

---

# Updated Ballast Water Management

8<sup>th</sup> June 2016

Korean Register

# Contents

❖ **BWM Convention**

---

❖ **USCG BWM Requirement**

---

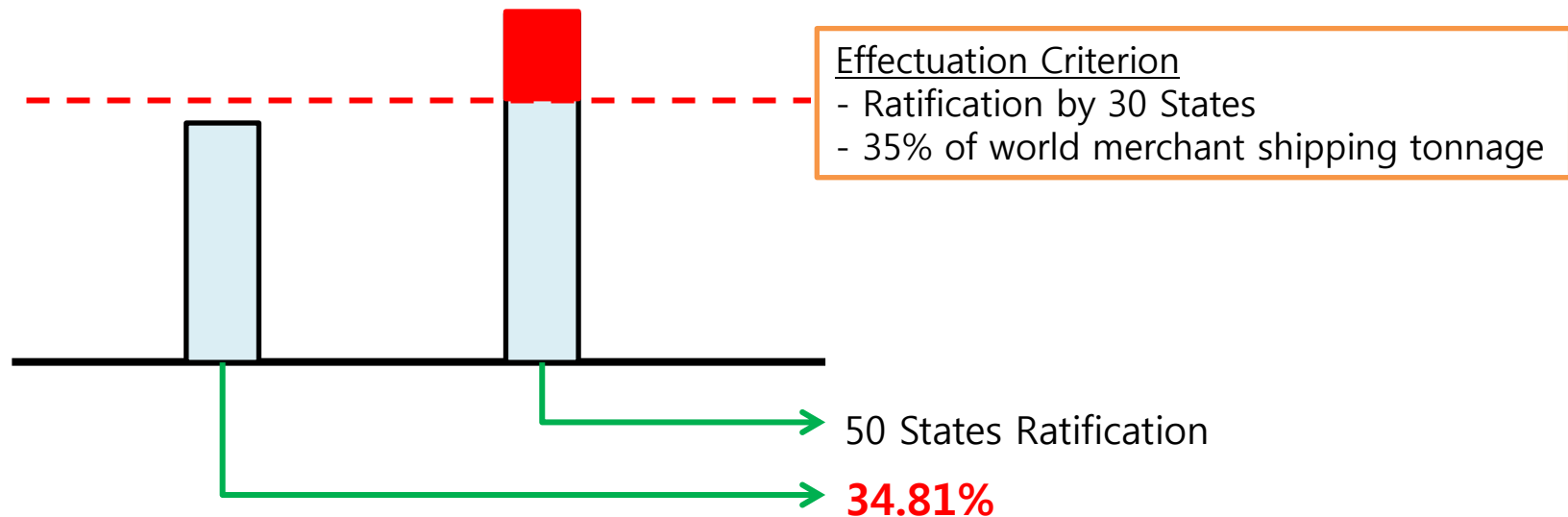
❖ **Development Status of BWMS**

---

# BWM Convention

# BWM Convention

- International Convention for the Control and Management of Ship's Ballast Water and Sediments, 2004 adopted by BWM Conference(BWM/CONF/36) 16<sup>th</sup> Feb. 2004
- "Saint Lucia" recently have ratified on 26<sup>th</sup> May 2016
- Ratification Status for BWM Convention(26<sup>th</sup> May 2016, [www.imo.org](http://www.imo.org))



- Finland and Peru announced that their internal process to ratify the BWM Convention is nearly completed

*\* Based on 2015 IHS world fleet statistic data, Finland is representing 0.14% and Peru is representing 0.04%*

# BWM Convention

- Amendments to G8 Guidelines(Type Approval of BWMS)

- ✓ Amendments to Type Approval Certificate

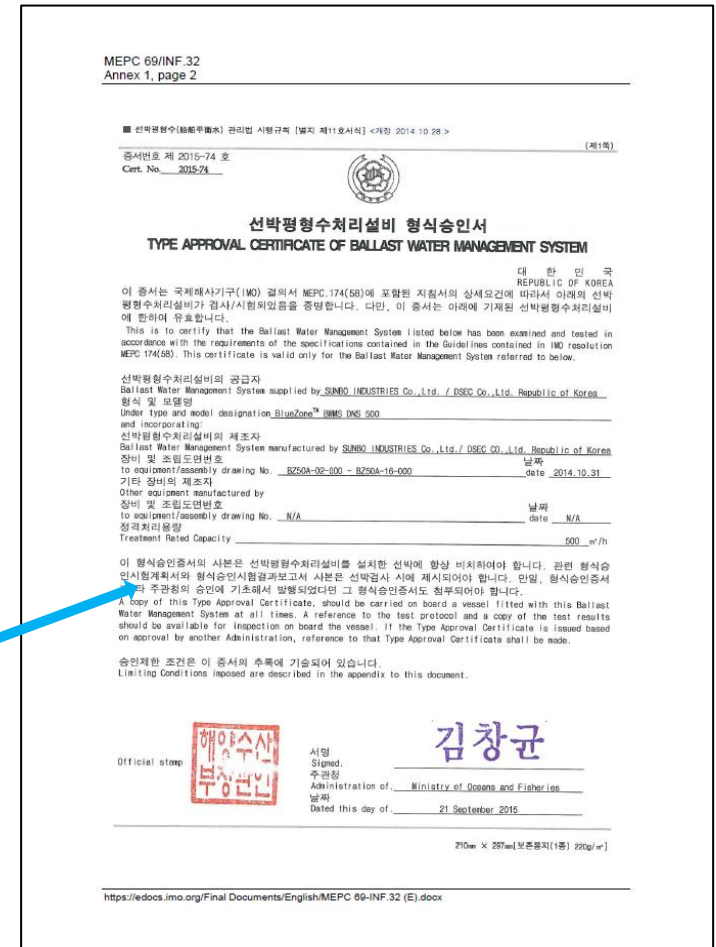
1. The water salinities be amended:

