

ITEM OPPORTUNITY SYNOPSIS

Scouting Number: 2023-173
 Name of the item to be scouted: membrane filter for use in a surface water treatment plant
 State item to be used in: Washington

Describe the Item:

Please describe the item application/the end use of the item.

Looking for American manufacturers of BABA-compliant (manufactured product) membrane filter for use in a surface water treatment plant replacement project in Washington. This opportunity is being conducted as market research seeking manufacturers/suppliers in the membrane filter industry. Will need to establish BABA compliance before discussions proceed. Membrane filter must also be capable of being approved by State of Washington Department of Health (DOH) for use on Washington infrastructure projects.

Supplier Information:

Type of Supplier Being Sought (select from the list below):

Manufacturer x
 Contract Manufacturer
 Distributor
 Other (Please Specify)

Reason for Scouting Submission (select from the list below)

2nd Supplier
 Price
 Re-Shore x
 Past supplier no longer available
 New Product Startup
 BABA
 Other (Please Specify)

Summary of Technical Specifications and Performance

Requirements:

Describe the manufacturing processes (elaborate to provide as much detail as possible) ** Domestic components in the manufactured product (i.e., membrane filter) must exceed 55% of the total component cost and be assembled in the United States.

Provide dimensions / size / tolerances / performance specifications of the item Membrane filters to be used in a surface water membrane filtration packaged system designed to meet all potable water standards. Capacity = 100 gallons per minute.

List required materials needed to make the product, including materials of product components, if applicable BABA compliant materials.

Are there applicable certification requirements?
 Yes x
 No

Please explain: Build America, Buy America (BABA) compliant and capable of being approved by Washington (WA) State Department of Health (DOH) as an acceptable membrane filter for use in WA.

Are there any applicable regulations that apply to the production of this item?
 Yes x
 No

Please explain: BABA Compliant

Are there any other standards / requirements?
 Yes x
 No

Please explain: BABA

Additional Comments:

Additional technical comments:

Must submit BABA manufactured product self-certification letter for the membrane filter that details compliant product. Membrane filter must also be capable of being approved by State of Washington DOH for use on Washington infrastructure projects.

Volume and Pricing:

Estimated Potential Business Volume (i.e. #units per day, month, year): -

Estimated Target Price / Unit Cost Information: -

Delivery Requirements:

When is it needed by? (Immediate, 30 days, 6 months, etc) 2024

Describe packaging requirements (i.e. individually / group packaging, etc) -

Where will this item be shipped? Washington State

Additional Comments:

Is there other information you would like to include?

Nationwide MEP Supplier Scouting market research request seeking manufacturers/suppliers in the membrane filter industry. Please indicate the following in your response: - Supplier is BABA compliant. Membrane filter must also be capable of being approved by State of Washington Department of Health (DOH) for use on Washington infrastructure projects. - List of other States and Provinces that have approved similar membrane filter products. Information on BABA compliance requirements can be found at Made in America Office link <https://www.madeinamerica.gov/>. See pages 3-5 documents, in attached portfolio, on the WA DOH membrane filter approval process and approval checklist.



Office of Drinking Water

Acceptable membrane filters

331-617 • Updated February 2023

We will accept the membrane filters listed below for piloting or other state-approved field evaluations (WAC 246-290-676). Lab or field studies showed that these filters remove acceptable levels of *Cryptosporidium* (or acceptable surrogate) and meet the required material performance standard (WAC 246-290-220(1)).

Applicable Requirements: By accepting these membrane filters, we do not diminish the need to conduct a pilot test or other state-approved field evaluation. You must still do a pre-design study to establish the best way to produce satisfactory finished water quality and to justify your choice of filtration technology (WAC 246-290-250).

Requirements that apply to each membrane filter listed below:

- **Disinfection** (WAC 246-290-662).
- **Turbidity performance** (WAC 246-290-660): ≤ 0.10 NTU in 95 percent of all four-hour measurements taken each month from the combined filter effluent, never to exceed 1.0 NTU.
- **Turbidity monitoring** (WAC 246-290-664): Continuous on the combined filter effluent.
- **Indirect integrity monitoring** (particle counts or high-resolution turbidity) on each membrane unit according to product-specific approval.

Refer to the manufacturer's product-specific information prior to design.

