

	State of Washington Department of Ecology WASTEWATER TREATMENT PLANT COMPLIANCE INSPECTION REPORT		Northwest Regional Office PO Box 330316 Shoreline, WA 98113 ph: (206) 594-0000 (rev. 5-28-21)	
	Section A: General Information			

Report Version	PERMIT #	mm/dd/yy	Inspection Type	Inspector Code	Facility Type
<input checked="" type="checkbox"/> New <input type="checkbox"/> Changed <input type="checkbox"/> Deleted	ST0501338	7/26/2022	I	S	<input checked="" type="checkbox"/> 2 Industrial
Remarks					
Inspection work days	Facility Self-Monitoring	Photos Taken	Samples Taken	BI	QA
1.0	N/A	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	N	N
Lead Ecology Inspector(s) Maia Hoffman					

Section B: Facility Data			
Name, Location, and Phone of Facility Inspected		Entry Time	Permit Effective Date
SeaCast Arlington, LLC		1:00 pm	N/A
18410 63 rd Ave NE		Exit Time	Permit Expiration Date
Arlington, WA 98223		2:50 pm	N/A
Name(s)/Title(s) of On-Site Representative(s)		Ecology Staff On-Site	
Jerry McCaslin, EH&S Manager			
Dave Robins, Plant Manager			
Nathan Krueger, Production Supervisor			
Hayden Ferrell, Process Engineer			
Name, Title, and Address of Responsible Official		Other Facility Data	
Michael Robins, President/Owner		Temporary permit effective January 18, 2022.	
18410 63 rd Ave NE			
Arlington, WA 98223			
Contacted? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

Section C: Areas Evaluated During Inspection (Check only those areas evaluated)							
<input checked="" type="checkbox"/>	Permit	<input checked="" type="checkbox"/>	Flow Measurement	<input type="checkbox"/>	Operations & Maintenance	<input type="checkbox"/>	CSO/SSO (Sewer Overflow)
<input type="checkbox"/>	Records/Reports	<input type="checkbox"/>	Effluent ○ Receiving Water	<input type="checkbox"/>	Sludge Handling/Disposal	<input type="checkbox"/>	Pollution Prevention
<input checked="" type="checkbox"/>	Facility Site Review	<input type="checkbox"/>	Compliance Schedules	<input checked="" type="checkbox"/>	Pretreatment	<input type="checkbox"/>	Multimedia
<input checked="" type="checkbox"/>	Self-Monitoring Program	<input type="checkbox"/>	Laboratory	<input type="checkbox"/>	Storm Water	<input type="checkbox"/>	Other

Section D: Summary of Findings/Comments	
I. INTRODUCTION Maia Hoffman, Ecology inspector, conducted an inspection at SeaCast Arlington, LLC as part of the permit drafting process. M. Hoffman met with Jerry McCaslin, Dave Robins, Nathan Krueger, and Hayden Ferrell. Caitlin Dwyer, City of Arlington Utilities Manager, and Sandy Boyd, City of Arlington Pretreatment Specialist/Operator, joined for the inspection. The inspection was announced and coordinated with J. McCaslin. SeaCast Arlington is a new facility. SeaCast Arlington submitted a permit application on November 19, 2021. Upon accepting as complete, Ecology issued a temporary permit on December 21, 2021 to discharge process wastewater to the City of Arlington sanitary sewer. The temporary permit was effective on January 18, 2022 until Ecology can issue a state waste discharge permit. Ecology has drafted the state waste discharge permit and it is currently in the entity review phase. Entity review is an informal process for the permittee to provide factual corrections to the permit and fact sheet. M. Hoffman conducted the inspection in an effort to ensure the draft permit and fact sheet were adequately reflective of processes and wastewater generation. The inspection consisted of a facility tour and discussion of draft permit conditions.	

II. RESULTS AND DISCUSSION

Industrial Processes, Wastewater Generation, and Pretreatment:

SeaCast Arlington is an investment casting foundry producing non-ferrous metal parts for the aerospace industry. Each production process that generates wastewater has its own unique sample point identifier. During the facility tour, SeaCast Arlington representatives explained each process.