Salinities		
Fresh	Brackish	Marine
< 1 PSU	10~20 PSU	28~36 PSU

2. G8 shall cover the specific range of temperatures that a ship is expected to operate in: 0°C to 40°C

3. SDL(System Design Limitation) will be further explored

\* *Type Approval Certificate should be clearly annotated on the front page with the description "Limiting Operational Conditions" and each restricted parameter stated together with the actual effective operational value range and other limiting conditions or circumstances as appropriate*



# BWM Convention

- Amendments to G8 Guidelines (Type Approval of BWMS)

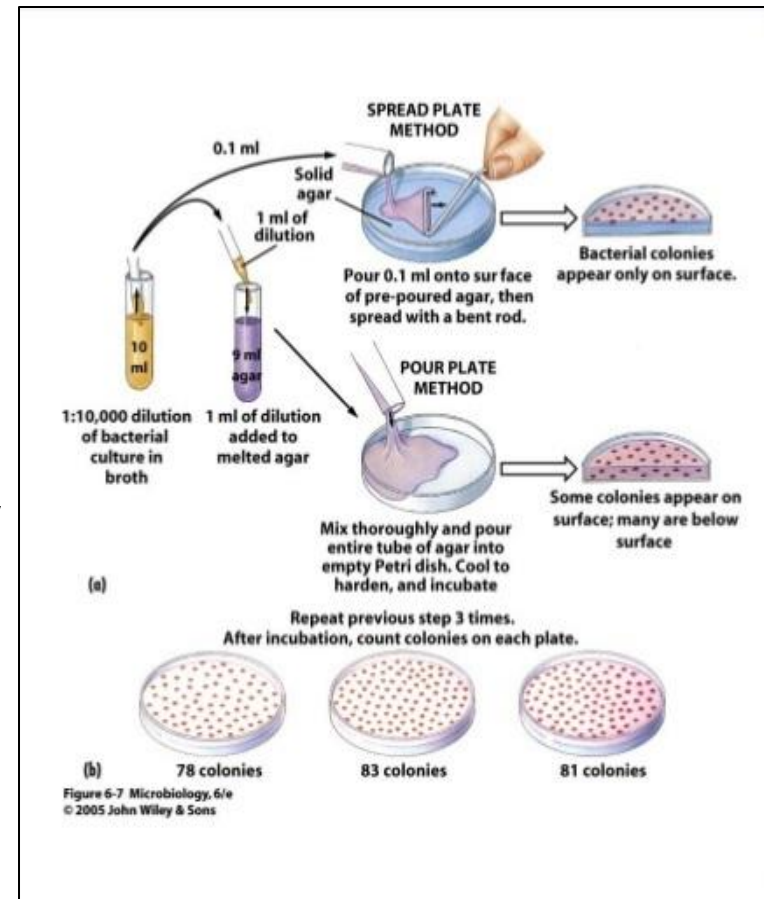
- ✓ **Most Probable Number (MPN) analysis and Definition of "viable organism"**

1. For 'reproduction ability' of organism, MEPC 69 agreed to develop a circular to accept methods for determining the viability of organism subject to further consideration by PPR 4

2. Recently, USCG did not accept test results analyzed by MPN methods for 4 UV type BWMS !?

3. Ship owner's concern on world wide availability of UV type BWMS !?

\* *Most Probable Number method to estimate number of cells when samples contain too few organisms to give reliable measures of population size by standard plate series of progressively greater dilutions to verify whether reproduction ability in organisms still exists*



# BWM Convention

---

- Amendments to regulation B-3 of BWM Convention

## ✓ Final Implementation schedules for new ships

BW Capacity (m <sup>3</sup> )	Construction Date	D2 Compliance
Regardless of individual ballast water capacity	On or after the date of entry into force	On delivery from the yard

