



# Ocean Hull Workshop – Pilot Error

Mark Williams

International Group of P&I Clubs

*September 15, 2008*

- Secretariat in London
  - Manages operation of claims pooling agreement
  - Co-ordinates collective reinsurance arrangements
  - Represents the views of shipowner members
  - Liaises with industry organisations
  - Forum for Clubs to exchange information
-

### Over 50 sub-committees & working groups including:

- Ships' Standards
- Pollution
- Compulsory 3<sup>rd</sup> Party Liability Insurance
- Detention of Seafarers
- Maritime Security
- Occupational Diseases
- Claims Co-operation
- Personal Injury
- Regulatory Affairs
- Reinsurance
- Representation
- Salvage
- Bills of lading
- Ship Technical
- War Risks P&I
- Pilotage

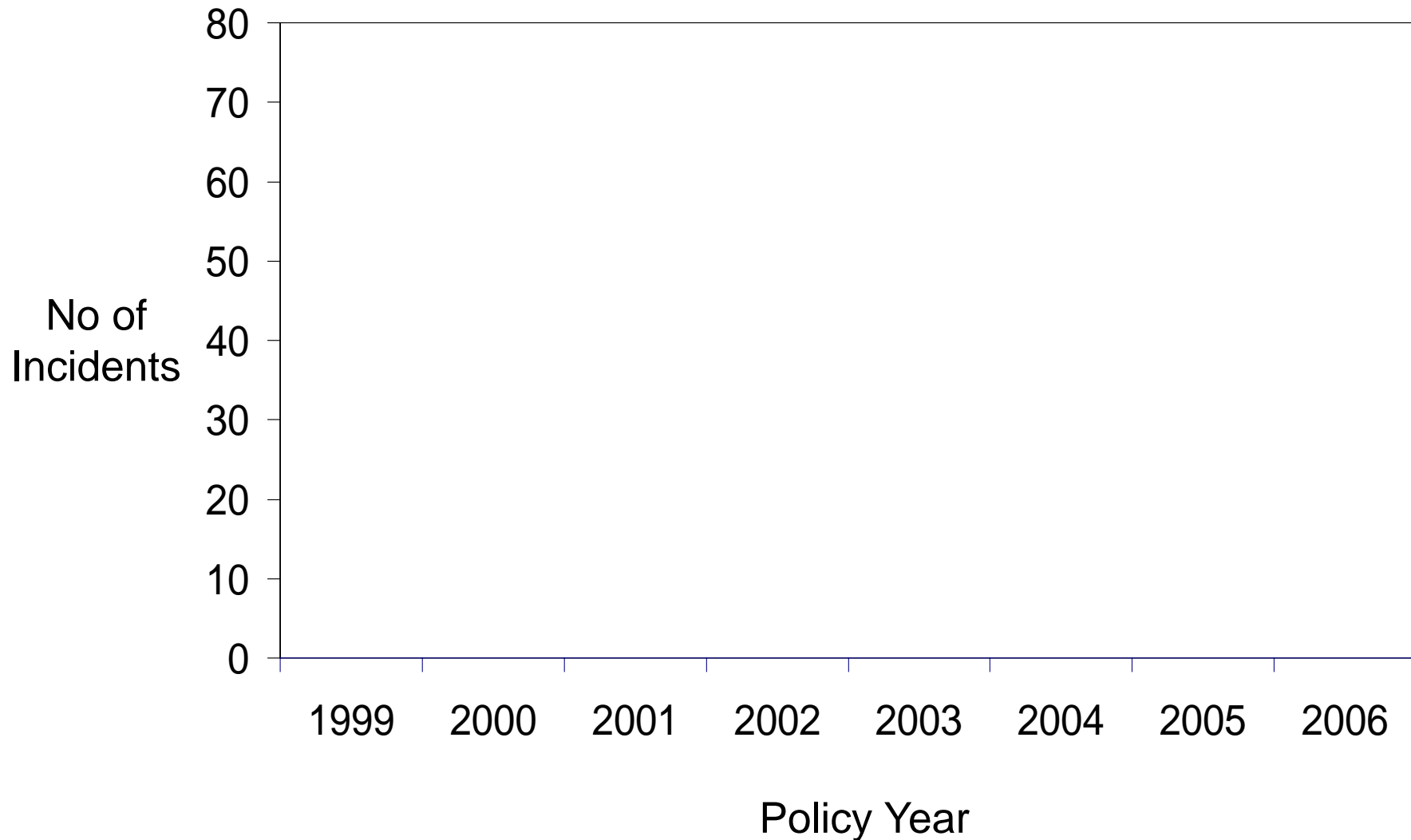
- Major study of pilotage incidents began 2005
  - Known/believed to have been caused by pilot error
  - Limited to claims with value of \$100,000 or more
  - Five policy years from 1999 to 2003 inclusive
  - Report posted on Group's website [www.igpandi.org](http://www.igpandi.org)
  - Figures updated to end of 2006 policy year
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- Database not large
- Detailed analysis not possible at this stage
- Results indicative only



# Number of Incidents by Policy Year

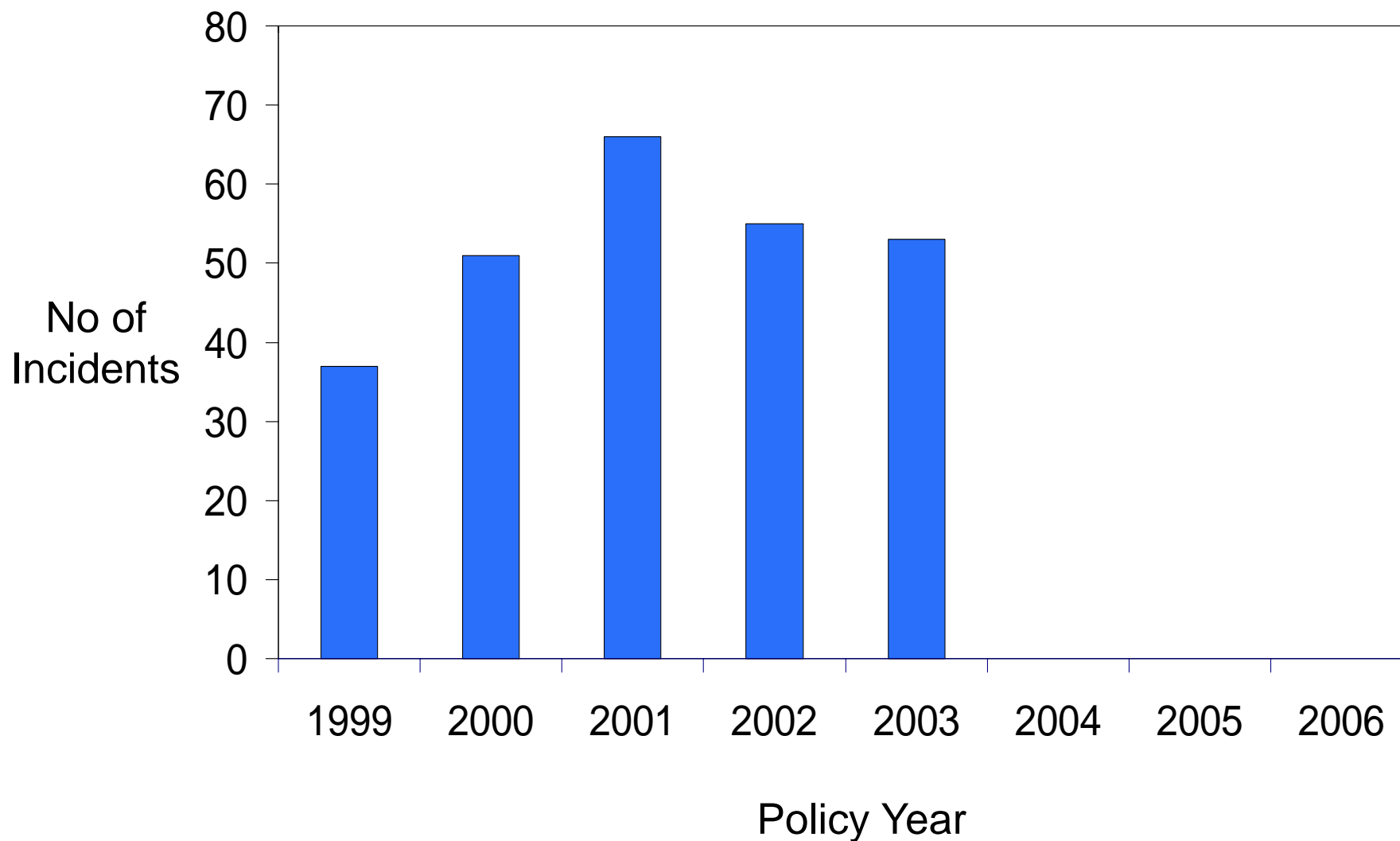
(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)





