

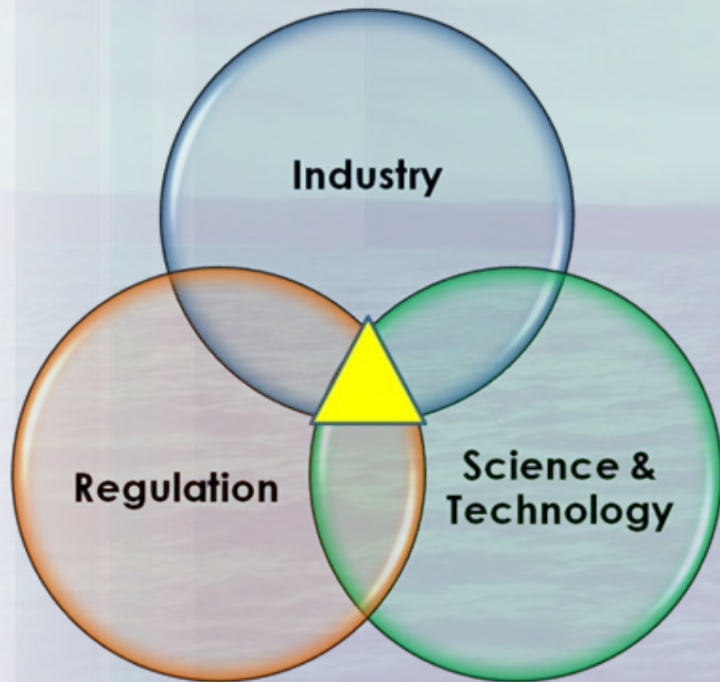


enviromanagement

Pacific Ballast Water Group Meeting
24 – 25 April 2024
Portland, OR

BALLAST WATER: DEAD OR ALIVE?

EnviroManagement, Inc.



- Founded in 2002, combined 50+ years in environmental science and engineering. In ballast water industry for 23 years.
- **Who we service**
 - Ship Owners / Operators / Managers
 - BWMS Manufacturers
 - Regulatory agencies
- **Vessel Compliance Services**
 - IMO & EPA VGP sampling in ~100 global ports
 - Ballast Water
 - Gas Scrubber Wash Water
 - Bilge, Black and Gray Water
 - Drinking water
 - Ballast Water Consulting
 - IMO
 - USCG
 - USEPA
 - Classification Societies
 - BWMS Type Approvals
 - General Project Management/Consulting

Ballast Water: Dead or Alive?

Has Marcie been reliving the 80's and listening to too much Bon Jovi?!

Reminded that BW still presents risks of AIS introduction – BW is ALIVE!

Enforcement needs to be as well...

"We're past the compliance date for most ships. BW is 'DEAD', right?!"

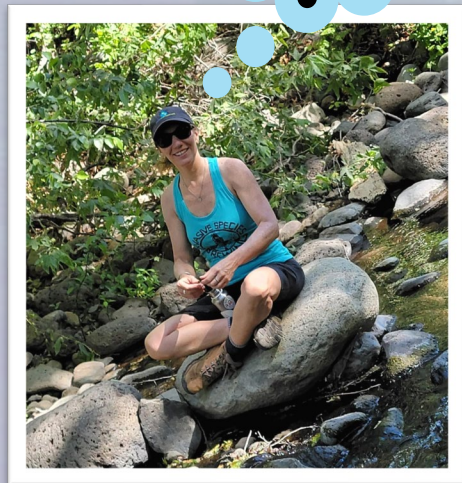
Challenging Water Quality!

BWMS modifications!

Compliance Monitoring!

Convention Review!

VIDA!



Challenging Water Quality

- Guidance finalized at MEPC 81: Resolution MEPC.387(81):

Definition:

“...ambient uptake water having quality parameters (including but not limited to high total suspended solids*, or turbidity) that cause a properly installed, maintained and operated type-approved BWMS to be temporarily inoperable due to an operational limitation or an inability to meet operational demand. However, temperature and salinity are not parameters that define CWQ.”