## ✓ Final Implementation schedules for existing ships

BW Capacity (m <sup>3</sup> )	Construction Date	D2 Compliance
Less than 1,500 or more than 5,000	Before 2009	1 <sup>st</sup> IOPP Renewal Survey following the date of entry into force of the Convention
5,000 or more	2009 ~ 2011	
1,500 ~ 5,000	Before 2009	
Less than 5,000	On or after 2009	
5,000 or more	On or after 2012	

\* Given that HSSC scheme is not mandatory status, early completion of IOPP renewal survey would be possible under the permission or acceptance from the Administrations



# USCG BWM Requirement



# USCG BWM Requirement

- USCG BWM requirement has entered into force after 21 June 2012
- ✓ Implementation schedules for ballast water management system

Vessel Category and BW Capacity (cubic meters, m <sup>3</sup> )		Vessel Construction Date (Keel Laid)	Vessel Compliance date
New Vessels	ALL	On or After December 1, 2013	On Delivery
Existing Vessels	less than 1500 m <sup>3</sup>	Before December 1, 2013	First dry docking after January 1, 2016
Existing Vessels	1500 – 5000 m <sup>3</sup>	Before December 1, 2013	First dry docking after January 1, 2014
Existing Vessels	greater than 5000 m <sup>3</sup>	Before December 1, 2013	First dry docking after January 1, 2016

✓ Should be Type-approved by USCG to sail within US Port, however allowed for no longer than 5 years on condition of approval AMS by USCG  
**(CG-OES Policy Letter No.13-01, 25 Sep. 2013)**

✓ Recently, 5 years limitation on a vessel's max. duration of an extension was removed.  
**(CG-OES Policy Letter No.13-01, Rev.1, 10 Sep. 2015)**

✓ This means that continuous operation of an AMS installed onboard may be accepted.

✓ Extension requests must be written in English and submitted electrically as an e-mail  
[environmental\\_standard@uscg.mil](mailto:environmental_standard@uscg.mil), with an application spreadsheet([refer to www.krs.co.kr](http://www.krs.co.kr))  
 with required information.

# USCG BWM Requirement

- Status of IL(Independent Laboratory) accepted by USCG

Approval Series	USCG Accepted Laboratory	Sub Laboratory	Country	City	State
162.060	NSF International	MERC, GSI, Retlif, American Bureau of Shipping; Curtis Strauss LLC (BWMS)	USA	Ann Arbor	MI
162.060	DNV GL AS	DHI-Denmark/Singapore, Golden Bear, NIVA, Applica, DELTA, Phoenix TestLab, Retlif, TUV SUD, SGS Gihe	Norway	Høvik	N/A
162.060	KR	KOMERI, KTL, SGS Giheung Lab	Korea	Busan	N/A
162.060	Control Union Certifications BV	IMARES, NIOZ, GoConsult, Dr. Matej David Consult, TNO	Netherlands	Zwolle	N/A
162.060	Lloyd`s Register EMEA	DHI-Denmark /singapore, DELTA	United Kingdom	London	N/A

# USCG BWM Requirement

- Comparison of USCG ETV with BWM G8 Guideline(Reference : [www.wartsila.com](http://www.wartsila.com))

	USCG ETV	IMO G8
<b>Land-based Test</b>	Test in all water salinities for which the system is to be certified(Sea, Brackish, Fresh)	Sufficient to test in two salinities
	Salinity ranges : freshwater<1psu, brackish water 10-20psu, sea water 28~38psu	Salinity range : freshwater 0~3psu, brackish water 3~28psu, sea water>28psu(difference min 10psu for testing)
	5 consecutive tests in each salinity	5 tests in two salinities
	Operation & maintenance testing 50hr	No formal requirement for O&M testing
	Test hold time 1 day	Test hold time 5 days
	Tests utilizing the services of an IL and at an approved testing facility	Tests to be conducted at test facilities(approved) by an IMO member state
	System to be operated by test centre personnel	System operated by system developer's personnel
<b>Shipboard test</b>	5 consecutive tests with min. 6 months between first and last	3 consecutive tests with min.6 months between first and last
	No control water reference required	Tank with reference untreated water required
	System to be operated by ship's crew as per normal operation	System could be operated by developer's own personnel