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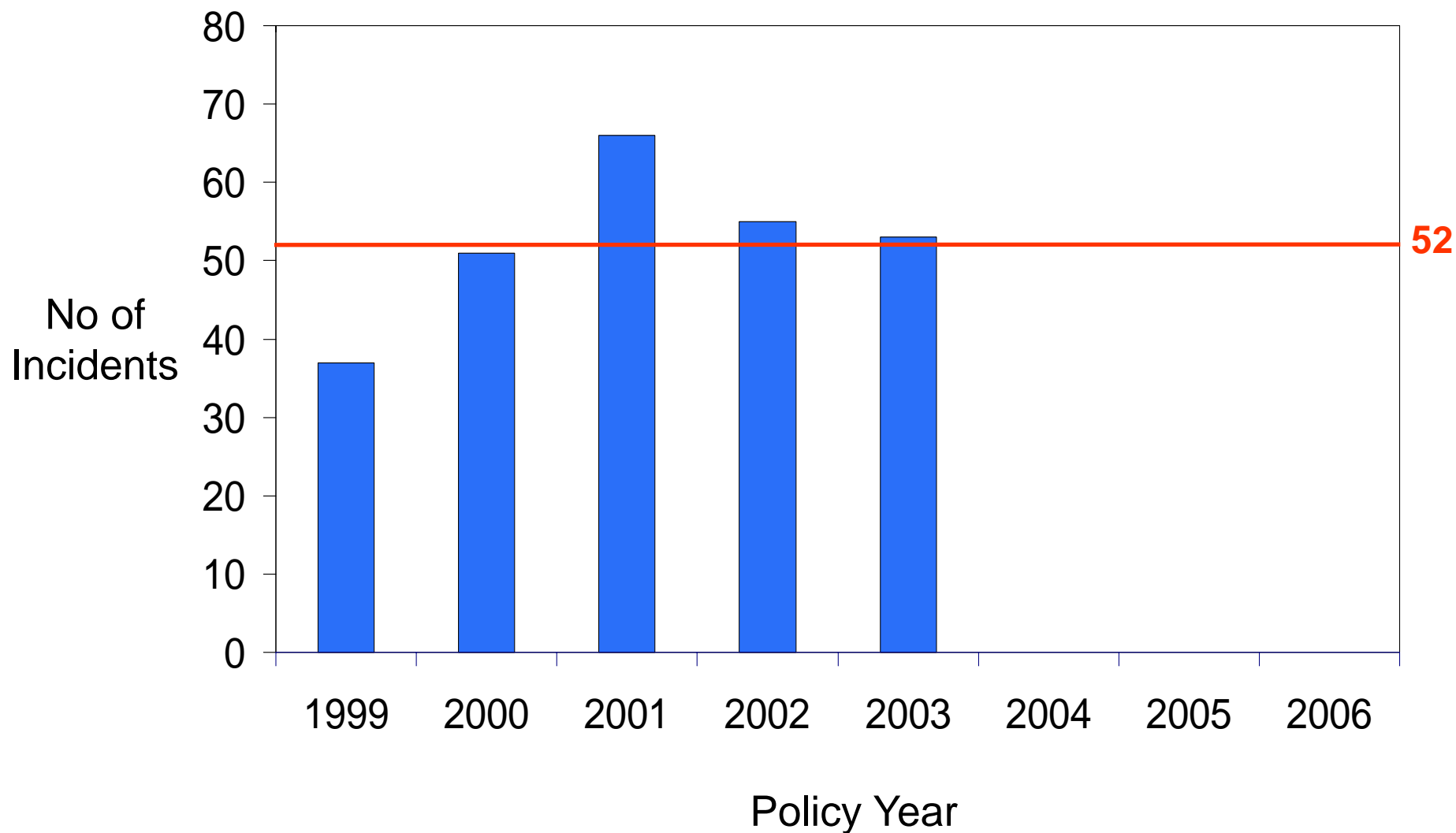
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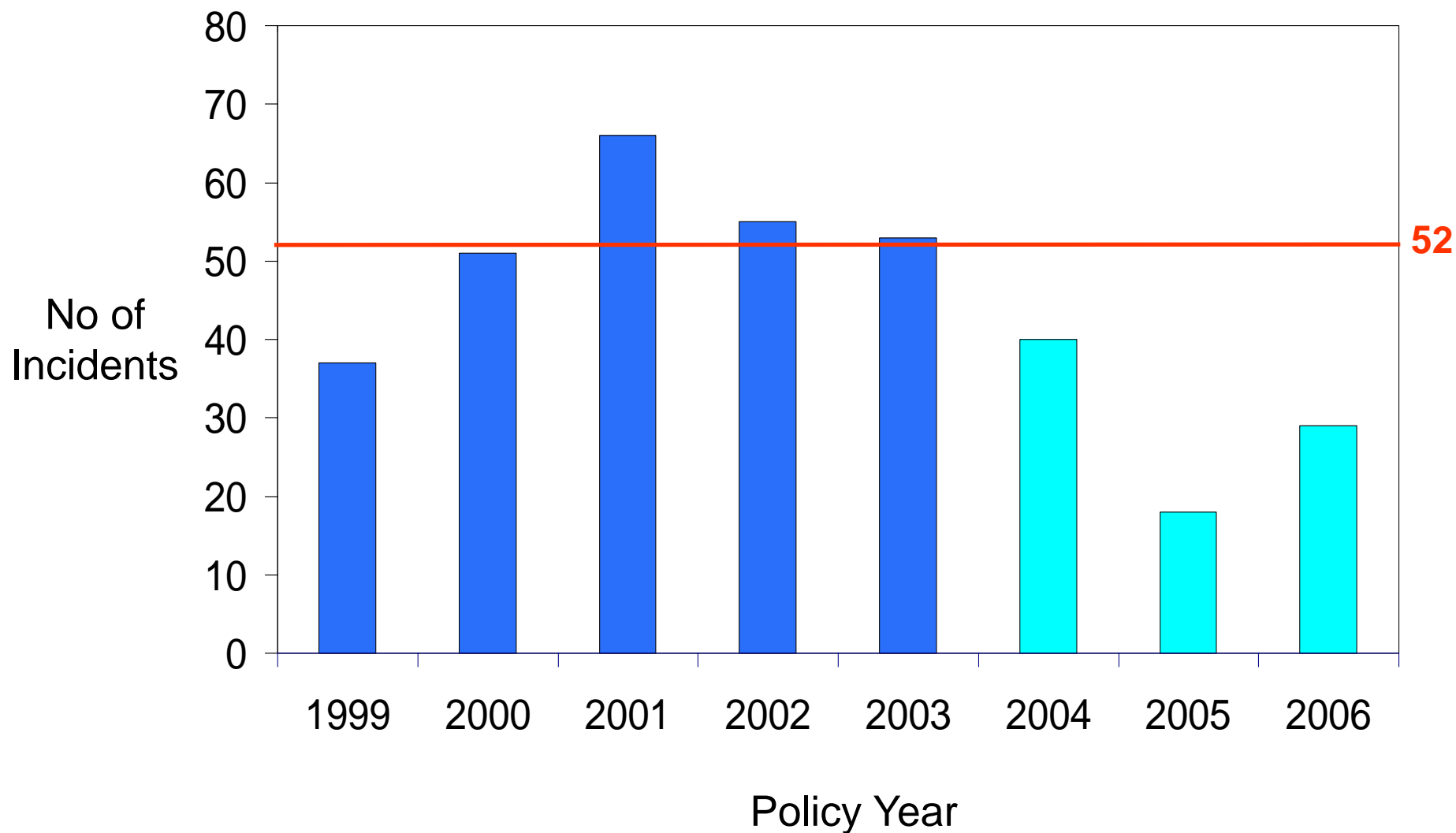






