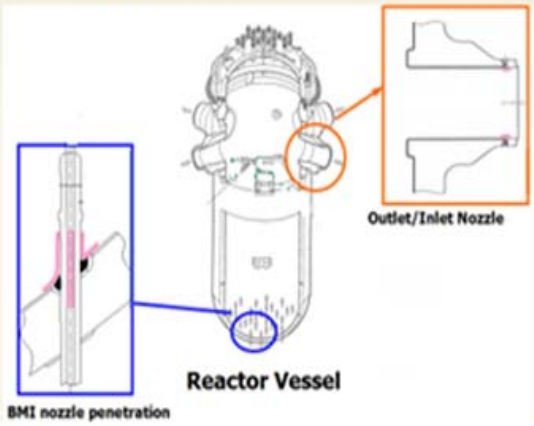
**WJP was controlled as a "Special Process" under 10CFR50 Appendix B criteria

WJP- (what and why) Terminology

- RVN-WJP tool is known as RVN tool
- BMN-NDE tool is known as NDE tool
- BMN-WJP tool is known as BMN tool
- The NDE tool is taller than the BMN tool.
- The RVN tool also does eddy current to find the boundaries of the dissimilar metal portion of the piping.
- The BMN tool has a couple of modes. Standard does the WJP and J weld. A bracket change is required to do the extended J-weld for the EJ mode.
- The BMN tool will also do eddy current of inside of BMN tubes. This is looking for any defects, but is not the typical EC with all its certs, just see something/say something.
- NDE will be performed on tubes 43-58.
- BMN is done on tubes 29-58.
- HPPS skid has three relief valves, 16,000, 18,000, 20,000. The 16,000 relieves back into the system.
- The Tri-Nuc discharges into tank 101, the large tank.
- There is a separate cooling system on the skid, down below, has own pump, closed loop, cools the PDP.
- The circles on the back of the RVN tool are counterweights
- Have to change nozzles after two loops on the RVN tool due to potential erosion of nozzle. The tool rotates upside down to make the change; they do not have to work underneath the tool.
- Have to change nozzles every 10 BMNs. Each time there is a change on both tools, they have to do a pre and post measurement of the nozzle. The tools are small feeler go/no-go probes. Have to insert them into the hole.

Project Description

Waterjet peening on 8 Reactor Vessel Nozzles (Hot and Cold legs) as well as 58 Bottom Mounted Nozzles.



Project Description, cont.

Tasks requiring RP support during the outage include the following.

- Rigging equipment into and out of the cavity
- Nozzle change out and functional checks (Wet tool)
- Filter change out (Master Lee assistance)
- Personnel handling multiple cables (Wet cabling)
- Cleaning equipment when activities are complete
- Packaging equipment for shipping (In Containment)
- Removing containers from Containment to RCA Yard
- Removing containers from RCA Yard and shipping back to Alaron

Keep in mind there are two bridge working platforms so multiple tasks will be taking place at the same time.

Tools / Interactions - video

- RVN-WJP –Tool Mechanism
- RVN-WJP –Tool Installation
- RVN-WJP –Tool Implementation

Tools / Interactions – video Cont.

- BMI-NDI – Mechanism
- BMI-NDI – Implementation
- BMI-WJP – Mechanism
- BMI-WJP – Implementation

WC Learning, Pre outage

Pre-outage mock-up training – Wampum, PA

ALARON Facility

Mockup Facility in Wampum, PA

- Mobilization and setup including bridge erection
- BMN NDE – to establish weld boundaries
- BMN WJP – 58 bottom mounted nozzles
- BMN WJP extended j-welds – 11 BMNs on outer perimeter of bottom head
- RVN UT – to determine if pre-existing cracks were present
- RVN WJP – welds on 4 hot leg and 4 cold leg nozzles
- Demobilization

All were attended by Wolf Creek teams

WC Learning, Training

- ALARON Radiation Protection facility visit

This visit in support of Water Jet Peening consisted of Two teams on two separate visits. Week one 2 RP supervisors visited and provided template feedback to both our WJP and Wolf creek teams. This template was utilized as a follow up tool for our second team.

Week two team Two consisted of Two RP technicians and two different supervisors. WJP project at Alaron was receptive to feedback/coaching as the team learned more about the interactive portions of the project and provided hands on participation in the project evolutions. This was both shifts with dress out practices occurring on Wed and Thurs.

An alignment conference call was made to site on Tuesday and carried forward into performances the following days. All project members were very receptive and helpful in assisting in data gathering and knowledge sharing.

The wolf creek RP team was provided opportunities to speak during each crew brief.

The overall conclusion of the team is that the main goal was to ensure/establish open lines of communication and a teaming atmosphere. This was accomplished. Wolf Creeks Radiation Protection Expectations were conveyed in every dialog utilizing the above format.