The first part of production of castings is the wax room. N. Krueger explained the process for generating patterns, currently using stereolithography (SLA) which is a 3D printing process. A minimal amount of wax is applied to the SLA patterns. J. McCaslin reiterated that future processes will include more wax patterns. Possibly in the next year, SeaCast Arlington will install a wax pattern washing process and soluble wax removal process. M. Hoffman has already included a sample point for the discharge of wastewater from each of these processes. Sample Point No. 1 (SP001) is for discharge from the citric acid bath to remove soluble wax. An SDS for the soluble wax provided by J. McCaslin states the wax is a blend of polyethylene glycol, sodium bicarbonate, water soluble polymers, glass fibers and dye. When the citric acid baths need to be refreshed, the tank will be neutralized with sodium carbonate and filtered through a 50 µm sock filter prior to discharge to the sewer. SP002 is for discharge from the pattern washing process. Wax and SLA pattern are dipped in a bath of PC-205 cleaner, then rinsed. The rinse water is occasionally discharged to the sewer without any pretreatment.

Patterns are then transferred to the shell room. Patterns are placed in the automated system to invest the pattern in silica. The process mixes silica and deionized water into a slurry which is sprayed onto the patterns. Water is used to mist the process to reduce dust. No wastewater is generated. Waste silica slurry is pumped to totes, rock salt is added to solidify, and the waste is hauled off site. There is a hand washing sink in this room that is equipped with a filter in the drain. This sink is not specified as a sample point in the draft permit, but will be addressed to authorize the discharge.

SeaCast Arlington has an RO system to purify water for use in production (Photo 1). The RO system is managed by a third party supplier, no wastewater is generated.

Once fused silica molds are dry, they are transferred to the main production room for casting. Molds are first processed through the flash fire furnace to burn out the pattern. The SLA patterns vaporize. If wax is part of the pattern, a tray is placed under the furnace to capture the melted wax. All molds are then washed in a large tub to remove any remaining ash stuck in the cavity (Photo 2). When the tub needs to be drained, employees bring over a pump and filter and discharges the wastewater to a nearby floor drain. This washing process was not outlined in the permit application and will need to be added to the draft permit. There is a nearby hand washing sink. During the inspection, buckets of cloudy water were present in the sink for tool washing. H. Ferrell stated this was to clean tools used to patch molds with Morcoset Slurry (name present on buckets during inspection). Unlike the sink in the shell room, this sink was not set up with a filter in the discharge line.

The preheat furnace, vacuum furnace, and vacuum heat treat furnace used for casting and finishing metal parts do not generate any direct contact wastewater. Noncontact, closed loop cooling system is used for cooling the furnaces. The cooling system is equipped with a reservoir holding tank (Photo 3). Water is pumped from the holding tank to the unit processes, then to a cooling tower and back to the holding tank. Cooling water is passed through sand filters to remove any impurities to extend pipe integrity and bacterial inhibitors are dosed to control bacterial growth. NALCO maintains the bacterial inhibitor dosing system. About every 6 months, the cooling system water is pumped down into totes and discharged to the sewer system through SP003.

Cast parts are subject to water blasting to remove any remaining silica mold fragments. J. McCaslin stated the water blast process is not currently in use. High pressure water is jetted onto the parts to remove mold fragments and is collected in a basin under the water blast cabinet. The wastewater is run through a series of filters prior to discharge to the sewer system through SP004. At the time of inspection, a tote with accumulated water blast wastewater was present. N. Krueger believe the tote was present as an accumulation tank for water blast wastewater because the filter system was slow to process all wastewater. So, wastewater is transferred from the basin to the tote to allow for the water blast process to be used before all wastewater is processed. The reclaimed silica used to be recycled for use in concrete production. However, J. McCaslin stated the concrete companies no longer accept the silica so it is disposed of in the landfill.