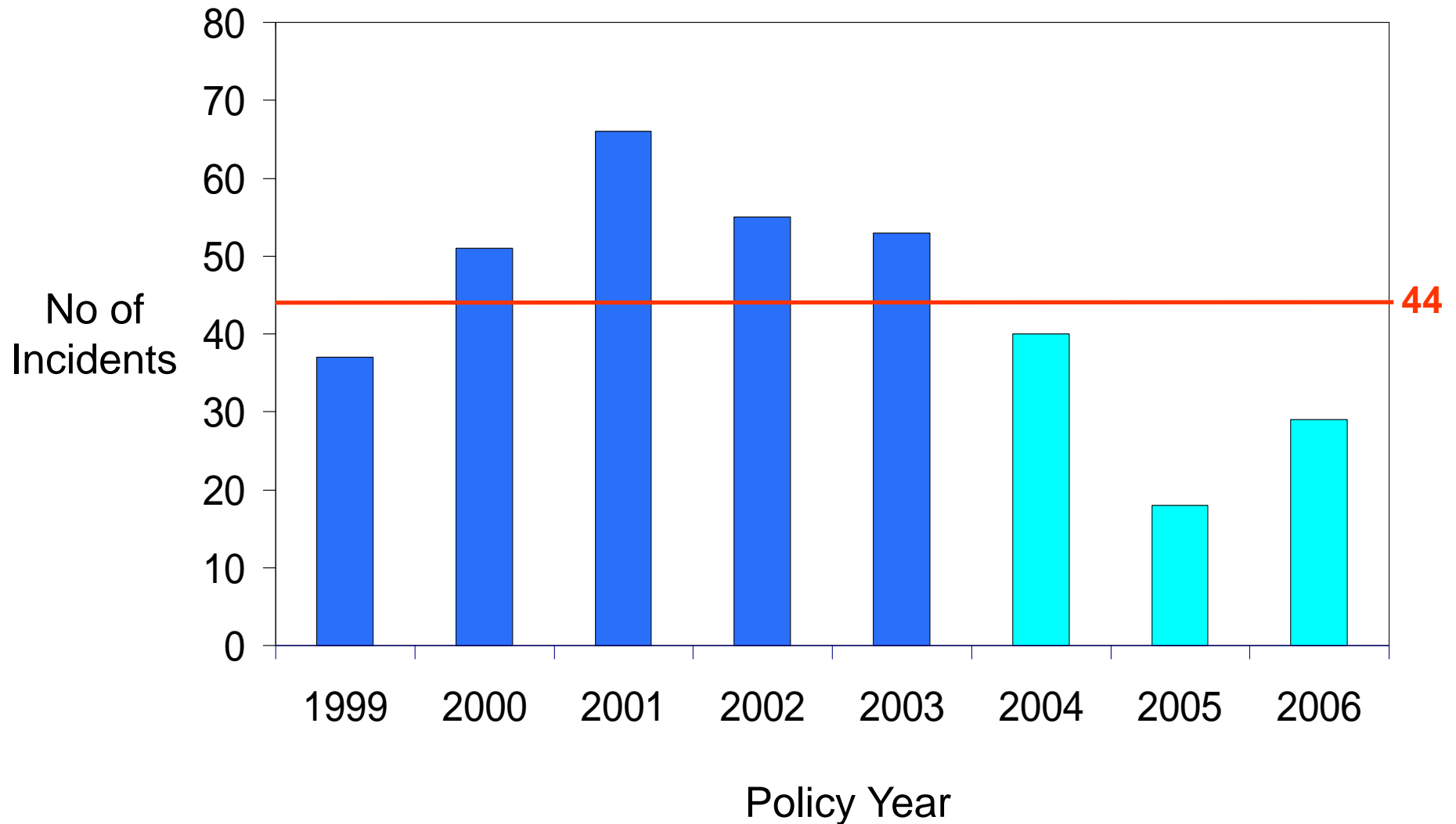
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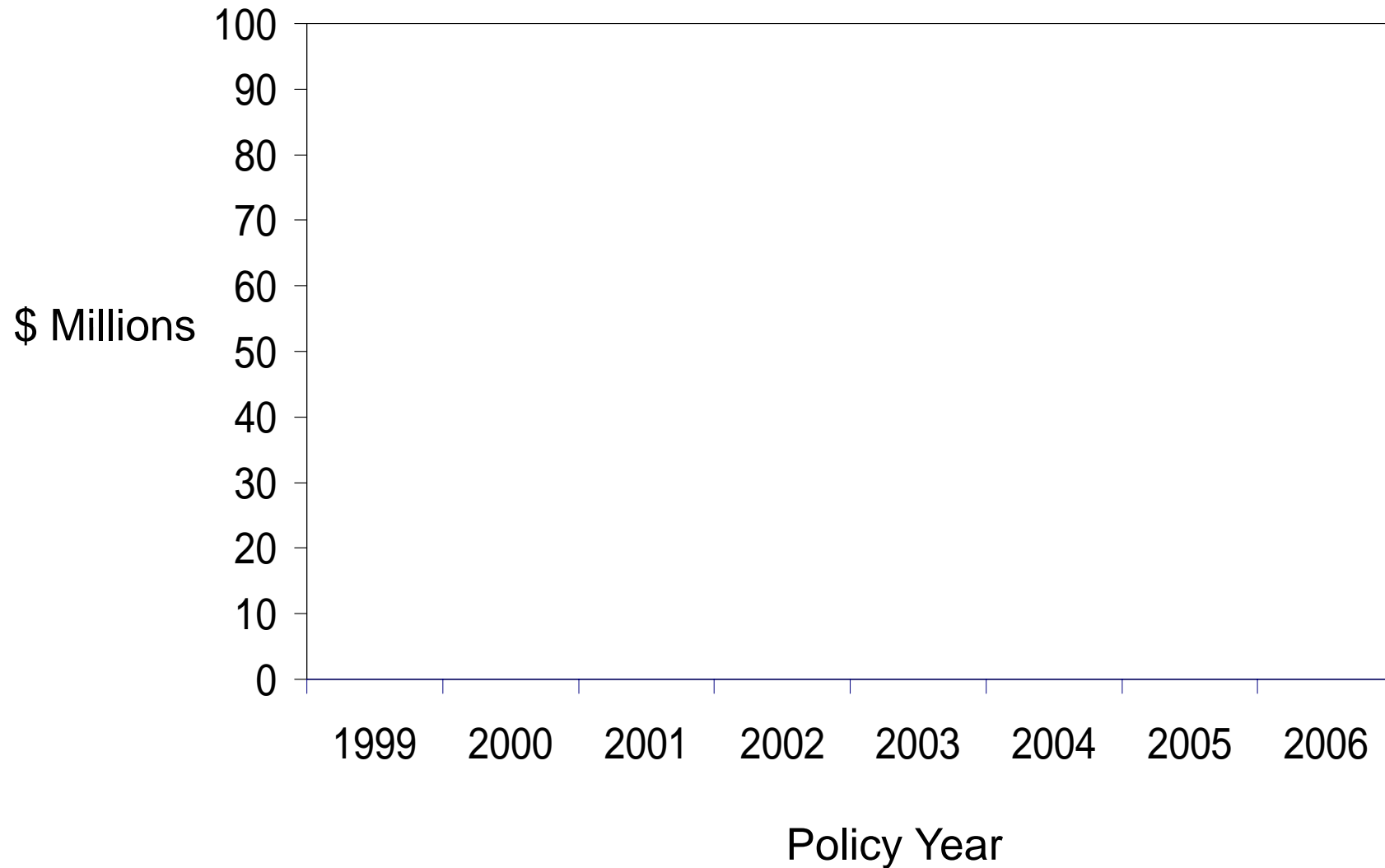
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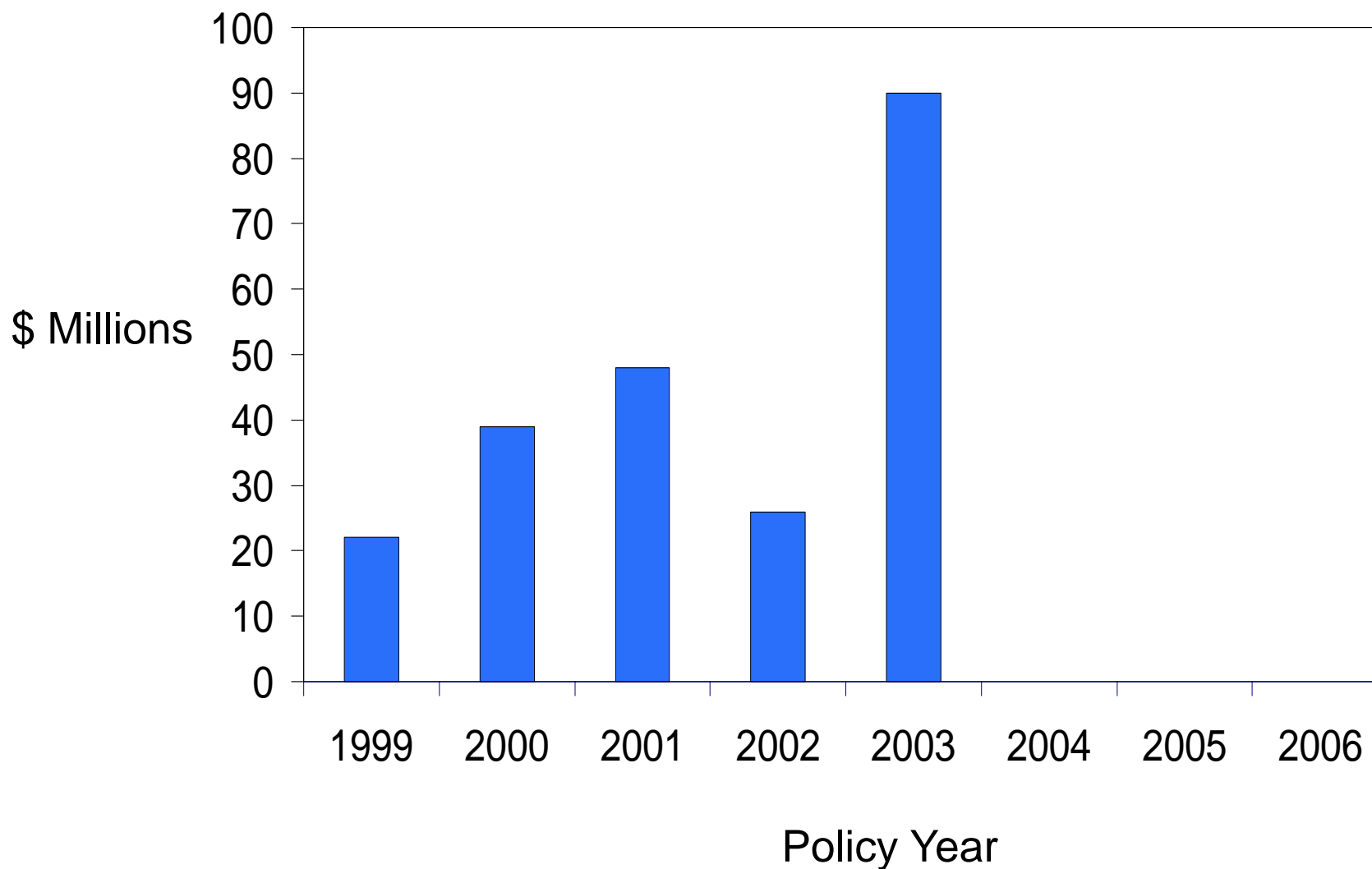
# Total Value by Policy Year

(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)