Operations, Quality Control, Security also had similar training visits to Alaron facility in support of Water jet Peening project.

WC Learning, RWP

RWP Number:	163055	Post-job ALARA Review
RWP Description:	Water Jet Peening (WJP) work activities on Reactor Vessel Nozzles (4 Cold Leg, 4 Hot Leg, and 58 Bottom Mounted Nozzle Penetrations). This is a dissimilar metal Primary Water Stress Corrosion Cracking (PWSCC) Mitigation Method used at nozzle welding locations.	

HP ALARA Section					
HP Tech:	Keith Gilliam	ACAD#	1502	Review Date :	11/17/2016

Percent of Estimated Exposure used:	43%	Percent of Estimated Hours used:	44.7%

EDR= Effective Dose Rate

		Original-Estimate Revision # 0			Current Dose Estimate Revision #			Actual Exposure		
Task	Description	Hours	EDR mREM/Hr	mREM	Hours	EDR mREM/Hr	mREM	Hours	EDR mREM/Hr	mREM
1	Mobilize/De-mobilize Equipment tools and material	5436	0.21	1189				1809		537.2
2	WSI/AZZ to Perform Water Jet Peening and Support Activities	4544	0.21	1024				1418		214.7
3	Sonic to Perform Water Jet Peening Activities.	3970	0.22	923				1733		515.3
4	MNES/MHI/WCNOC Oversight and Supervision in Support of Water Jet Peening	2112	0.16	330				1773		314.6
5	Personnel In Support of Water Jet Peening Activities	1110	0.34	380				215		59.2
6	RP Coverage and Decon Support for WJP NDE activities	1536	0.3	570				1011		244.9
	Totals	18708	0.24	4416				8368		1885.9

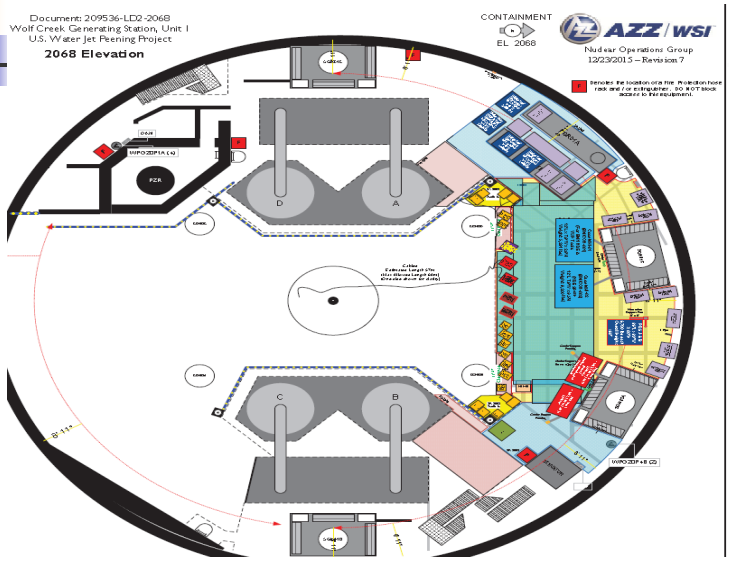
Original Outage Duration:	62	Days	Actual Outage Duration:	66	Days

RWP was revised:	0	Times	Number of RWP Dose Rate Alarms:	0	Number of RWP Dose Alarms:	0
Number of RWP Contaminations:	0					
Comments / CRs on contaminations:	No PCIs or PCEs were experienced on this RWP.					