*Total Suspended Solids (TSS) are defined as solids in water that can be trapped by a filter

Essentially - challenging water quality causes a properly installed, maintained and operated BWMS to be temporarily unable to operate at a sufficient ballast flow rate to meet the ship's ballasting / cargo operation needs.

Challenging Water Quality

Guidance attempts to meet the needs of all stakeholders

Owners/Operators

- Unforeseen water conditions can arise
- BWMS selection isn't always possible
- Cargo operations & safety are key
- Need consistency & low administrative burden

Coastal Flag States

- Compliant discharges are critical
- Seek low administrative burden
- Wanted standard protocols to support enforcement

BWMS Makers

- Have a stake in equipment that produces compliant discharges
- Want systems operated & maintained regularly
- Service efficiency

Challenging Water Quality

How is challenging water quality determined?

~~By the local
port
Authority~~

~~CWQ
experienced
by other
vessels in the
same port~~

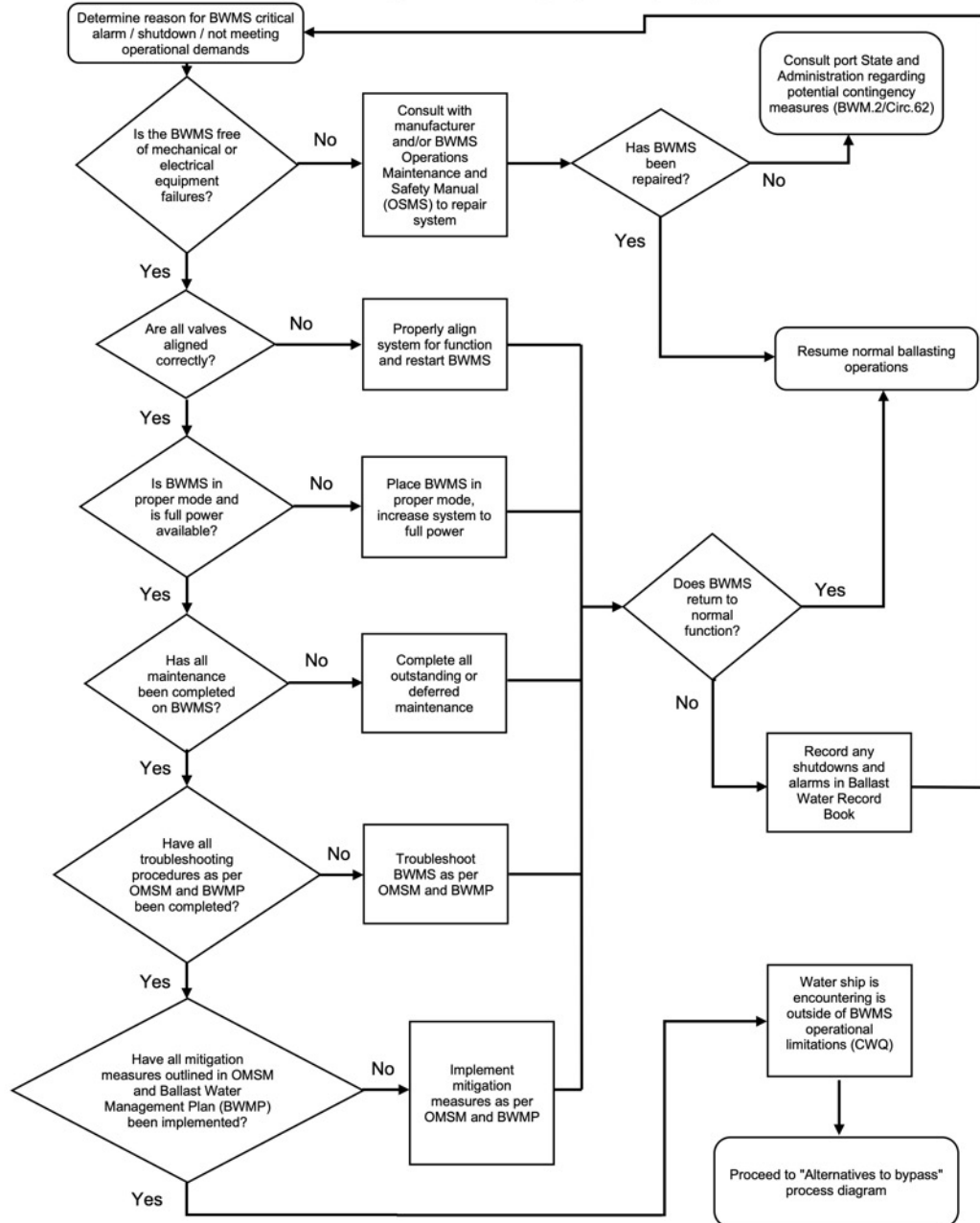
~~Based on
CWQ during
a prior visit to
the same
port~~