Manufacturer	Model	Pathogen Removal Credit (Log) ¹			Flux Rate, Max @ 20C (gal/sf/day)	Trans-membrane Pressure ² Max	Initial Test Pressure Min	Quality Control Release Value ³	Direct Integrity Test Default Upper Control Limit (UCL) ^{4,5}
		Crypto	Giardia	Viruses					
APPROVED FOR EXISTING USES ONLY									
GE (Zenon)	ZeeWeed 500	3.0	3.0	0					
GE (Zenon)	ZeeWeed 1000 V4	3.0	3.0	0	60	-13 psi	12.5 psi	0.20 psi/min	0.60 psi/min
GE (Zenon)	ZeeWeed 1500	3.0	3.0	0	100	45 psi	13.6 psi	0.070 psi/min	0.10 psi/min
GE(Zenon)	ZeeWeed 1500-600	3.0	3.0	1.0	90	45 psi	13.7 psi	0.179 psi/min	0.25 psi/min
GE (Zenon)	Homespring	3.0	3.0	0	4.5 gpm cont. or 11 gpm peak	40 psi	15.0 psi	Under Review	0.36 psi/min
Pall (Trojan)	Microza USV-6203								
	Microza UNA-620A	3.0	3.0	0	120	43.5 psi	25.0 psi	<1 bubble at 29 psi, 1 minute hold time	0.33 psi/min
Pall (Trojan)	Ultra60 MSA-620A	4.0	4.0	0	120	43.5 psi	18.8 psi	0.01 psi/min	Site-specific ⁶

¹For models with a default upper control limit, we may grant greater *Cryptosporidium* and *Giardia lamblia* removal on a case-by-case basis with more stringent control limits.

²Negative pressure indicates that the membrane system operates under a vacuum.

³The manufacturer's quality control test criteria to ensure that each module shipped from the factory achieves the same *Cryptosporidium* removal as those that were independently challenge tested.

⁴Direct integrity test performed at least daily and before returning a skid to service after work has been done on the unit or it has been off-line. You must perform a direct integrity test immediately if the system exceeds an indirect integrity-monitoring threshold for 15 or more minutes. You also must perform a direct integrity test once every 4 hours as long as the system continues to exceed the threshold. The indirect integrity monitoring threshold for all listed membranes is either:

- Particle Counts (size >2 um): 30 counts /ml
- Turbidity: 50 mNTU (0.05 NTU)

⁵Membrane unit shuts down automatically if the direct integrity test exceeds the UCL or the Log Removal Value (LRV) is less than 3.0. If the membrane unit shuts down based upon the LRV value, you must use a DOH-approved algorithm. Consult with the regional engineer on the LRV approval process.

⁶The UCL must be submitted for DOH approval based on site-specific conditions. UCL must be set for at least a design log removal credit of 3.0 log and for no more than the maximum log removal credit of 4.0.

Manufacturer	Model	Pathogen Removal Credit (Log) ¹			Flux Rate, Max @ 20C (gal/sf/day)	Trans-membrane Pressure ² Max	Initial Test Pressure Min	Quality Control Release Value ³	Direct Integrity Test Default Upper Control Limit (UCL) ^{4,5}
		Crypto	Giardia	Viruses					
Siemens (Evouqua)	M10C Part 111008	3.0	3.0	0	APPROVED FOR EXISTING USES ONLY				
Siemens (Evouqua)	S10N – Part 119211	3.0	3.0	0	80	22 psi	14.0 psi	9.0 sec/mL	0.39 psi/min
	L10N – Part 111315	3.0	3.0	0	155	22 psi	14.0 psi	9.0 sec/mL	0.20 psi/min
Siemens (Evouqua)	L20N – Part 11062	3.0	3.0	0	155	22 psi	14.0 psi	6.0 sec/mL	0.57 psi/min
Secuca	Phoenix: Module Dizzer:XL0.9MB60	3.0	3.0	0	59	36 psi	21.75 psi	0.145 psi/min	0.25 psi/min
	Virex: Module – SeccuMem Pro 1000	3.0	3.0	0	53	36 psi	22.4 psi	0.007 psi/min	0.35 psi/min
Westech/Polymem	UF 120 S2	3.0	3.0	0	60	29 psi	16.3 psi	0.49 psi/min	0.90 psi/min
Westech/Toray	HFU 2020N	3.0	3.0	0	100	29 psi	18.2 psi	0.029 psi/min	0.39 psi/min
	HFUG 2020AN	4.0	4.0	0	120	29 psi	17.44 psi	0.029 psi/min	site-specific ⁶

For more information

Call your ODW regional office.