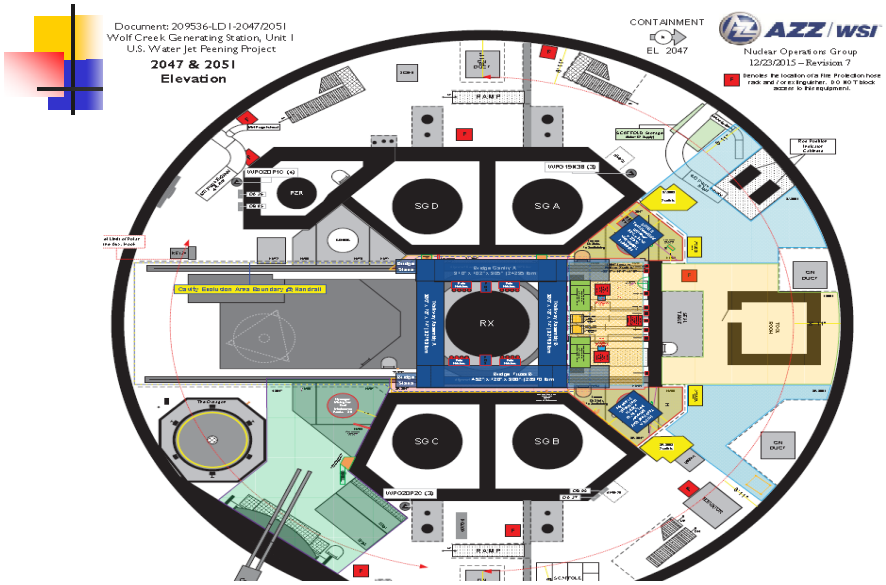
WC Learning, ALARA Package

Work Group Supervisor/HIT Leader Section
Comments on Exposure Estimate: (Explain why exposure is <80% or >120% of original estimate. Explain revisions made to estimate. Information shall be detailed)
Actual dose on this RWP was significantly below the estimate. This was a first time task in a US Commercial Nuclear Plant. The main reason dose was lower than expected was that fewer hours were expended than expected. Because this was a first time evolution, the hours were based on performance in the Alaron mockup and on a review of the procedures. The mockup and procedures indicated a higher amount of hours, but the workers were able to work more efficiently as they gained actual field experience. In addition, the dose rates used for the dose estimates assumed similar dose rates to those seen during refueling operations. However, dose rates were lower due to several factors: • Time since shutdown- Due to a canopy seal weld leak on the Reactor Vessel Head, the plant shut down three weeks earlier than planned. This provided decay time and extra Reactor Coolant System cleanup time. • Activity created by the process- For reasons documented in the ALARA Plan, no dose or dose rate information was available from the projects performed in Japan. Assumptions were made that the activity created by the process would increase dose rates on the surface of the Refuel Pool, increasing the dose rates on the walkways. However, dose rates on the surface of the water in the Pool were 1.1 to 1.3 mrem/hour throughout the project. • Dose rates and contamination levels on the Water Jet Peening Tools- Dose rates on the tools were less than 100 mrem/hour contact. Contamination levels were less than 50,000 dpm/100 cm2. No high dose rate particles or hot particles have been found. The umbilical cords are also not highly contaminated. The highest dose rate was on the RVN Tool after peening all the RVNs. Pre-Decon dose rates were 230 mrem/hour contact/ 30 mrem/hour at 12" coming from inside the structure of the tool. Post Decon dose rates were 130/11 mrem/hour. Contamination levels on this tool were up to 250,000 dpm/100 cm2 Pre-Decon, 25 to 40,000 dpm/100 cm2 Post-Decon.
Lessons Learned:
CR(s) on RWP exposure:
None
Problems Encountered and dose issues:
Procedure issues and equipment problems occurred, but this did not impact dose. The problems impacted schedule performance, but when delays occurred, the workers followed their brief and moved off the walkways
Strengths:
The workers had good work practices, changing gloves and wiping the area down. RP coverage was excellent, providing prompt survey information.
Additional information (Suggested Enhancements for future work / RWP Issues):
None
Post Job Comments by Work Group Supervisor / HIT Leader:
The WSI SONIC personnel handling the WJP tooling were very experienced at moving equipment in and out of the refueling canal water. This also provided dividends to keeping contamination and PCEs very low.

WC Learning, laydown

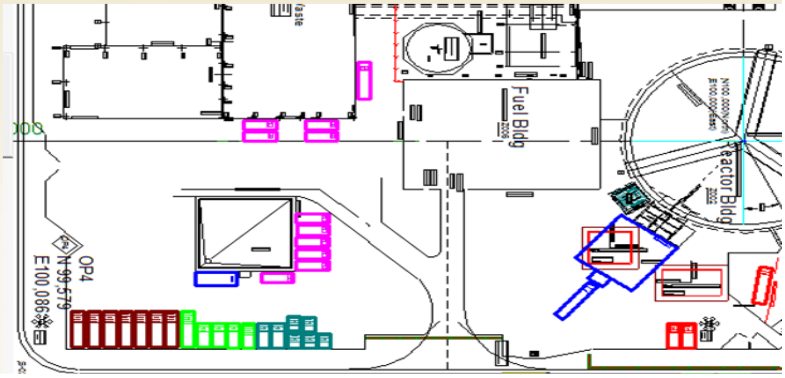


WC Learning, laydown



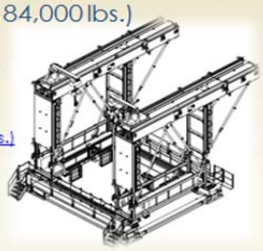
WC Learning, laydown

WJP laydown plan for the RCA yard



WC Learning, Equipment

Bridge System (est. weight 184,000 lbs.)
- 8 Major components
  - ✓2 X Alignment Beams (5,979 lbs.)
  - ✓2 X Walkways (32,763 lbs.)
  - ✓2 X Truss assembly (28,970 lbs.)
  - ✓2 X Gantry assemblies (24,235 lbs.)