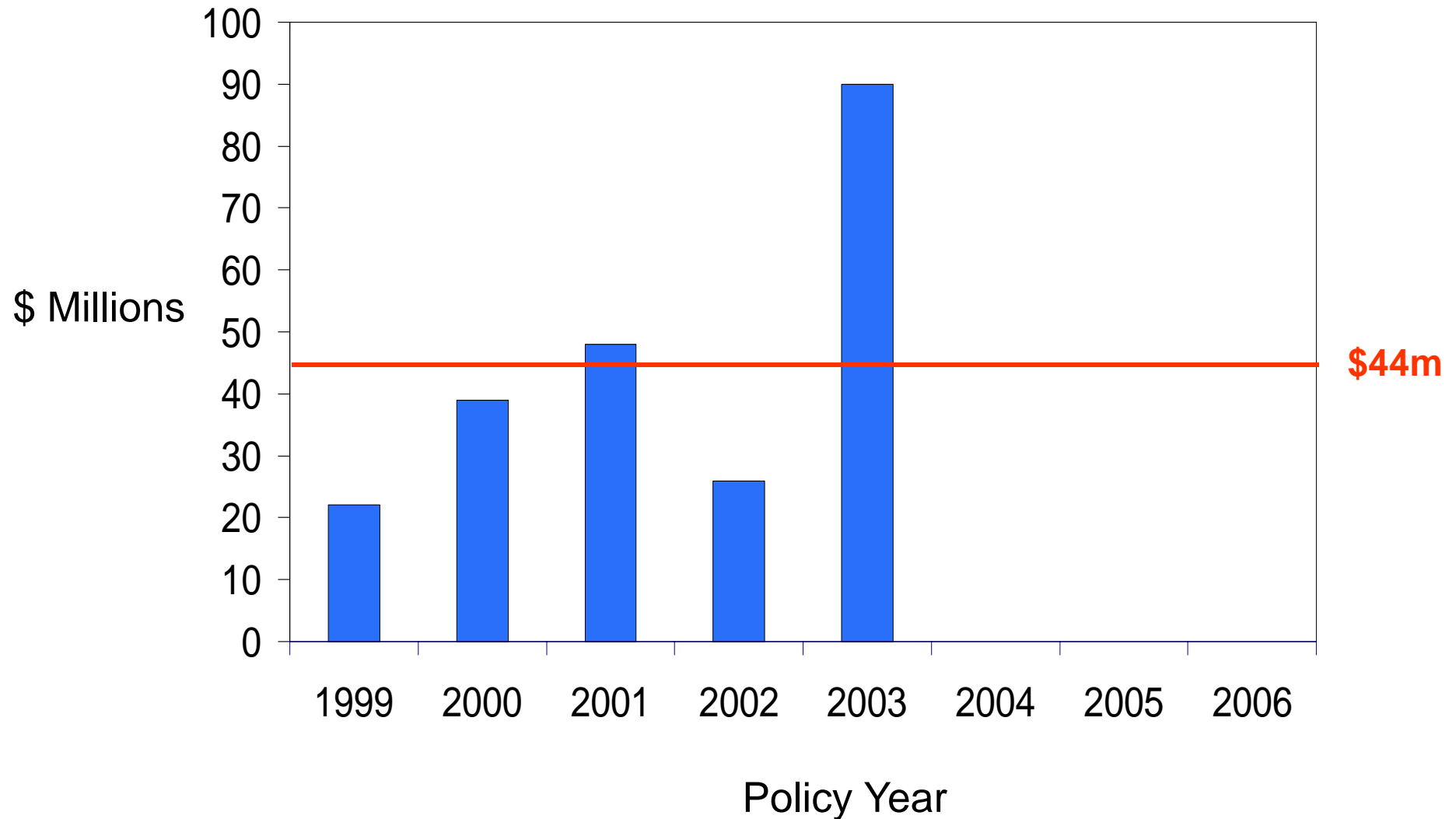
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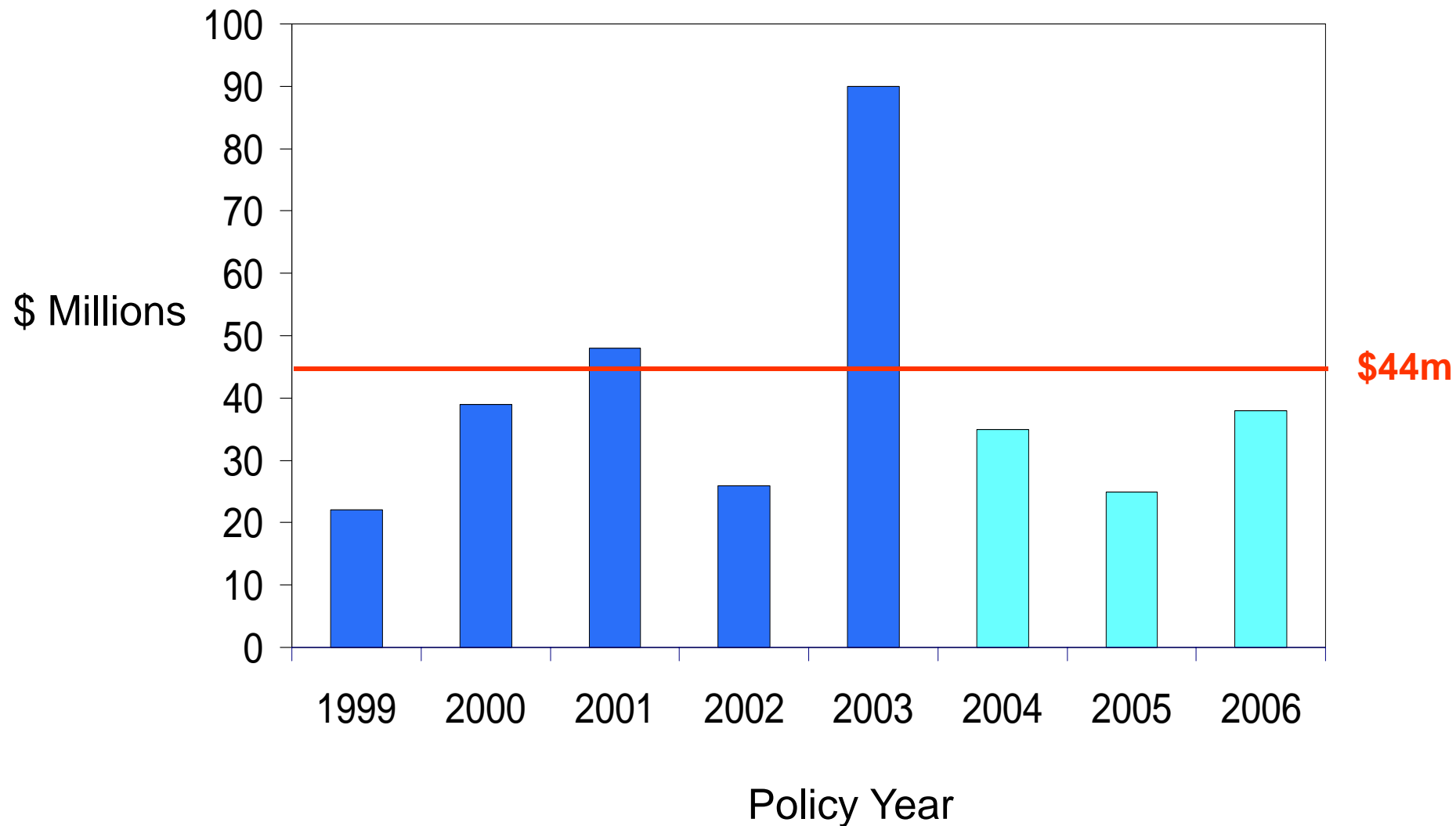
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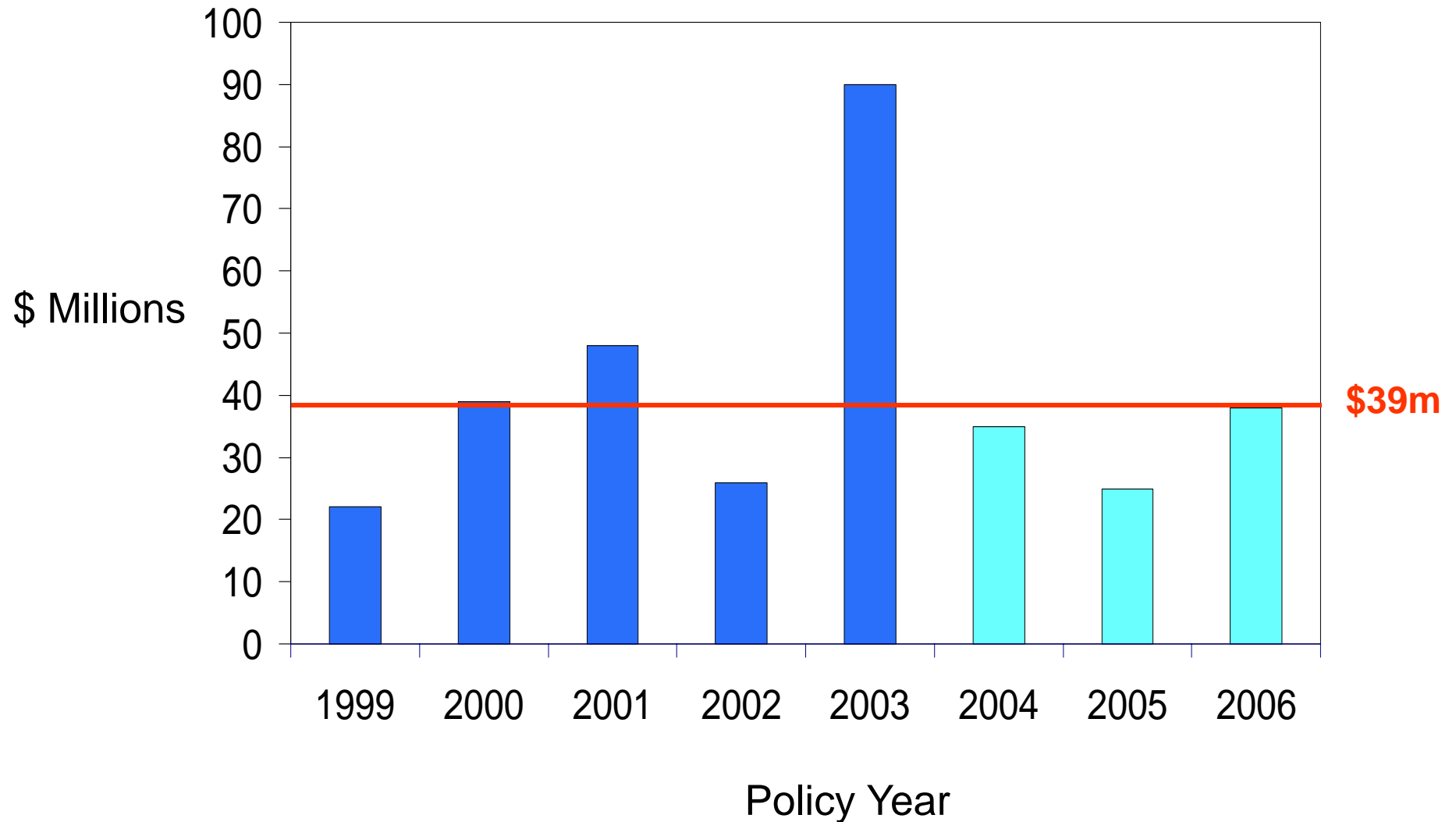
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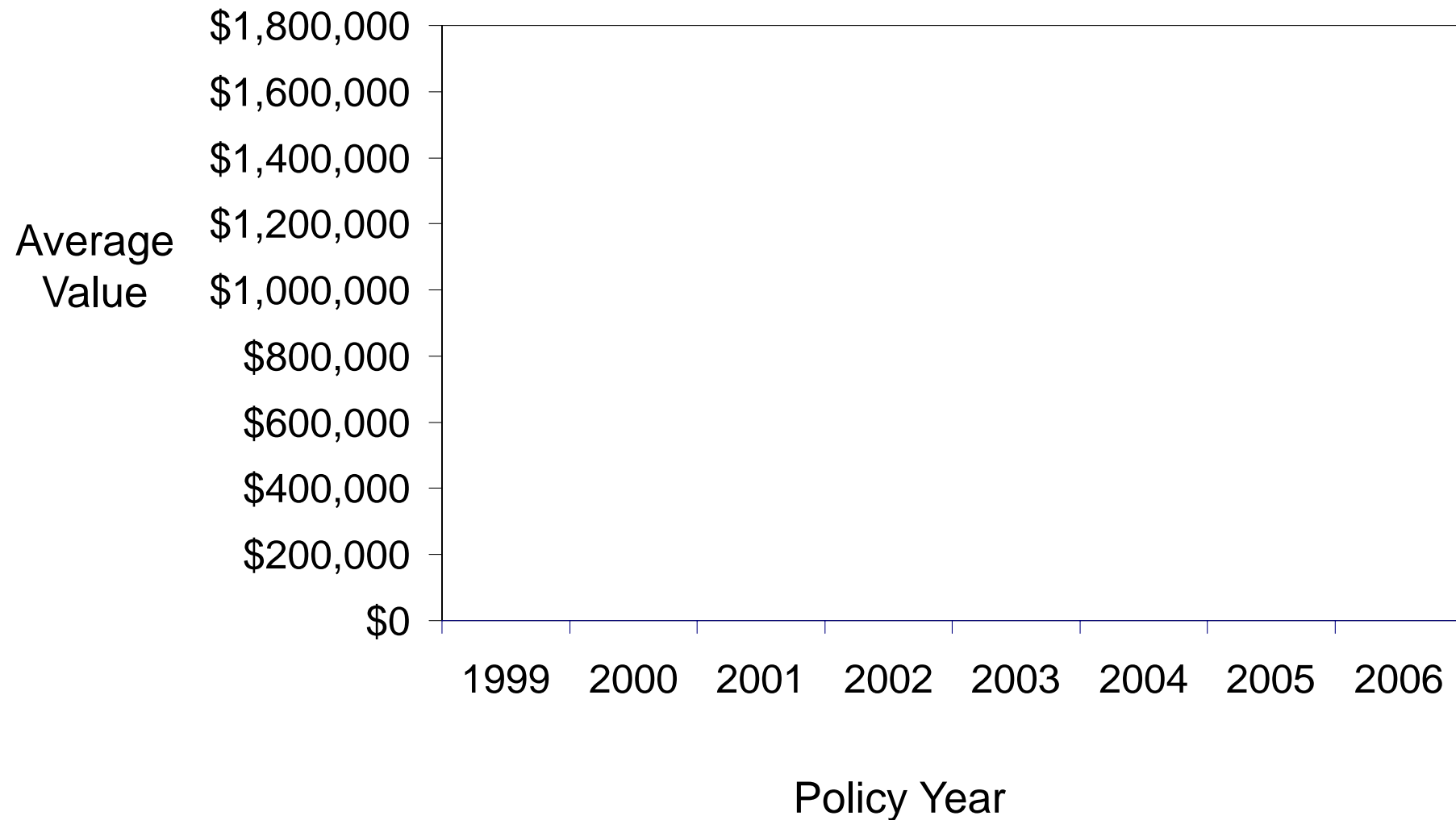
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# Average Value Per Incident by Policy Year