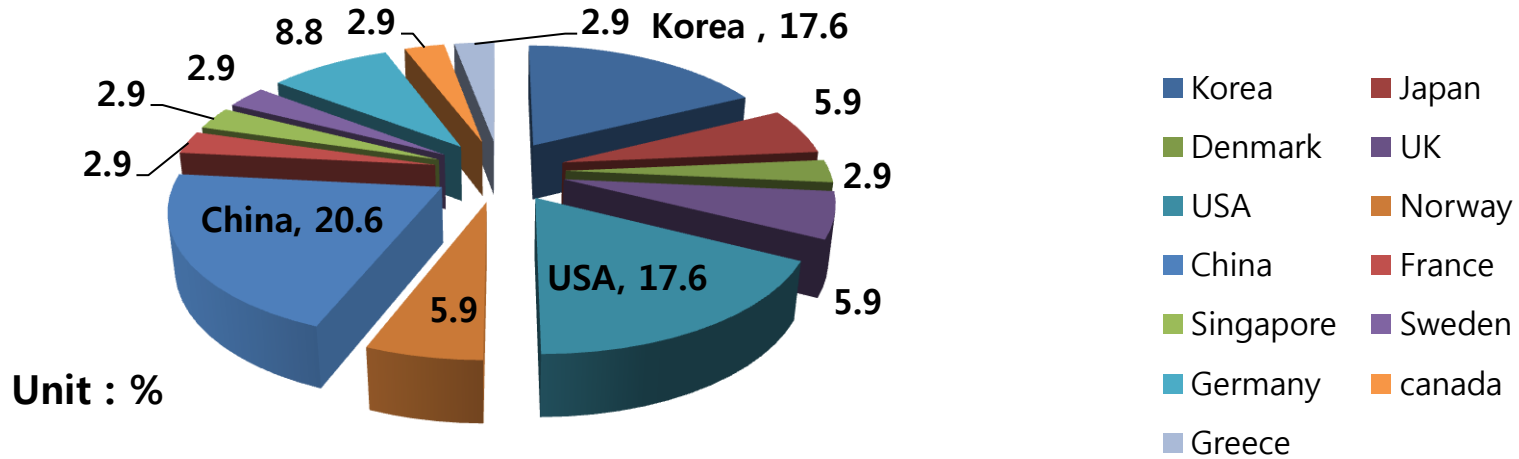
# USCG BWM Requirement

- Status of LOI Submission(12<sup>th</sup> April 2016, [www.uscg.mil](http://www.uscg.mil))

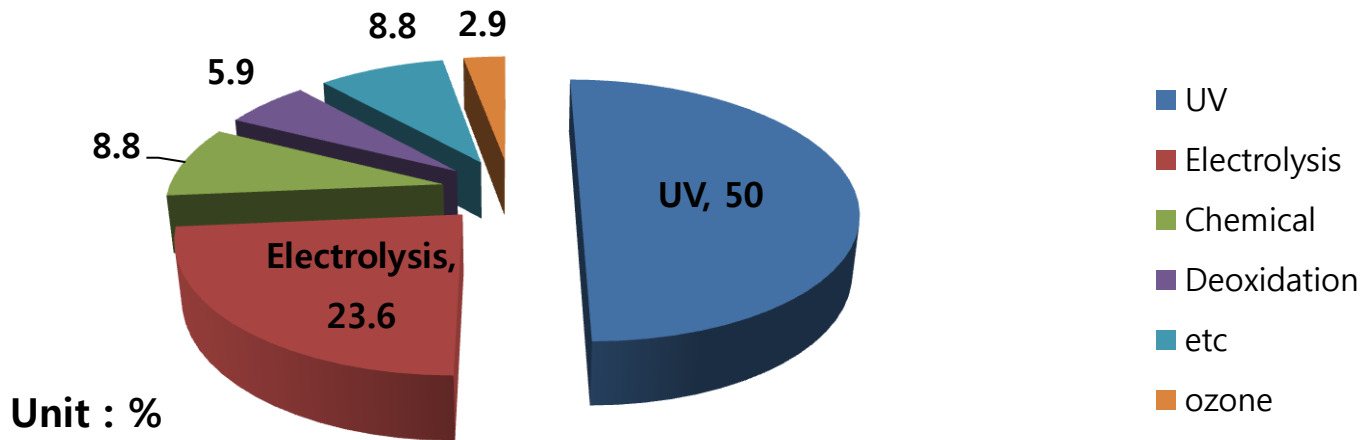
	Manufacturer	Country of MFR	Date Received
1	Desmi Ocean Guard A/S	Denmark	2013-02-07
2	Panasia	Republic of Korea	2013-12-09
3	Eaton	USA	2014-03-12
4	Wartsila Water System	UK	2014-04-17
5	Trojan Marinex	Canada	2014-04-28
	⋮	⋮	⋮
30	Hyundai Heavy Industries	Republic of Korea	2015-10-16
31	Jiansu Nanji Machinery	China	2015-10-27
32	Cathelco	UK	2016-2-12
33	Alfa Laval Tumb AB	Sweden	2016-2-19
34	Evonik Resource Efficiency GmbH	Germany	2016-4-1

# USCG BWM Requirement

- Distribution Ratio by Country for Manufacturers submitted LOI(%)