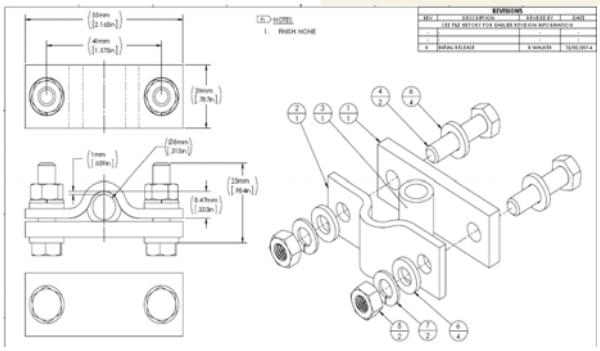
2 High Pressure Pump Skids (HPPS)
- ✓31,000 lbs. each
- ✓Staged over the Delta and Bravo Hydrogen Mixing Fans

2 Power Distribution Skids (PDS)
- ✓6,700 lbs. each
- ✓Staged between the Charlie and Delta Coolers

"Big Blue" Lift System

WC Learning, Seal table

Thimble Tube Clamp Installation after Low Pressure Seals are installed
- Requested video monitoring
- Need to discuss how we will handle potential leaks
  - ✓ As you can see from the pictures continuing to tighten the fixture is not going to eliminate the leak as the seal starts to separate from the tubing.



WC Learning, High Pressure pump skid

- HPPS has two 50 micron filters shown below.

WC Learning, Tooling

BMN WJP tool

RVN WJP tool

2 RVN WJP tools
✓ 2,600 lbs. each

2 BMN NDE tools
✓ 1,984 lbs. each

2 BMN WJP tools
✓ 2,130 lbs. each

2 BMN VT-3 tools
✓ 3,500 lbs. each

WC Learning, Containers

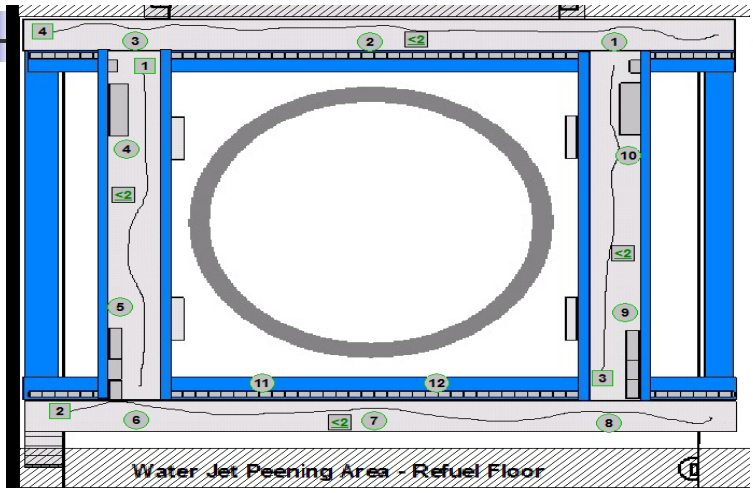
- Boxes can be rigged with the tops on or off

WC Learning, Filters

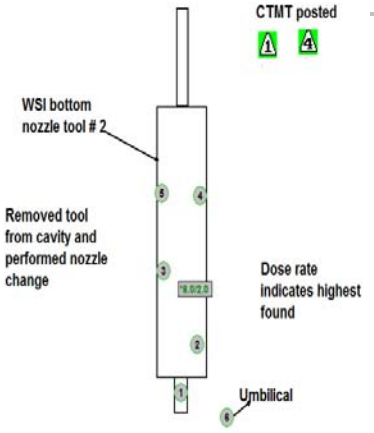
FILTER	MICRON	REASON FOR CHANGE	HOUSING DOSE RATE (Rem/hour)	FILTER DOSE RATE (Rem/hour)	FILTERS Used	COMMENTS
600 GPM Tri-Nuc (1st)	2	DP	5.5	25.0	4	Unit was on the floor of the upper cavity just South of vessel. Ran fine until flow dropped.
600 GPM Tri-Nuc (2nd)	2	Project Complete	1.3	2.0 to 5.0	4	The filters were pulled from housing and placed in carousel, but not surveyed.
260 GPM Tri-Nuc (1st)	10	DP	0.550	5.0	2	Used at beginning of project to vacuum bottom of vessel after Lower Internals were removed (vessel had never been vacuumed before this).
260 GPM Tri-Nuc (2nd)	10	DP	0.057	2.0	2	Loss of flow during RVN peening (10/17).
260 GPM Tri-Nuc (3rd)	10	DP	0.110	0.300	1	Only one filter was removed and replaced, interference from hoses/wires prevented opening the other filter hatch. Late in project.
260 GPM Tri-Nuc (4th)	10	Job Complete	Not Surveyed	Not Surveyed	2	The remaining filter from set 3 was removed along with the one that was changed (see above). A replacement set of filters was inserted (the filters used were the ones removed from the WSI units, still stored in carousels on cavity floor) and the cavity was vacuumed before draining it. No chance for a survey.
WSI East Modified 260 GPM Tri-Nuc	5	Job complete	0.048	Not Surveyed	2	Filters ran all through the project. Did not have to be changed.
WSI West Modified 260 GPM Tri-Nuc	5	Job complete	0.057	Not Surveyed	2	Filters ran all through the project. Did not have to be changed.
HPPS Skid Filters	48	Job Complete	0.009	0.050*, 0.002 at 12"	4	The dose rates listed were on one filter, the other three filters were less than 0.002 rem/hour.
First FBG06 After Project Complete		DP	18	57.8	1	After project was complete, mid-loop period complete, flooded up and moving fuel. 11/5/16
Second FBG06 After Project Complete		DP	7.1	25.2	1	Fuel Movement complete. 11/9/16
First FEC01A After Project Complete		DP	1.8	8.5	1	11/7/16
First FEC01B After Project Complete		DP	1.2	11.5	1	11/7/16