Finished cast parts are then subject to various nondestructive testing regimes, including fluorescent dye testing and photo testing, to inspect for any abnormalities and imperfections. For fluorescent dye testing, parts are dipped in a dye tank and allowed to drip on a rack. Any remaining excess dye is washed off and disposed of to the sewer through SP005. For photo testing, the film is first rinsed and wastewater is discharged through SP006. After developing and fixing, the film is rinsed again to remove excess development chemicals. This wastewater is processed through a silver recovery unit (Photo 5) prior to discharging through SP007. J. McCaslin stated that, from experience at SeaCast Marysville, the silver recovery canisters last about 300 hours until breakthrough of the lead canister, at which time the canister is replaced.

Flow Measurement:

Wastewater flow from SP001 and SP002 will be estimated from the volume of the tanks used in the process on a batch discharge basis.

For discharge of the cooling water system wastewater through SP003, flow volume is estimated during the batch discharge events by the number and volume of totes used in the discharge process.

For the water blasting process discharge through SP004, flow volume is based on the volume of potable water coming into the system (water in equals water out). The incoming water line to this process is equipped with a totalizer flow meter. The flow is recorded daily in a log book.

For SP005 (Photo 6), SP006, and SP007 (Photo 4), wastewater volume discharged is equal to the incoming potable water. The incoming water lines are equipped with totalizer flow meters and the flow is recorded daily in a log book.

Sampling:

The temporary permit does not require any sampling or reporting of monitoring results. However, J. McCaslin has started a sampling regime for the processes that are currently in use. J. McCaslin emails the sampling results to Ecology and the City of Arlington on a monthly basis. Currently, only processes associated with SP003, SP005, and SP006 have been discharging wastewater.

Permit Discussion:



After the site tour, M. Hoffman discussed the draft permit language with SeaCast Arlington and City of Arlington representatives. In particular, we discussed changing the proposed flow volume limit applied to each sample point to a flow volume limit applied to all discharges. For example, a max daily flow volume limit would be applied and SeaCast Arlington would sum up all flows on a given day to compare to that limit. This would allow more flexibility for each process while still maintaining the agreed upon flow volume to City of Arlington.

Additionally, the City of Arlington has issued a local discharge permit to SeaCast Arlington including requirements for compliance with municipal code. Sampling and reporting of overall discharge is a requirement. M. Hoffman plans to discuss the local discharge permit requirements to see if consolidation with the Ecology issued permit is possible based on the City's objectives and needs.

III. CONCLUSION

SeaCast Arlington is a new, clean facility. J. McCaslin is very knowledgeable about environmental regulations. The presence and engagement of additional SeaCast Arlington representatives during the inspection shows the company's dedication to environmental stewardship.

Ecology will work with the City of Arlington and SeaCast Arlington to update the draft permit and fact sheet documents based on observations during this inspection. When the drafts are complete, Ecology will move the drafts to the 30-day public review and comment period prior to final issuance.

Name(s) and Signatures of Inspector(s)	Agency/Office/Telephone	Date
Maia Hoffman 	WA Dept. of Ecology, NWRO, (425) 507-5681	August 9, 2022
Name and Signature of Management QA Reviewer	Agency/Office/Telephone	Date
Monika Kannadaguli 	WA Dept. of Ecology, NWRO, (206) 594-0000	August 22, 2022

ANNOUNCED Inspection

INSTRUCTIONS**Section A: General Information**

Report Version: N for 1st version, C for Changed or amended, or D for Delete

NPDES Permit No.: Enter the facility's NPDES or State permit number.

Inspection Date: Insert the date entry was made into the facility. Use the month/day/year format (e.g., 06/30/04 = June 30, 2004).

Inspection Type: Use one of the codes listed below to describe the type of inspection:

A Performance Audit	L Enforcement Case Support	2 IU Sampling Inspection
B Compliance Biomonitoring	M Multimedia	3 IU Non-Sampling Inspection
C Compliance Evaluation (non-sampling)	P Pretreatment Compliance Inspection	4 IU Toxics Inspection
D Diagnostic	R Reconnaissance	5 IU Sampling Inspection with Pretreatment
E Corps of Engineers Inspection	S Compliance Sampling	6 IU Non-Sampling Inspection with pretreatment
F Pretreatment Follow-up	U IU Inspection with Pretreatment Audit	7 IU Toxics with Pretreatment
G Pretreatment Audit	X Toxics Inspection	
I Industrial User (IU) Inspection	Z Sludge	

Inspector Code: Use one of the codes listed below to describe the *lead agency* in the inspection:

C - Contractor or Other Inspectors (Specify in Remarks Columns)	N - NEIC Inspectors
E - Corps of Engineers	R - EPA Regional Inspector
J - Joint EPA/State Inspectors - EPA Lead	S - State Inspector
	T - Joint State/EPA Inspectors - State Lead

Facility Type: Use one of the choices below to describe the facility.