~~By the crew
looking over
the side of
the ship~~

By the BWMS



Sample process diagram 2: Challenging water quality process



PROCESS OPTIMIZATION

After assessing BWMS operation to determine if CWQ is present, the crew follows a second process diagram to try optimizing operation of the BWMS

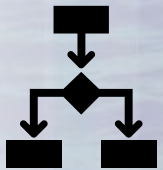
Challenging Water Quality

Some Principles of the CWQ Guidance



Owners / Operators to select BWMS suitable for the vessel and trading patterns

Vessel crews to maintain and operate BWMS per the manufacturers' specifications



Crew processes to determine CWQ, optimize BWMS operation, follow BWMP

Decontaminate ballast tanks if bypass of the BWMS is used



Challenging Water Quality

What the CWQ Guidance does NOT allow



Crew should not bypass without attempting to treat ballast using the BWMS (i.e., follow the processes in the guidance)

Ships cannot bring untreated water into port; BW to be managed either with the BWMS, via BWE+BWT or other approved methods



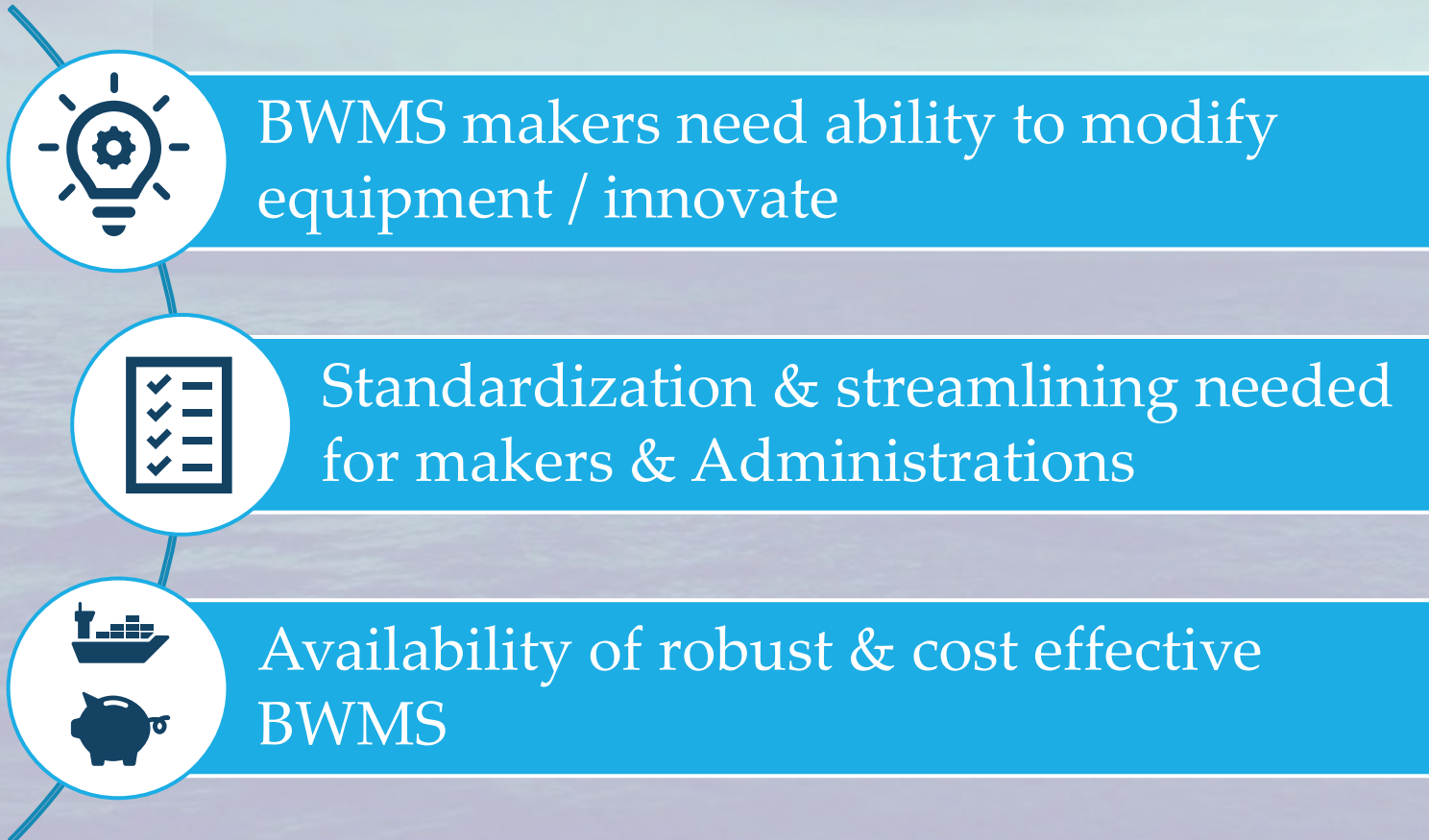
CWQ Guidance does not cover BWMS needing repairs; follow contingency measure guidance for repair plans / timeline