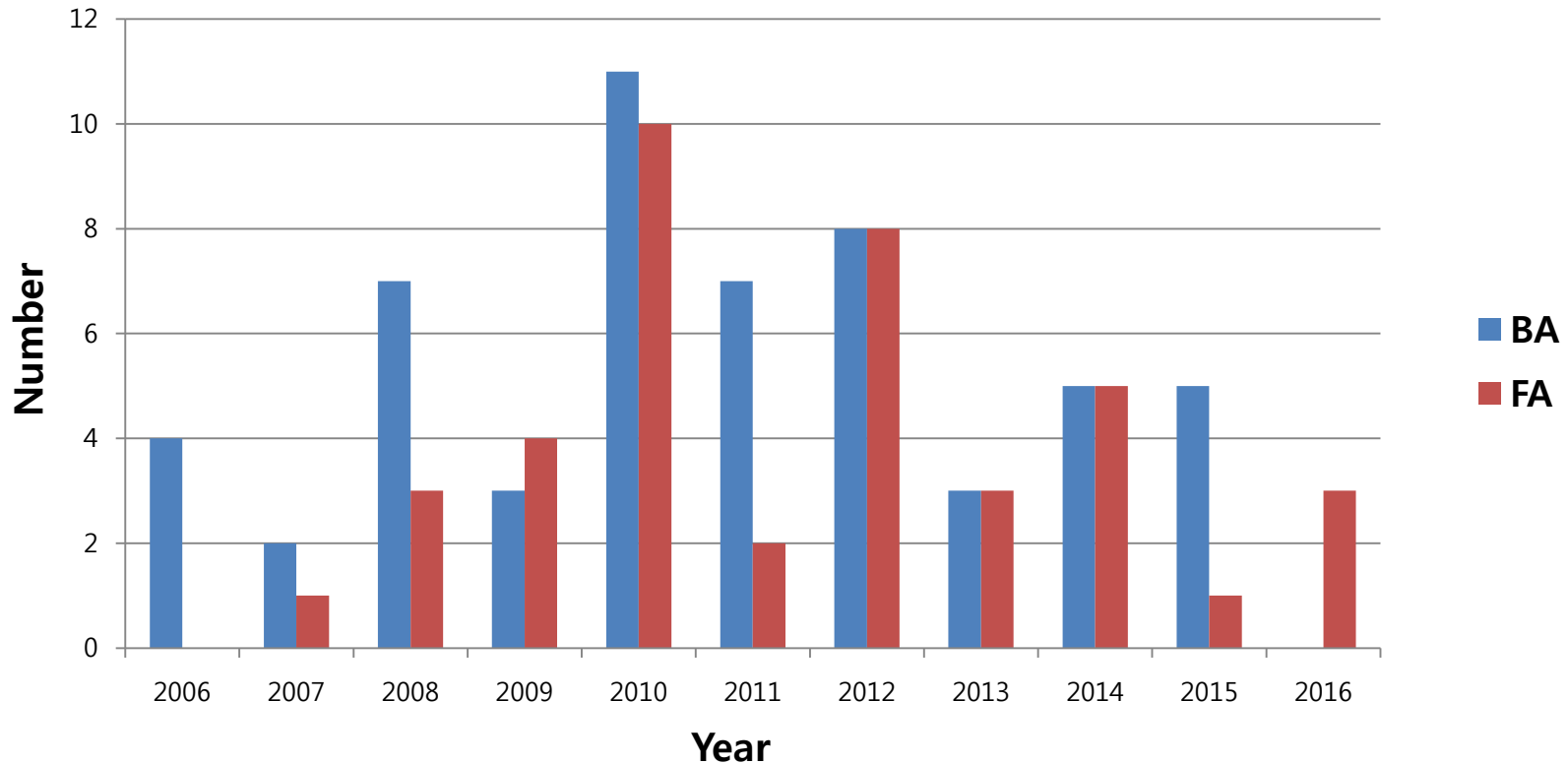
- Distribution Ratio by Treatment type for Manufacturers submitted LOI(%)