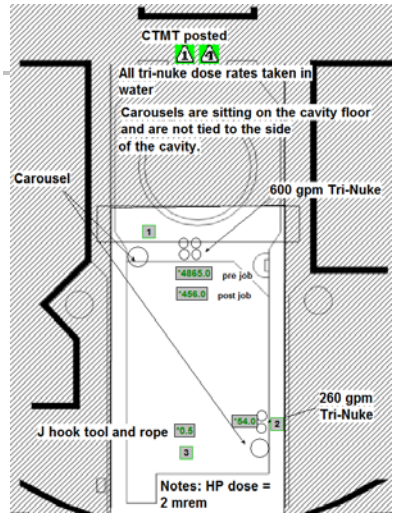
* 19 total Tri-Nuc filters used including vacuuming vessel and vacuuming floor prior to drain down.
* No issues with pool clarity during the project.

WC Learning, Surveys

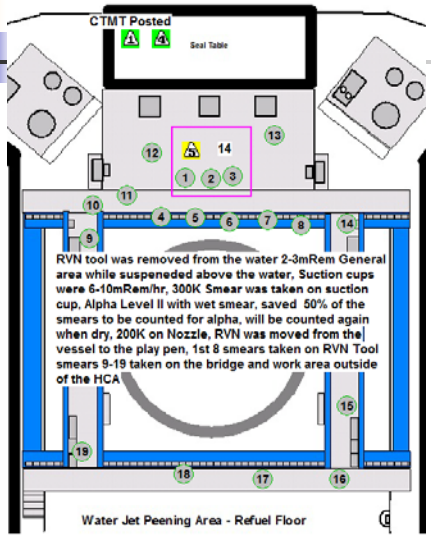


WC Learning, Surveys





WC Learning, Surveys

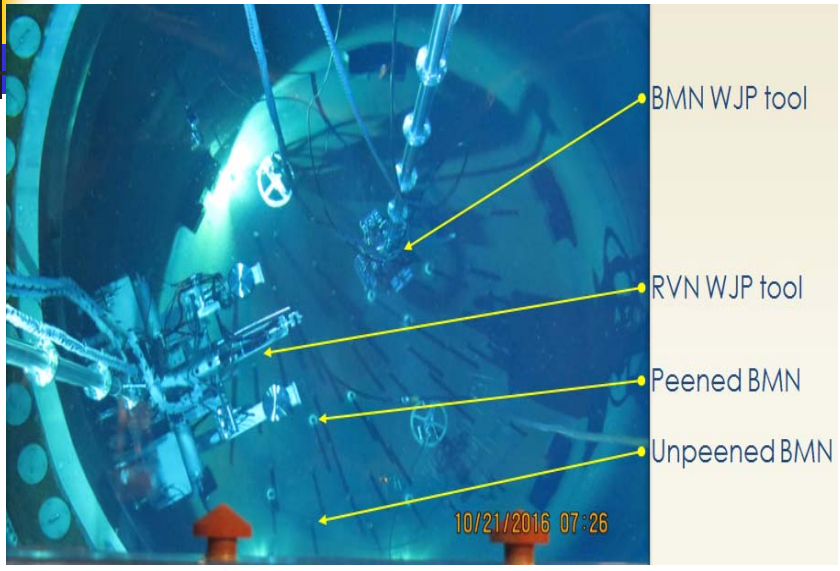


Smear Data Entry

Smears 100 sqcm:

ID	Beta/Gamma	Engr Units	B/G Inst
1	300000.0	DPM	LUD-177 #
2	40000.0	DPM	LUD-177 #
3	40000.0	DPM	LUD-177 #
4	100000.0	DPM	LUD-177 #
5	60000.0	DPM	LUD-177 #
6	30000.0	DPM	LUD-177 #
7	250000.0	DPM	LUD-177 #
8	10000.0	DPM	LUD-177 #
9	1000.0	DPM	LUD-177 #
10	2000.0	DPM	LUD-177 #
11	<1K	DPM	LUD-177 #
12	<1K	DPM	LUD-177 #
13	<1K	DPM	LUD-177 #
14	<1K	DPM	LUD-177 #

Water Jet in Action



Water Jet Results

Condition Reports(21)

AR/CR/PIR #	SUBJECT	DESCRIPTION	INITIATED
00106802	Damaged RVN Water Jet Peening Tool	Water Jet Peening 12655 – During mock up training off site one of the RVN Water Jet Peening tools was damaged. The ECT probe on the RVN tool was caught on a screw which was holding one of the dissimilar metal coupons in place; this caused the probe and bracket to become damaged/bent. This will not be an issue on site as we do not have these screws or coupons in our Reactor Vessel Nozzle. The Water Jet Peening contractor has spare probes at the training facility which can be replaced but does not have a spare bracket. They have contacted their home office in Japan and currently plan to have an individual bring it to the training facility by Sunday. This CR is to track the vendor repair of the damaged tooling and does not affect any plant equipment. This CR should be assigned to Engineering Projects.	08/31/2016
00107126	WJP project concern: Evaluation of protective corrosion layer	During water jet peening, surface corrosion/coating/cure removal occurs. It should be evaluated if the plant has any requirements to maintain this layer or documentation that the layer is not required should be included in the package closeout.	09/14/2016
00107127	WJP project concern: Use of borated water	Water jet peening project will be using borated water during some of the peening operations. The inspection/peening equipment is of Japanese design and has been successfully used with borated water (at what concentration?) and pure water per their report. The support equipment that has been fabricated to provide high pressure water to the equipment, however, has not been operated with borated water (pure/tap water was used in mockups). Appropriate evaluation of this equipment and/or testing with borated water should be performed. Specific concerns include escalated nozzle wear during peening operations, plating of boron inside equipment changing operational parameters, cold weather exposure of potentially stagnant borated water in the support equipment (heat trace), and changes in surface effects (potential primary piping cladding penetration, embedded boron, lack of intended peening effect) on peened primary targets with highly borated water.	09/14/2016

Condition Reports cont.

00107742	Potential for Foreign Material in the RCS	This CR is being generated to document the potential of foreign material in the reactor coolant system as a result of the failure of the normal charging pump (PBG04). It has been discussed that that since the normal charging pump (NCP) internals seized from full rotational speed in an expeditious manner, there is a possibility that material was removed from the internals of the NCP and has been deposited in the discharge piping. This discharge piping is also common with the safety related centrifugal charging pumps which have been operated since the damage occurred to the NCP which could have deposited debris throughout the RCS. At the time of the damage, flow was established to the RCP seals; however any debris in this line would have been captured in the seal injection filters and is not a concern. The inspection of the lower core plate was completed after core offload with no foreign material found. There are currently plans to remove the lower internals to support water jet peening at which time further inspections for foreign material will occur. When the normal charging pump internals are replaced under WO series 16-417884, the pump internals should be inspected to determine if any material is missing to decide if further piping inspections for foreign material are warranted.	09/30/2016
00107792	RVN Water Jet Peening Delay by Contractor WSI	RVN Peening delay by Contractor. WC was notified by WSI (Puzan) on 9-28 that all the WSI/Sonic personnel will need 4 hours of Traveler training as required by the WSI QA program. This training is required due to all of the Traveler changes that were made at Alaron during crew training. This training is being performed on Critical Path time.	10/01/2016
00107806	Containment 2068 Elev Temporary Work Platforms	The two (2) 2068' elevation work platforms erected for the Water Jet Peening (WJP) Project during RF21 were inadvertently erected and subsequently accepted by Project Engineering without having the deck support beams secured from below by clamping runners of scaffold poles to the bottom flanges as required by Note 8 of Attachment 2 of the TCC BED for SWOs 15-402898-035, -036, and -039. These scaffold runners serve to maintain the alignment of the beams necessary to secure the deck plates as well as to stabilize the assembly for deck installation. The scaffold poles were also to serve as connection points for an edge handrail fabricated from scaffold poles. Each deck beam is currently secured by wire to the 2068' elevation floor grating and the platform deck plate and beams are banded together as required; consequently, the platform is stable and secure, is not an immediate safety concern, and can be used as erected. Nevertheless, Project Engineering recommends that the scaffold runners be installed to add structural stability and as a complement to the wire tie- offs, as intended. This condition report should be assigned to the Water Jet Peening Project Manager for resolution.	10/02/2016

Condition Reports cont.