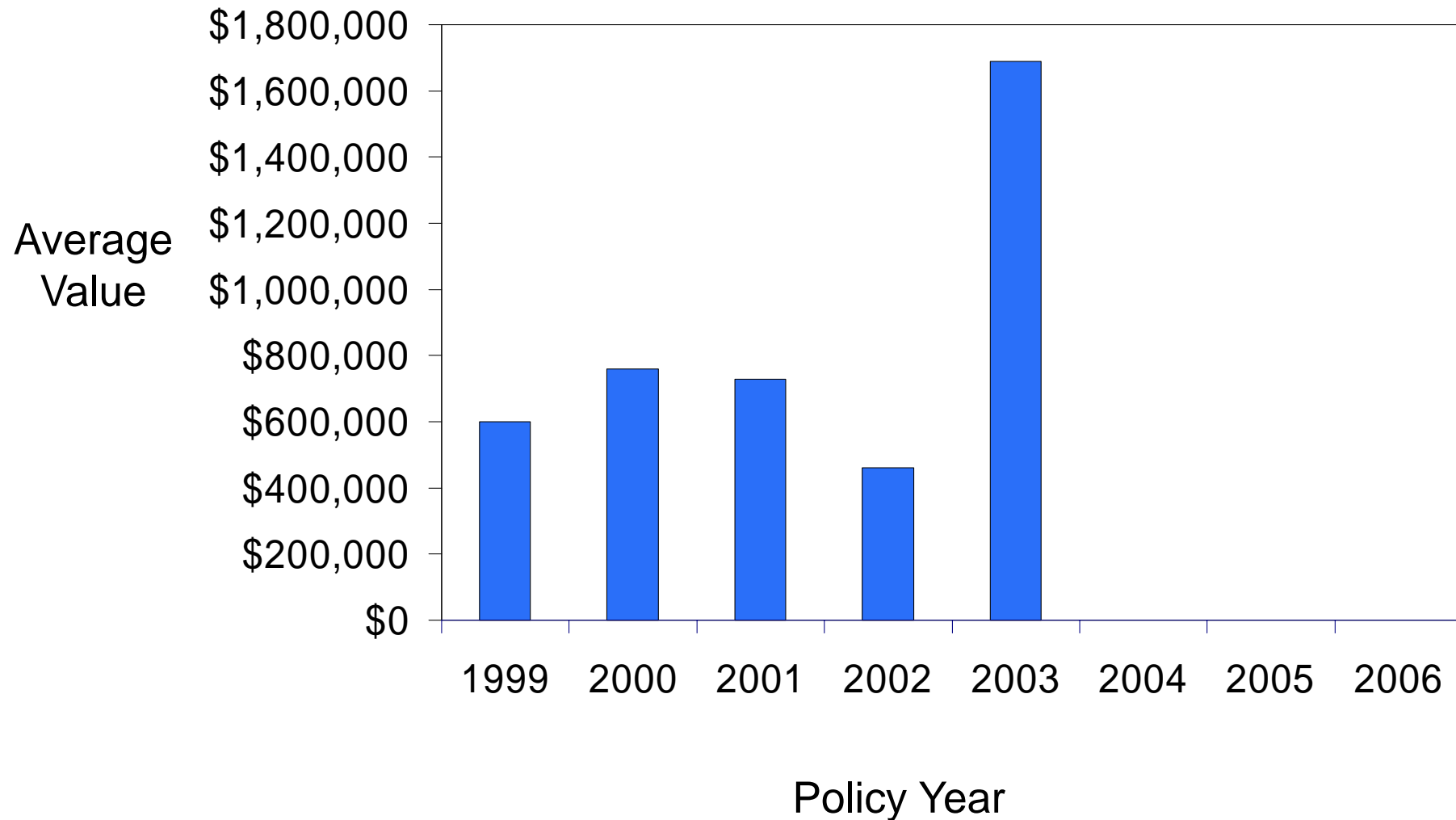
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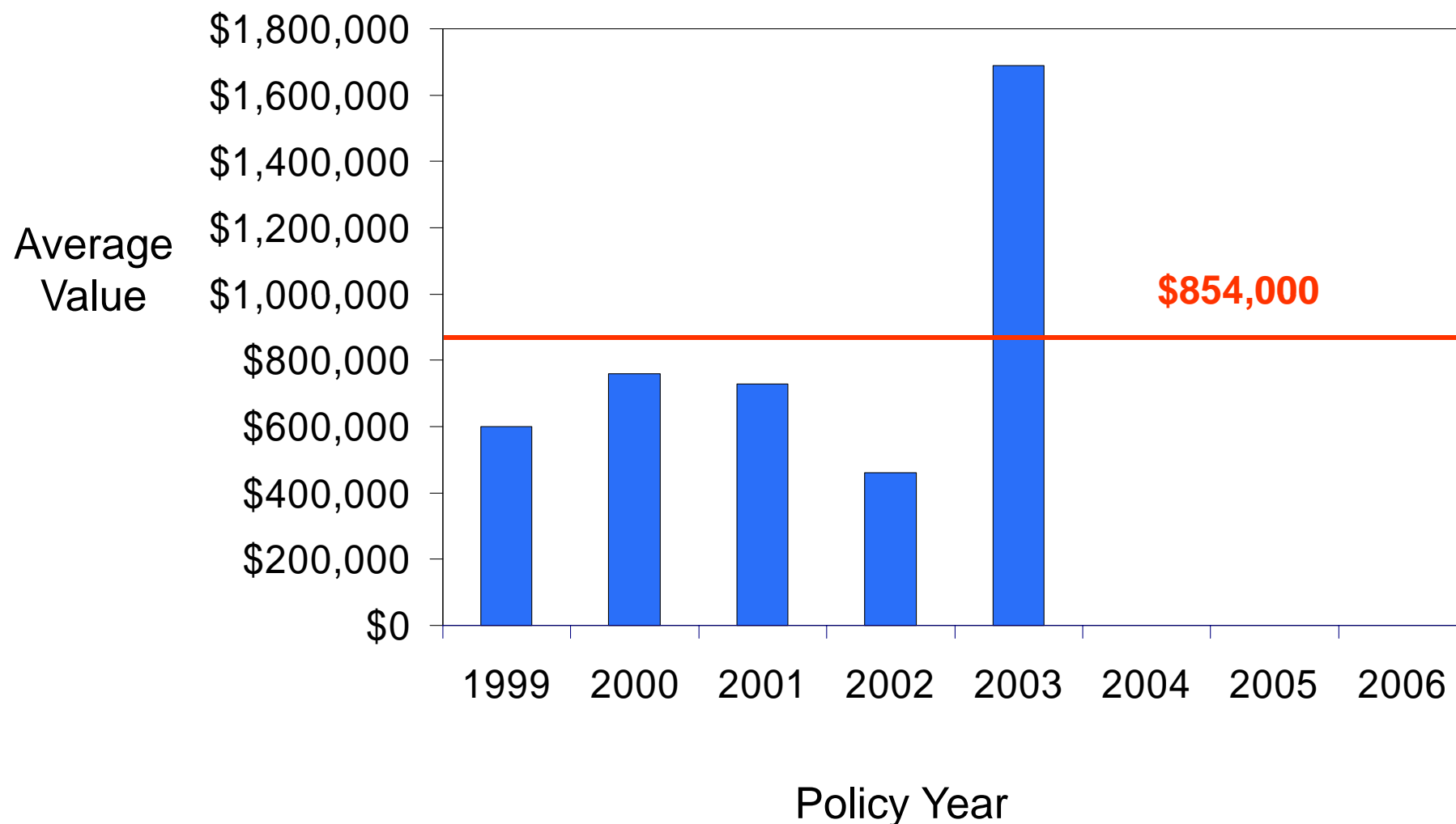
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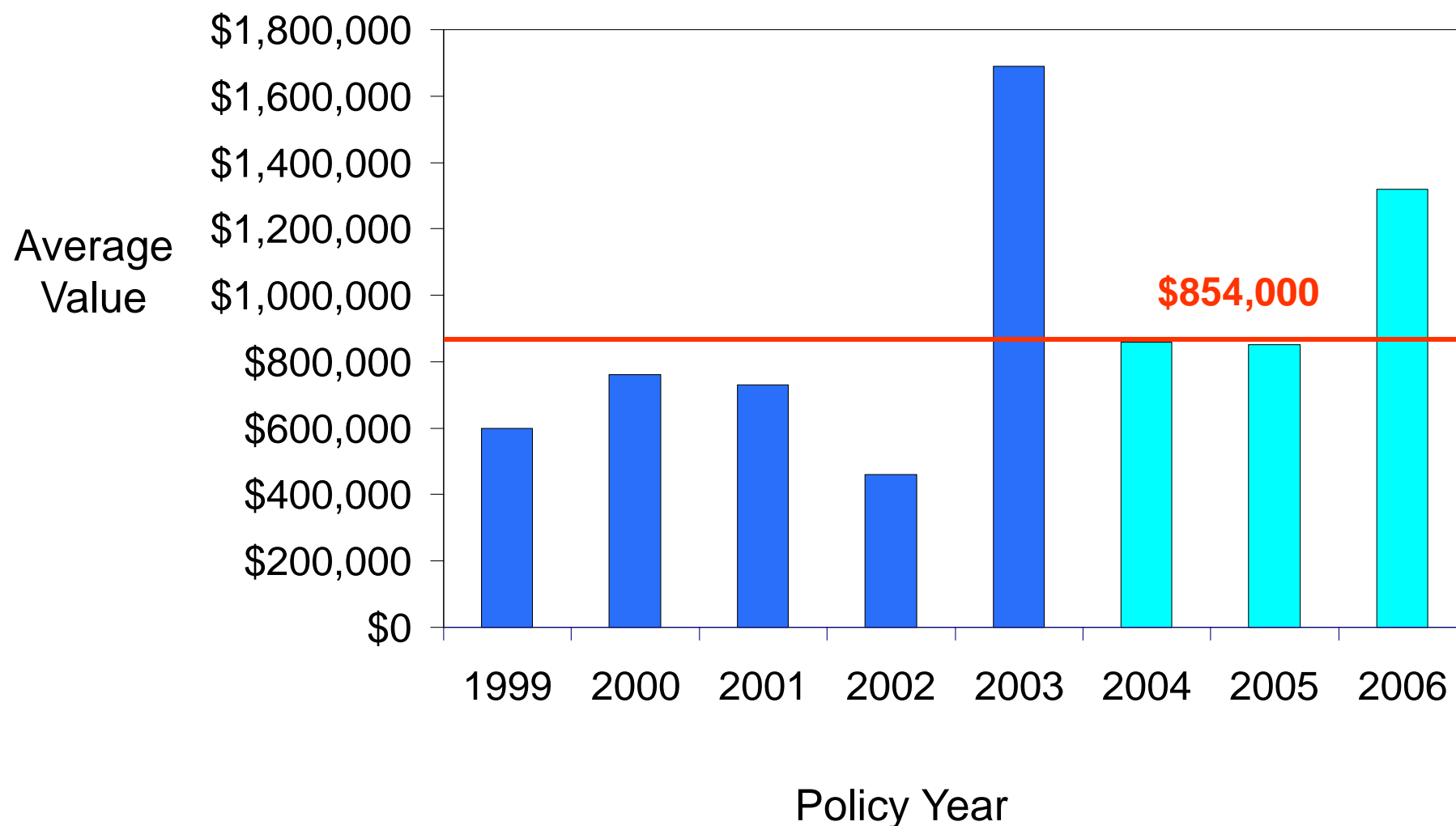