# Development Status of BWMS

# Development Status of BWMS

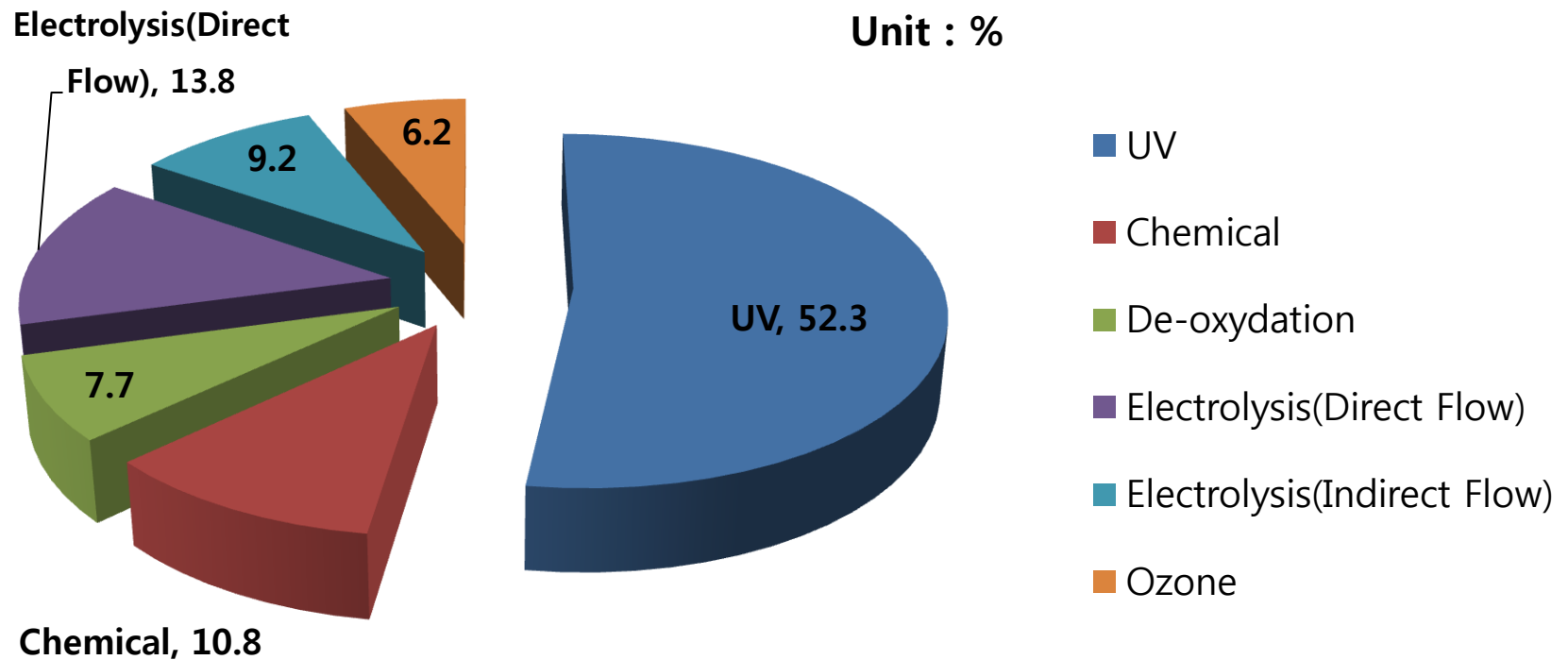
- Refer to "BWM.2/Circ.34/Rev.4(April 2016)" register at IMO website
- Number of Basic Approval and Final Approval from IMO until 2016