00108251	Water Jet Peening BMN Tool Failure MNES	On 10-10 a Servo error was received when WJP BMN-NDE tool #1 was lowered into the Reactor vessel. The tool was lifted from the vessel and examined. Troubleshooting determined that the video camera servo position sensor (VT- 1) integrated circuit failed upon entry into the water. During repair of the video position sensor two integrated circuits (for TV-2, RV-2 and RV-1) were accidently short circuited and failed. Ref. MNES NCR SP-16-006	10/11/2016
00108277	Linear Indication on Weld of BMN Number 21	A linear indication was identified by AZZ/WSI on the weld of Reactor Vessel Bottom Mounted Nozzle (BMN) number 21 during the Non-Destructive Examination (NDE) for the Water Jet Peening (WJP) Project during RF21 (reference drawings M-706-00008 and M-706B-00012). The linear indication was documented by AZZ/WSI in MNES/WSI NCR 16-334 and the associated "Remote Visual Inspection Report" (see Attachment). The linear indication should be evaluated by the responsible plant group(s). This condition report should be assigned to the ISI Program for initial evaluation and resolution.	10/12/2016
00108282	Debris attached to WJP tooling	While setting BMN NDE Tool #2 over RV BMN #1 the technicians in the control trailer noticed a small amount of white debris adhered to the tool's nozzle head. The foreign material and quantity is unknown at this time. At the end of the Water Jet Peening project there will be a visual inspection of the vessel to make sure there is no visible debris left in the cavity. Project team will attach pictures to this CR once available.	10/12/2016
00108362	Aggreko technician turned off wrong fuel valve on Temp Gen.	Aggreko technicians on site to perform Maintenance on the two generators supplying temporary power for the RVN Water Jet Peening tools. An Aggreko technician turned off the fuel valve to the operating generator causing a loss of power to the NDE tooling. Although the power was only off a few seconds this caused significant delay to the WJP Operators. The computers had to be rebooted and functional checks completed on the tooling. Also this may have caused a spike in air pressure to the tooling causing cable jacket damage.	10/15/2016
00108384	Indication on Weld of BMN Number 29	An indication was identified by AZZ/WSI on the weld of Reactor Vessel Bottom Mounted Nozzle (BMN) number 29 during the Non-Destructive Examination (NDE) for the Water Jet Peening (WJP) Project during RF21 (reference drawings M-706-00008 and M-706B-00012). The indication was documented by AZZ/WSI in MNES/WSI NCR 16-340 and the associated "Remote Visual Inspection Report" (see Attachment). The indication should be evaluated by the responsible plant group(s). A work order request should also be generated for Wolf Creek QC to evaluate the results of the WSI examination.	10/15/2016

Condition Reports cont.

00108415	Water Jet Peening - WSI missed signing Master Work Traveler	WSI Operators were working thru the Traveler steps for placing RVN tool #1 into the water when it was identified that Master traveler did not have QC hold point signature for the peening spray nozzle torque. QC did verify torqueing but failed to complete administrative sign off in work document	10/16/2016
00108455	Clarify WJP Contractor Procedure QAP 9.3R Exam Criteria	During the Water Jet Peening (WJP) Contractor's implementation of Contractor's procedure QAP 9.3R, Rev. 0, Remote Visual Examination of Bottom Mounted Nozzles (BMNs), there have been several visual examination reported indications documented by Contractor's visual examiners. This CR is written to document the need for improved guidance/clarification on implementing the current Revision 0 and for a procedure revision to QAP 9.3R to incorporate such guidance/clarification on the examination and reporting criteria for these visual examinations. Most of the reported indications have been construction-type indications, which are not in accordance with the stated procedure purpose. That purpose as stated in QAP 9.3R (step 1.3.1), is to "assure there is no evidence of pre-WJP primary water stress corrosion cracking". Stated differently, the purpose is to identify service-induced indications in the prescribed examination areas that are pertinent to pre-WJP exams. The indications being reported are not service-induced indications or are outside the prescribed examination areas and do not need to be identified or reported to WCNOC. This is because the construction of the Reactor Vessel and the BMNs (including most of the indications being identified) were previously examined and accepted by appropriate Code required construction and preservice examinations prior to Wolf Creek initial operation and no internal work to the Reactor BMNs has been performed since construction. . It is recommended that this CR be assigned to WCNOC RVNM WJP Project and that the Project engineering personnel meet with its WJP Contractor Team (MNES and WSI) to assure the Contractor's visual examiners understand the WCNOC requested and approved visual examination and report criteria as stated in Contractor's procedure QAP 9.3R, Rev. 0. It is also recommended that the Contractor incorporate WCNOC recommended changes to the procedure criteria in the upcoming revision planned for QAP 9.3R.	10/17/2016
00108456	WJP Project Work Instruction Change and	During Water Jet Peening (WJP) Project activities, WSI issued a change to work instruction (WI) WJP-WI-10, Pre- RVN-WJP-Functional Checks, Revision 2 via NCR 16-342 before the WI revision had been transmitted to and accepted by WCNOC. The change to the WI via NRC 16-342 was accepted by	10/17/2016