1 - Municipal. Publicly Owned Treatment Works (POTWs) with 1987 Standard Industrial Code (SIC) 4952.

2 - Industrial. Other than municipal, agricultural, and Federal facilities.

3 - Agricultural. Facilities classified with 1987 SIC 0111 to 0971.

4 - Federal. Facilities identified as Federal by the EPA Regional Office

Remarks: These columns are reserved for remarks.

Inspection Work Days.: Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, travel time and preparation time. This estimate does not require detailed documentation.

Facility Evaluation Rating: Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Biomonitoring Information. Enter D for static testing. Enter F for flow through testing. Enter N for no biomonitoring.

Quality Assurance Data Inspection. Enter Q if the inspection was conducted as follow-up on quality assurance sample results. Enter N otherwise.

Photos Taken: Yes or No

Samples Taken: Yes or No

Lead Ecology Inspector: Enter lead inspector's name

Section B: Facility Data

This section is self-explanatory except for: "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, and other updates to the record), e-mail addresses...; and "Ecology Staff On-Site", which may include staff names, titles, phone numbers, or e-mail addresses.

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary.

Section D: Summary of Findings/Comments

Support the findings, as necessary, in a narrative report. Use the headings given on the report form (staffing, back-up power) as appropriate. Reference a list of attachments, such as completed checklists, photos, lab reports, etc. Use extra sheets as necessary.

Inspection Photos



Photo 1: RO system.



Photo 2: Tub used for washing molds after pattern burn out, note remaining accumulated ash at the bottom of the tub.



Photo 3: Cooling system equipment, including reservoir.



Photo 4: Flow meter for photo testing discharge point.



Photo 5: Silver recovery unit for photo processing wastewater discharge point SP007.

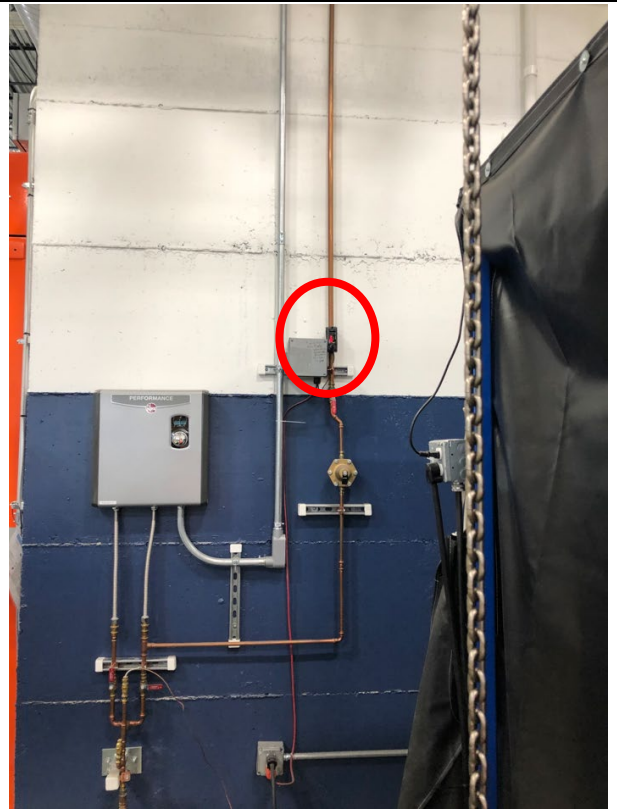


Photo 6: Flow meter for penetrant dye testing discharge point SP005.