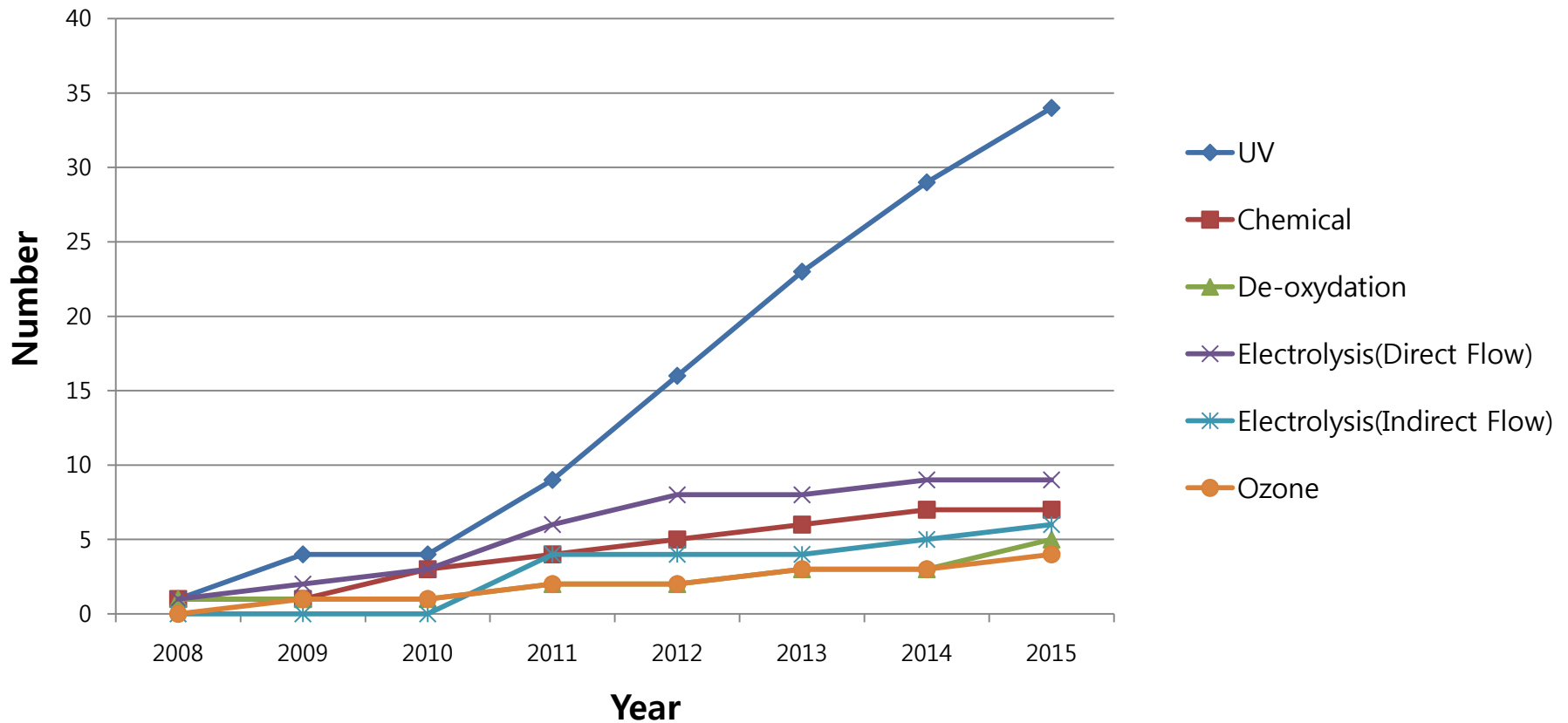
# Development Status of BWMS

- Refer to "BWM.2/Circ.34/Rev.4(April 2016)" stated at IMO website
- Distribution Ratio by Treatment type for Type Approved BWMS



# Development Status of BWMS

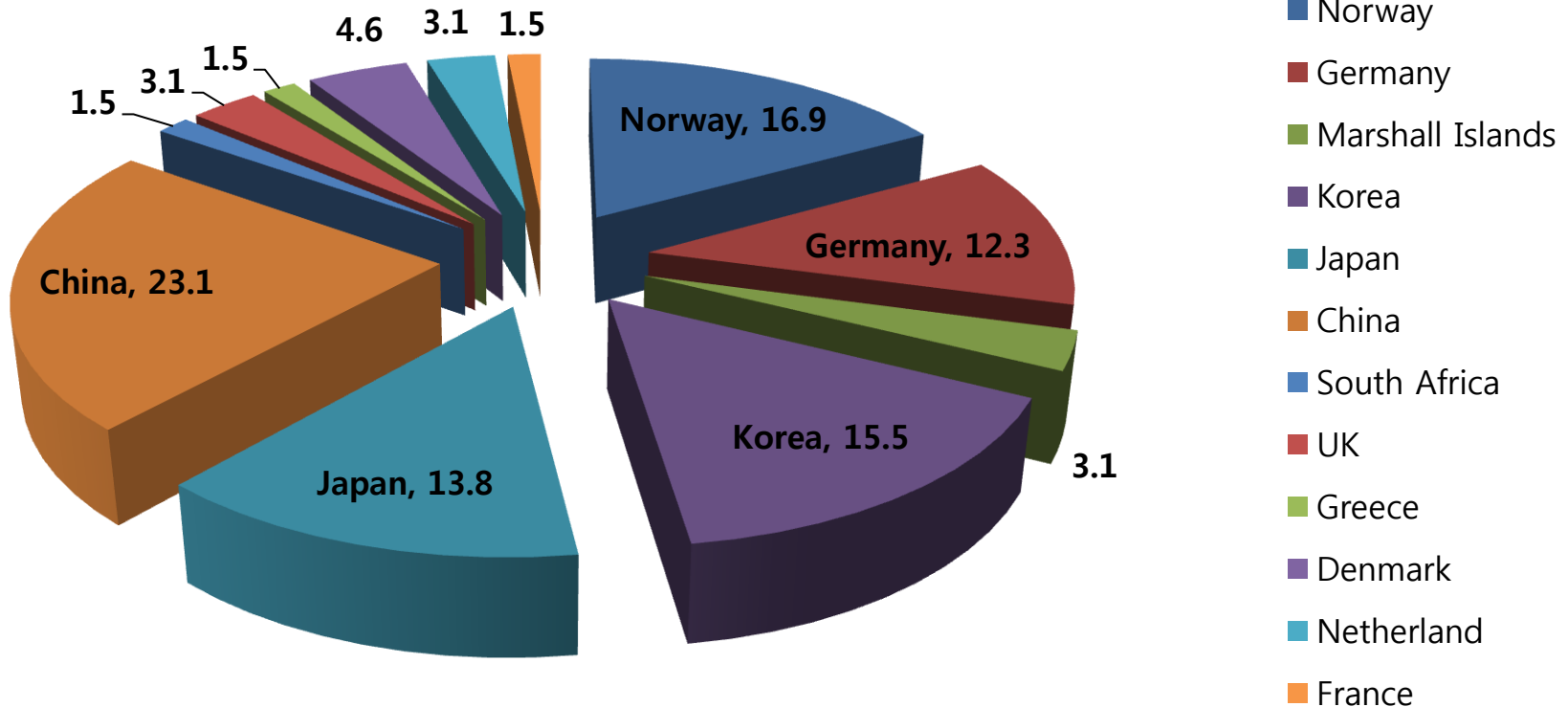
- Refer to "BWM.2/Circ.34/Rev.4(April 2016)" stated at IMO website
- Cumulative Status of Type Approval for BWMS Type by Annual