[Eastern Region](#) Spokane Valley (509) 329-2100

[Northwest Region](#) Kent (253) 395-6750

[Southwest Region](#) Tumwater (360) 236-3030

Our publications are available at doh.wa.gov/odwpubs.



To request this document in another format, call 1-800-525-0127. Deaf or hard of hearing customers, please call 711 (Washington Relay) or email civil.rights@doh.wa.gov.

MEPNN Supplier Scouting Opportunity Synopsis

Item Information	
Scouting Number	2023-XXX
Item to be Scouted	Build America Buy America (BABA) Membrane Filter
Days to be scouted	30 days
Description	American manufacturers of BABA-compliant (manufactured product) membrane filter for use in a surface water treatment plant replacement project in WA.
State item to be used in	WA – Nationwide Supplier Scouting Search

Contact Information	
Email	
First Name	
Last Name	
Department / Company / MEP Center	
Bureau / Division / MEP Center Regional Office	

Supplier Information	
Type of supplier being sought	BABA-compliant self-certified manufacturer
Details	Membrane Filter manufacturer
Reason	Re-shoring
Details	BABA

Summary of technical specifications and performance requirements	
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Domestic components in the manufactured product (i.e., membrane filter) must exceed 55% of the total component cost and be assembled in the United States.
Provide dimensions / size / tolerances / performance specifications for the item	Membrane filters to be used in a surface water membrane filtration packaged system designed to meet all potable water standards. Capacity = 100 gallons per minute.
List required materials needed to make the product, including materials of product components	BABA compliant materials.
Are there applicable certification requirements?	Yes
Certification(s) required	Build America, Buy America (BABA) compliant and capable of being approved by WA DOH as an acceptable membrane filter for use in WA.
Details	Must submit BABA manufactured product self-certification letter for the membrane filter that details compliant product. Membrane filter must also be capable of being approved by State of Washington DOH for use on Washington infrastructure projects.
Are there applicable regulations?	

Additional Technical Comments	
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Volume and Pricing

Estimated potential business volume	
Estimated target price / unit cost information (if unavailable explain)	

Delivery Requirements

When is it needed by?	2024
Describe packaging requirements	
Where will this item be shipped?	WA

Additional Comments

Is there other information you would like to include?	<p>Nationwide MEP Supplier Scouting Search requested.</p> <p>Provide written documentation in response to the Supplier Scouting request of being a current Build America Buy America compliant membrane filter manufacturer.</p> <p>Provide in written documentation in response to the Supplier Scouting request a listing of other States or Provinces that have approved the membrane filter product.</p> <p>Information on BABA compliance requirements can be found at Made in America Office link https://www.madeinamerica.gov/.</p> <p>See pages 3-5 documents on the WA DOH membrane filter approval process and approval checklist.</p>
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Overview of the Washington State Alternative Technology Review Process

To proceed with review of membranes as an alternative filtration technology, WSDOH needs a letter requesting approval of the proposed technology in accordance with WAC 246-290-676(2)(b) from the manufacturer (or an approved representative of the manufacturer).

This request should include:

All available product performance test data

- Documentation of challenge testing consistent with the requirements of the LT2ESWTR (40 CFR 141.719).
- The qualifications of the independent third party conducting the test (ANSI, ISO, other State, etc . . . accreditation for equipment testing).
- A listing of the other States or Provinces that have approved the product.
- Product specifications, including maximum recommended operating parameters (flow rate and differential pressure) and a discussion of the basis for these selected parameters (structural integrity, performance, product life, etc. . .)
- Direct integrity testing approach and information necessary to allow for calculation of control limits.
- Maximum number of units on a skid/rack/cell for direct integrity testing.
- Proof of ANSI/NSF 61 Std Listing
- An Operations and Maintenance Manual for the product.