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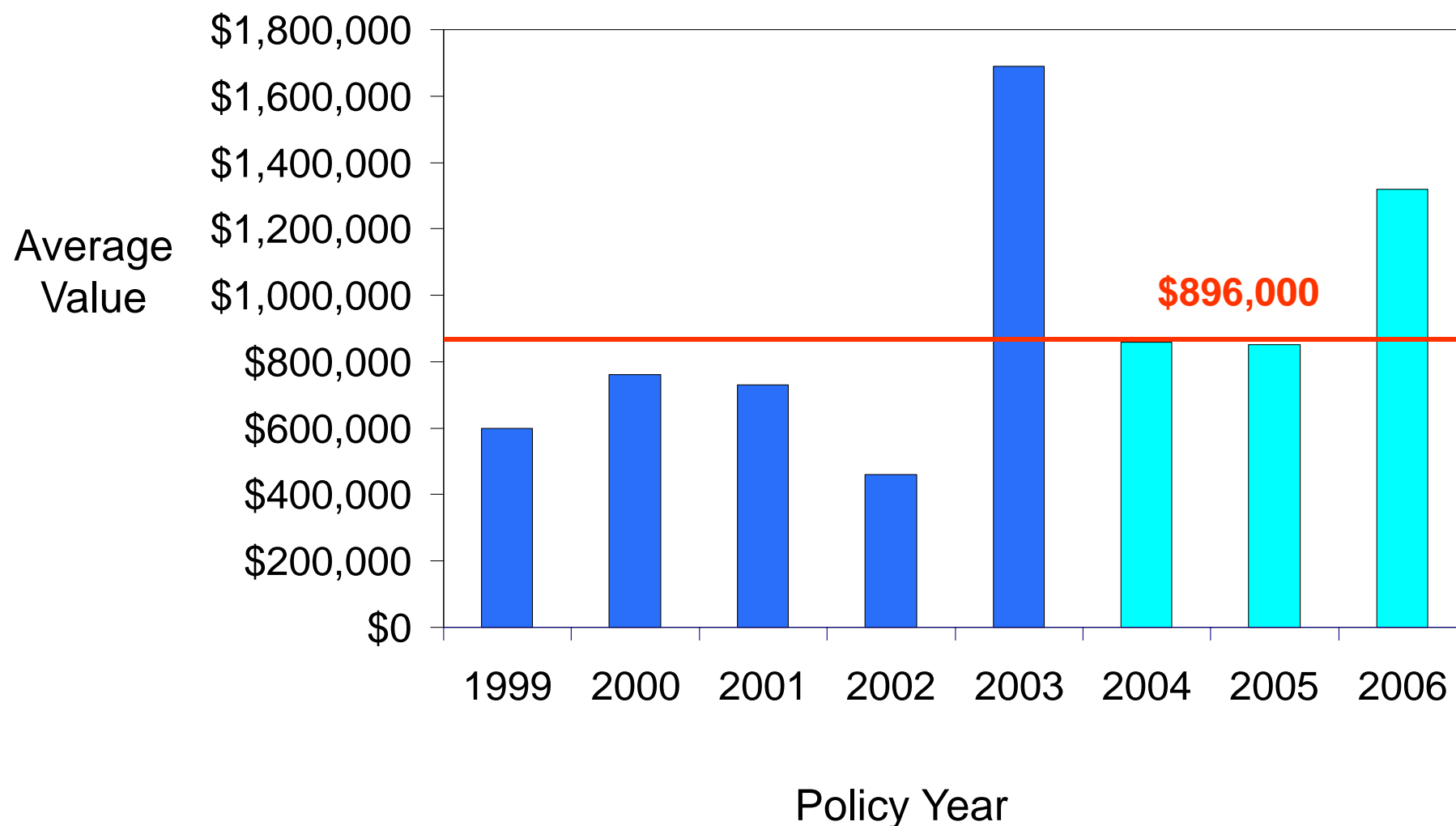
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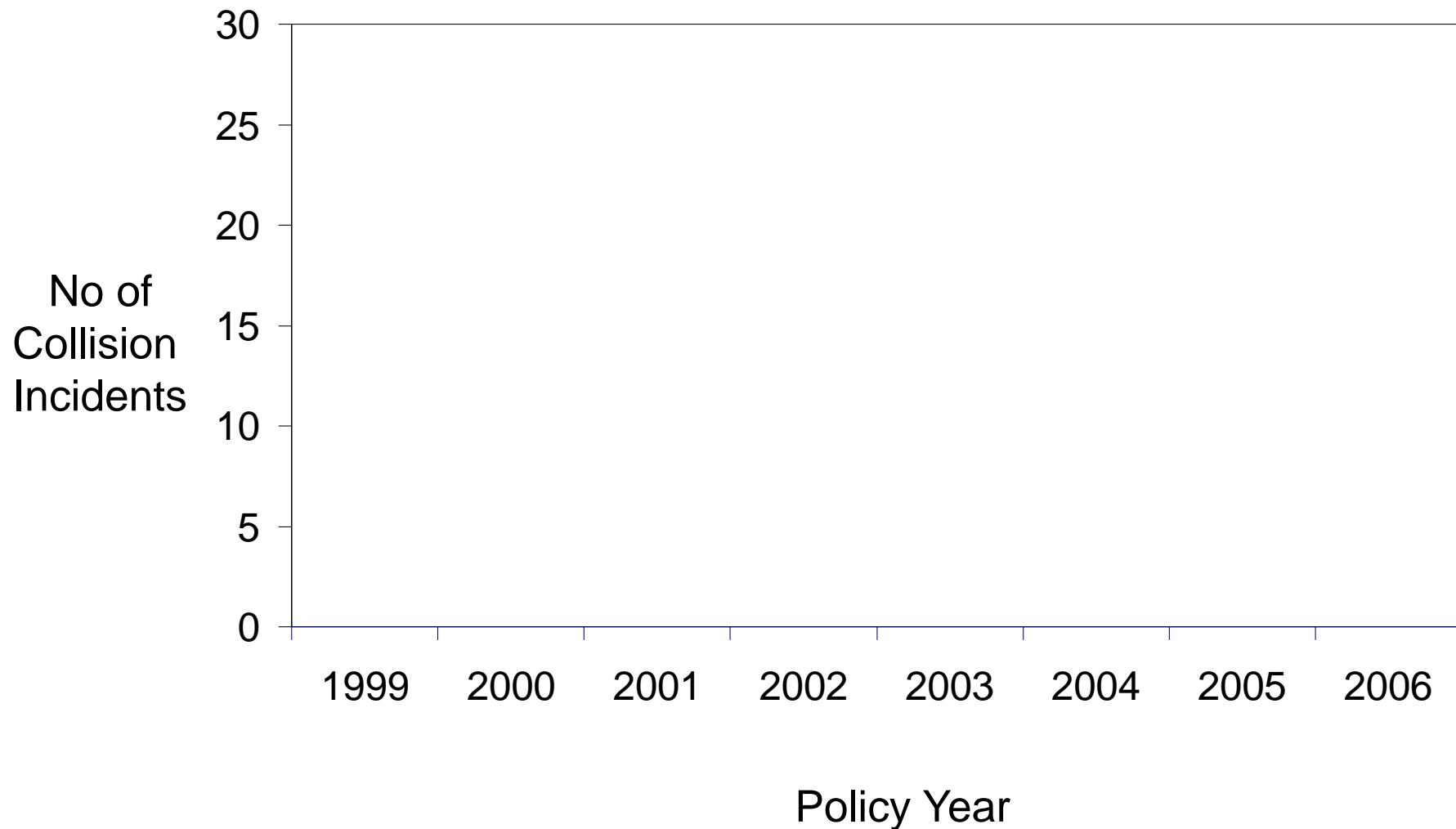
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# Number of Collision Incidents by Policy Year