# Development Status of BWMS

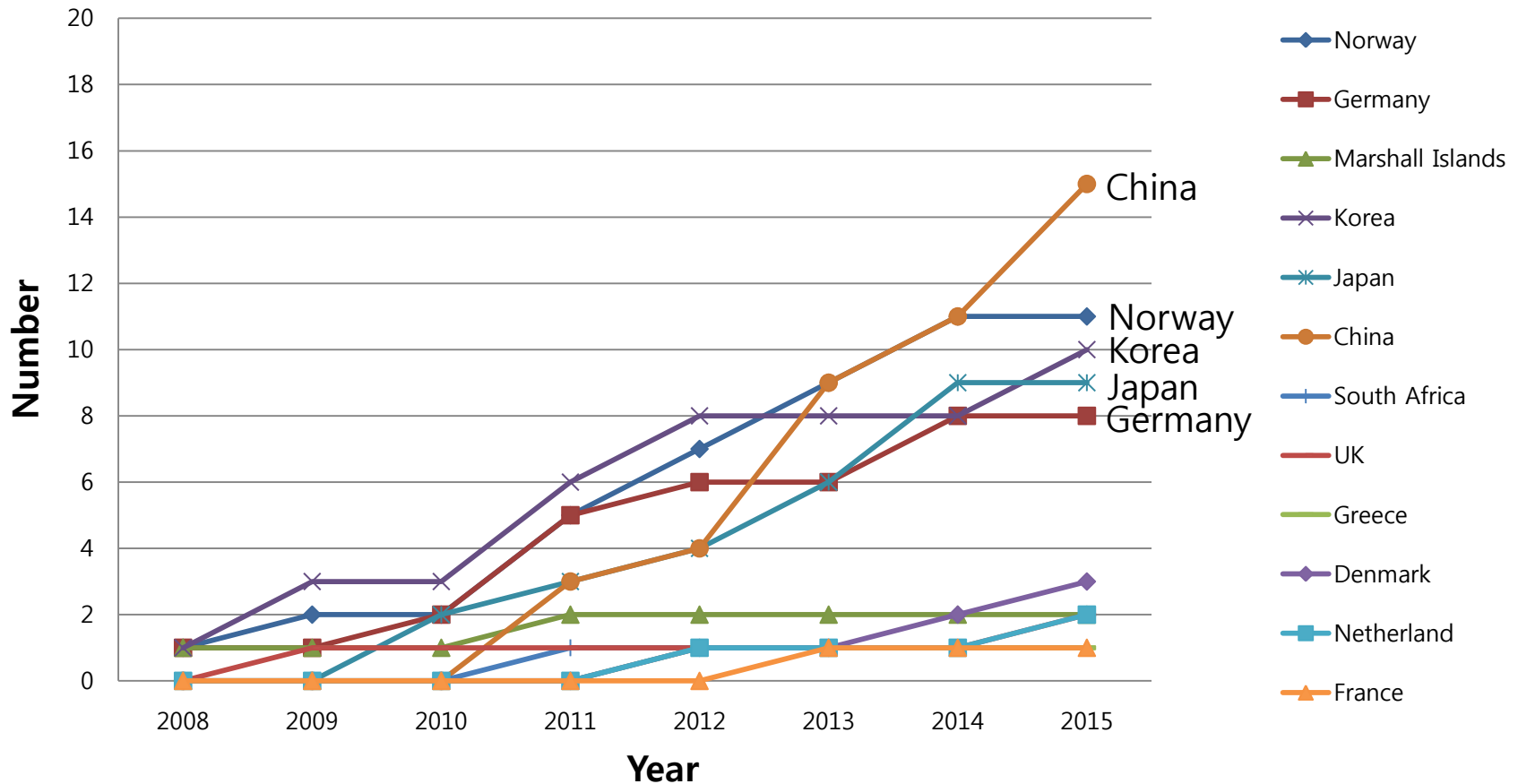
- Refer to "BWM.2/Circ.34/Rev.4(April 2016)" stated at IMO website
- Distribution Ratio by Administration for Type Approved BWMS

Unit : %



# Development Status of BWMS

- Refer to "BWM.2/Circ.34/Rev.4(April 2016)" stated at IMO website
- Cumulative Status of Administration for Type Approved BWMS by Annual



---

**Thank you**



---