Our review will address the following general objectives:

1. Provide an overview of the product and its potential use. Include a description of any installation constraints.
2. Provide a brief overview of performance data results and develop a determination of log reduction credit for the product.
3. Identify key operating constraints (maximum flow rate per unit (flux), maximum pressure differential).

We are required to charge an hourly fee for our reviews, currently \$102/hr. Provide a project approval application ([331-149](#)) with: 1) project description (under Water System Information), 2) Project Contact, and 3) Billing info.

Contact:

Jolyn Leslie, P.E.

Department of Health, Division of Drinking Water

Phone: (206) 945-6927

Jolyn.Leslie@doh.wa.gov

Low Pressure Membrane Filtration Equipment Manufacturer Checklist

Equipment Manufacturer:

Equipment Model:

Manufacturer Primary Contact: Name, Address; Email; Phone

General Equipment Information

Page	Issue	Value
	Nominal Membrane Classification (Microfiltration, Ultrafiltration, etc. . .)	
	Module/Element Part #	
	Fiber - Dimensions and Construction	
	Nominal Pore Size	
	Material (PVDF, PP, PES, etc. . .)	
	Surface Charge (Positive, Negative, Neutral)	
	Surface Chemistry (Hydrophilic, Hydrophobic)	
	ID	
	OD	
	Effective Length	
	Flow Path (Inside-Out; Outside-In)	
	Type (Hollow Fiber, Multibore, Monolithic)	
	pH Tolerance	
	Maximum Chlorine Tolerance	
	Temperature Tolerance	
	Roughness Coefficient	
	Module/Element – Dimensions and Construction	
	Fibers (#/module/element)	
	Filter Area	
	Potting Material	
	Casing Material	
	Quality Control Release Value	
	Maximum Flux Rate	
	Dimension (L, W, D)	
	Weight (Empty/Full)	
	ANSI/NSF Standard 61 certified	

Challenge Testing

Page	Issue	Value
	Full scale module(s) used.	<input type="checkbox"/>
	Number of independent modules tested	
	Criterion of selected modules for testing	
	Non Destructive Performance Testing (NPDT) process.	
	Challenged module pressure drop \geq QCRV	<input type="checkbox"/>
	Sampling / monitoring plan	NA
	Challenge particulate - Cryptosporidium oocysts or acceptable surrogate according to MFGM	<input type="checkbox"/>
	Challenge particulate – Detection Limit; matrix spikes and recovery data.	
	Challenge particulate – Max. feed concentration 3.16×10^6 times Detection Limit	<input type="checkbox"/>
	Hydraulic conditions – Max. flux rate.	
	Hydraulic conditions – Max. recovery.	

Direct Integrity Testing

Page	Issue	Value
	Resolution $\geq 3 \mu\text{m}$	<input type="checkbox"/>

	Resolution – Contact angle: acceptable third party testing or assumed 0°.	
	Resolution –Backpressure identified, documented, and verified.	
	Sensitivity – Laminar/turbulent flow range and basis.	
	Sensitivity – Hold-up volume identified and documented.	
	Sensitivity – Volumetric Concentration Factor (VCF); independent tests to identify at average and 95 th percentile.	
	Sensitivity – Minimum reasonable flux rate for fixed UCL calculations; If not identified, use state default value.	
	Sensitivity – LRV _{DIT} algorithm identified, documented, and follows EPA MFGM.	<input type="checkbox"/>
	Frequency – Daily, unless multiple year third party testing to show no fiber breaks, seal leaks, or other integrity issues.	

Indirect Integrity Monitoring

Page	Issue	Value
	Membrane filtration unit defined (Maximum number of modules).	
	Continuous (Meets CFR definition)	
	Acceptable Method (Particle counts; Hach FilterTrak Method 10133, etc . .)	
	Control Limit – State default values unless another CL established using integral and compromised fiber studies that are membrane filtration unit specific.	

Other

Page	Issue	Value
	CIP Chemicals – Confirm all ANSI/NSF Standard 60 certified	<input type="checkbox"/>
	Other water quality parameter issues	
	Third party testing organization (Name; Individuals, Qualifications)	
	All previous approvals, if any (other states, countries)	
	Third party product reviews (Peer-reviewed journals, conference proceedings, etc. . .) Papers preferred. Citations acceptable.	