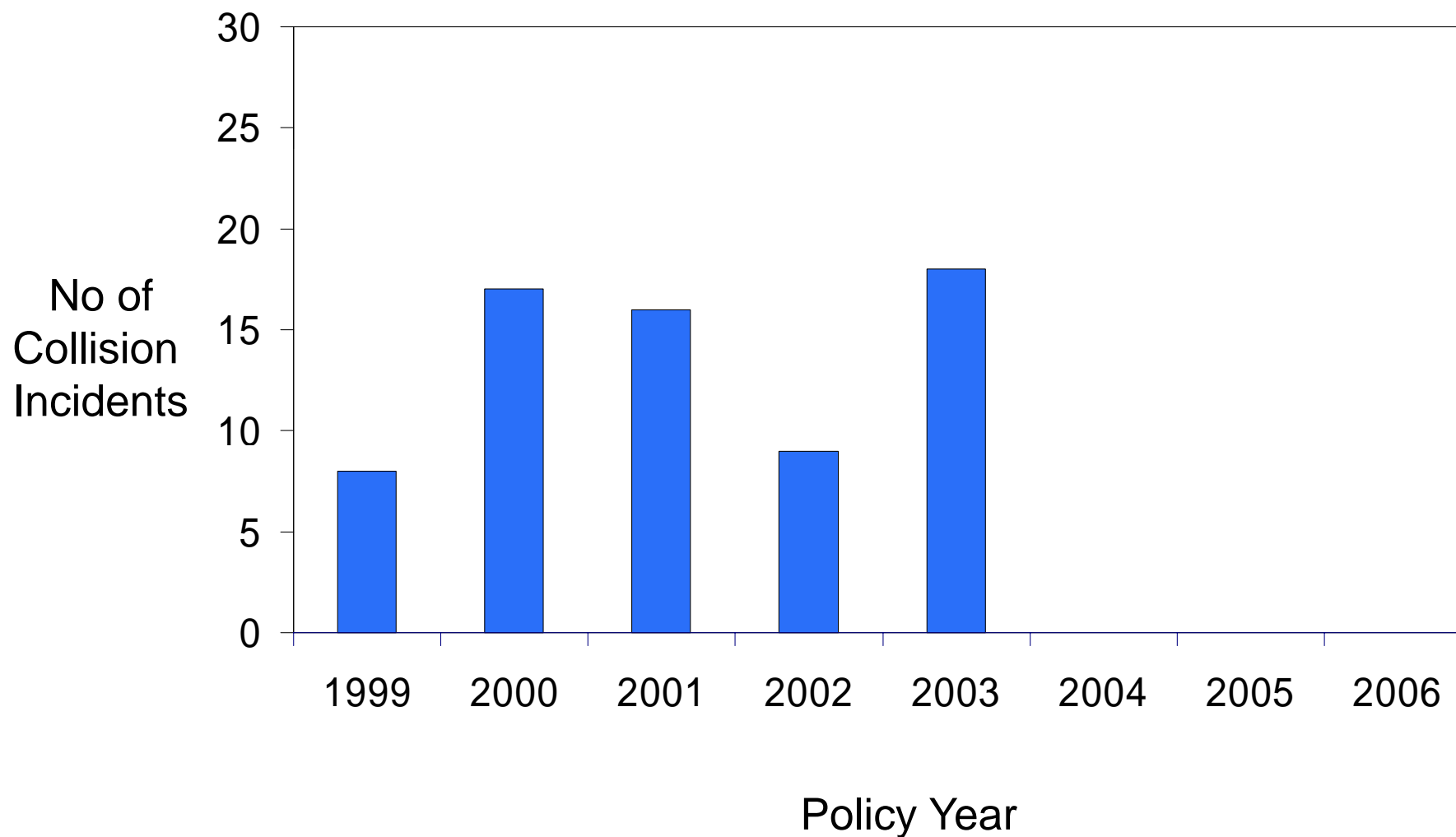
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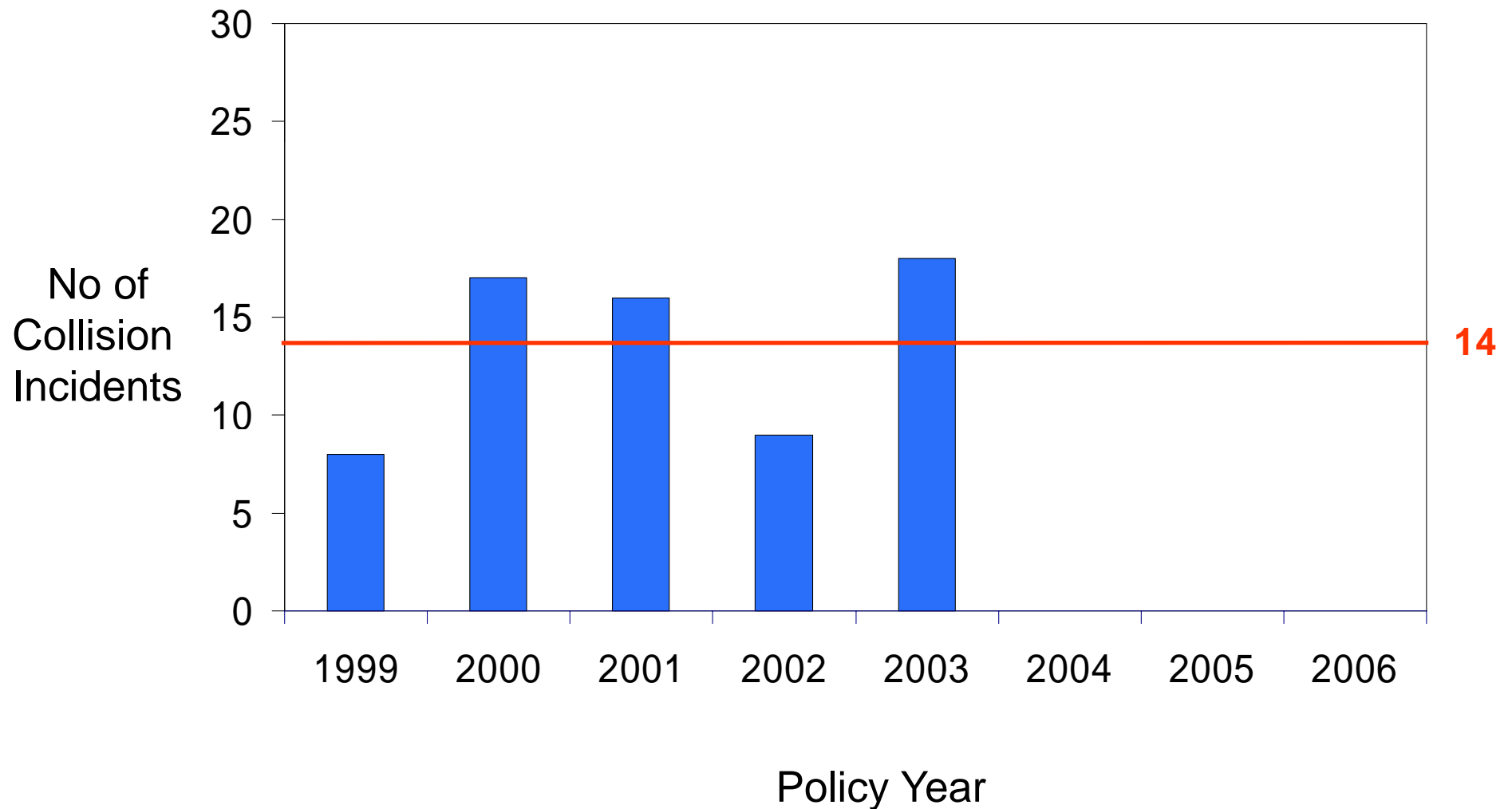
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