Condition Reports cont.

00108495	WJP Project Inconclusive ECT Data on RVN C Cold Leg Weld	During the Water Jet Peening (WJP) process for the RVN "C" Cold Leg, Eddy Current Testing (ECT) data for sizing of the weld boundary on the stainless steel cladding side of the weld was unexpectedly inconclusive as documented in MNES NCR SP-16-010 (see Attachment). As a result, a change to the WSI traveler 209536-TR-002-CL (M-706B-00022) will be required to potentially add a partial 4th pass for WJP of the subject nozzle weld. WCNOC will prepare an IFCN for CCP 012655 to accept the change to the WSI traveler. This CR should be assigned to the WJP Project Manager for evaluation and resolution.	10/18/2016
00108550	Indication on Weld of BMN Number 24	A linear indication was identified by AZZ/WSI on the weld of Reactor Vessel Bottom Mounted Nozzle (BMN) number 24 during the Non-Destructive Examination (NDE) for the Water Jet Peening (WJP) Project during RF21 (reference drawings M-706-00008 and M-706B-00012). The linear indication was documented by AZZ/WSI in MNES/WSI NCR 16-348 and the associated "Remote Visual Inspection Report" (see Attachment). The linear indication should be evaluated by the responsible plant group(s) (e.g., Quality Control and ISI Program). A work order request should also be generated for Wolf Creek QC to evaluate the results of the WSI examination.	10/19/2016
00108626	WJP Project Inconclusive ECT Data A Cold Leg RVN Weld	During the Water Jet Peening (WJP) process for the A Cold Leg RVN, Eddy Current Testing (ECT) data for sizing of the weld boundary on the stainless steel cladding side of the weld was unexpectedly inconclusive as documented in MNES NCR SP-16-012 (see Attachment). As a result, a change to the WSI traveler 209536-TR-002-CL (M-706B-00022) will be required to potentially add a partial 4th pass for WJP of the subject nozzle weld. WCNOC will prepare an IFCN for CCP 012655 to accept the change to the WSI traveler. This CR should be assigned to the WJP Project Manager for evaluation and resolution.	10/21/2016
00108630	WSI Peening with wrong revision of Work Traveler MNES	During performance of water jet peening on the RVN "A" cold leg it was identified by the Peening Operator they were using a traveler that had been superseded. The second peening pass was in progress when this was identified. This peening pass was completed and work was stopped. WSI Supervision was notified. WSI Quality Assurance Management issued a Stop Work for WSI Peening activities.	10/21/2016
00108792	RVN WJP tool nozzle failed post use verification check.	RVN Peening - MNES Supplier Nonconformance Report 16-352 was submitted to WC on 10-25 documenting a "burr" found on the RVN water jet peening tool nozzle during Post use verification. During the post use verification check a Go- No-Go (1.95mm) pin gauge could not be inserted into the nozzle ID bore. This tool nozzle was used to perform peening on RVN "C" and "D" cold leg (inlet) nozzles.	10/25/2016

Condition Reports cont.

00108977	Lift Contacting Jib Crane in Containment KAN SEAL	HARD COPY CR: While performing work inside containment an individual witness a lift that was being performed on WSI walkway for water jet peening come into contact with the jib crane. Contacted project oversight and containment coordinator. No apparent damage was noted from either the walkway or jib crane.	11/01/2016
00109063	Reactor Vessel Nozzle BMN #40 Peening flowrate	This CR has been generated for tracking purposes. WSI has generated NCR 16-383 to identify that during review of CSV files of BMN #40, it was noted that the Water Jet Peening flow rate momentarily decreased below the minimum range specified in PMP-TSP-13, WJP Controlled Parameter Listing. MNES and MHI evaluated this condition and determined that occurrence of low flowrate had no adverse effect on WJP in PWSCC susceptible areas of BMN #40 and that BMN #40 was effectively peened in all required mitigation areas. The MHI evaluation was documented in MNES NCR SP-16-017 and attached WSI NCR 16-383 (Attached to this CR).	11/03/2016

Feedback-