Scenarios of salinity or temperature SDL's not being met require ships to receive special guidance



Type Approved BWMS Modifications

Why is this a topic & what are the challenges with modifying a BWMS with existing Type Approval?



Type Approved BWMS Modifications

Modification Challenges

- ⦿ BWMS have many type approvals:
 - IMO
 - USCG
 - Flag
 - Classification Societies
- ⦿ Modifications can take 1+ year after application submission – *per type approval*
- ⦿ Repetitious testing
- ⦿ Costs can be very high – depending on any needed testing and the fees for *each approving entity*
- ⦿ Disincentivizes innovation!

Solutions & Benefits

- ⦿ Streamline & standardize the approval processes for modifications (this does not = *remove* approval processes)
- ⦿ Distinguish between major and minor BWMS components
- ⦿ A level playing field will support robust BWMS in the marketplace – in a timely manner
- ⦿ Support ships with meeting other environmental goals / regulations
- ⦿ Cost effectiveness – ultimately for owners / operators

Type Approved BWMS Modifications

IMO activity

- ◉ Paper submitted to MEPC 80 (MEPC 80/4/10, Norway)
 - Proposal to create new guidance
 - Offered ideas for BWMS Code amendments
 - Not supported - more work needed
- ◉ Paper submitted to MEPC 81 (MEPC 81/4/3, Germany, Greece, BEMA)
 - Proposal to modify existing guidance (BMW.2/Circ.43/Rev.1)
 - More work needed
- ◉ MEPC 82 – efforts in progress, stay tuned!

BEMA Updates



- ⦿ Name change! Ballastwater & Environmental Manufacturers' Association
- ⦿ Evolving to include other environmental technologies
- ⦿ IMO Activities:
 - Compliance – encourage inspections and enforcement, MEPC 80/4/11
 - Participated in Correspondence Group for CMD Verification Protocol development
 - Supported Challenging Water Quality (CWQ) Guidance
 - BWM Convention Review Correspondence Group participant
 - Modifications to Type Approved BWMS – MEPC 80, 81 & 82
 - Engaging with the Paris MoU; BW inspection campaign

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Thank you!