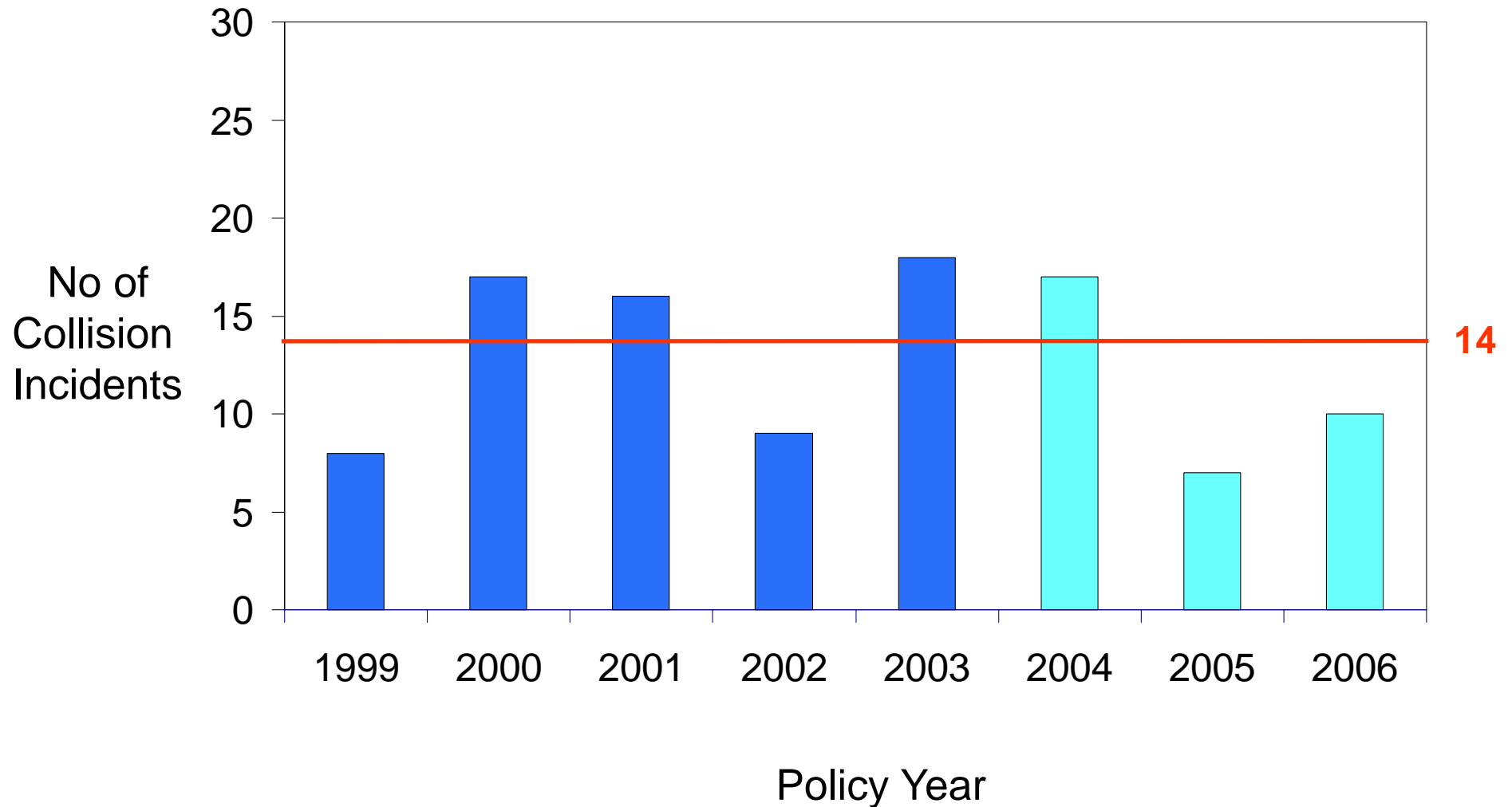
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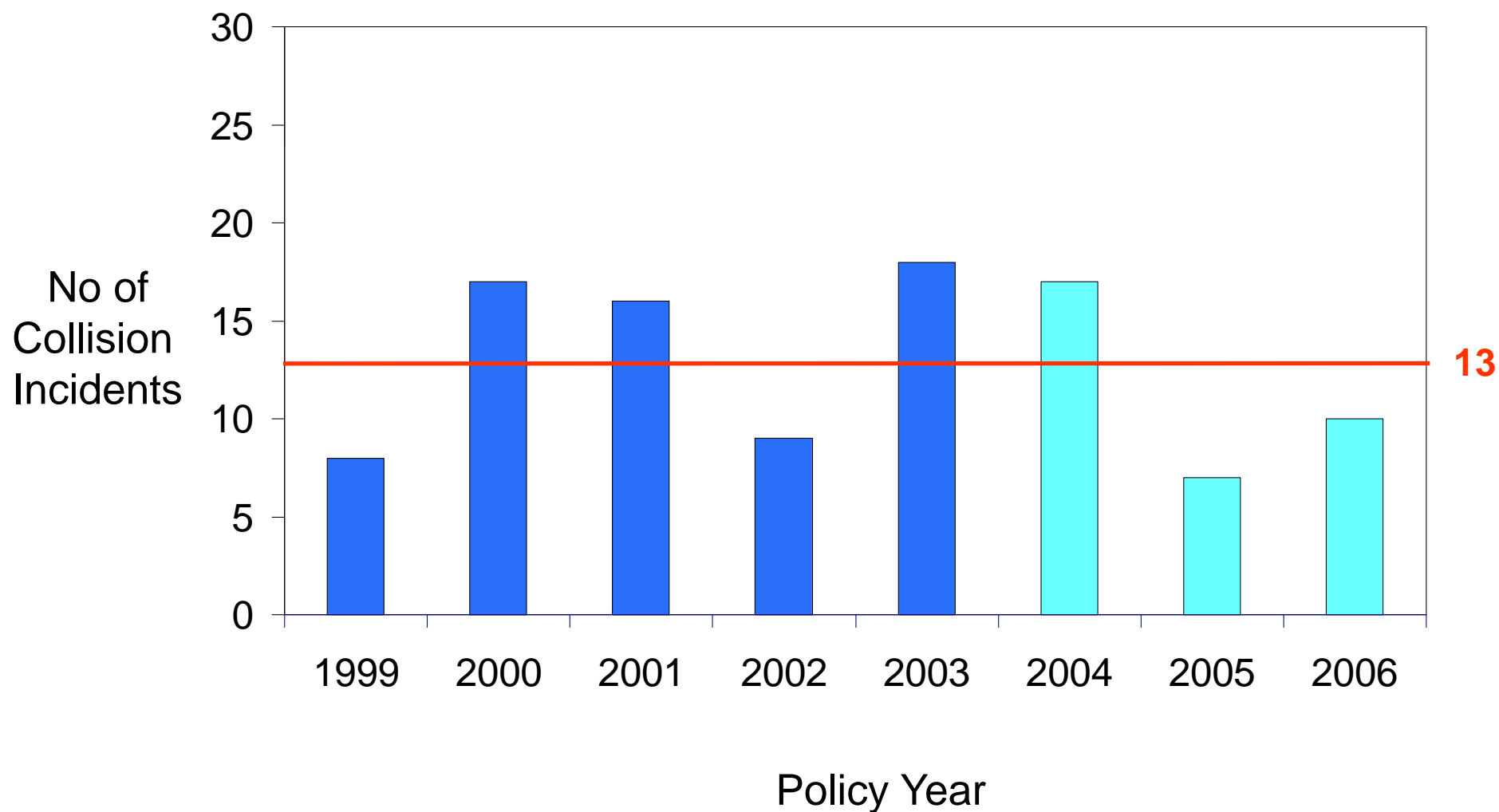






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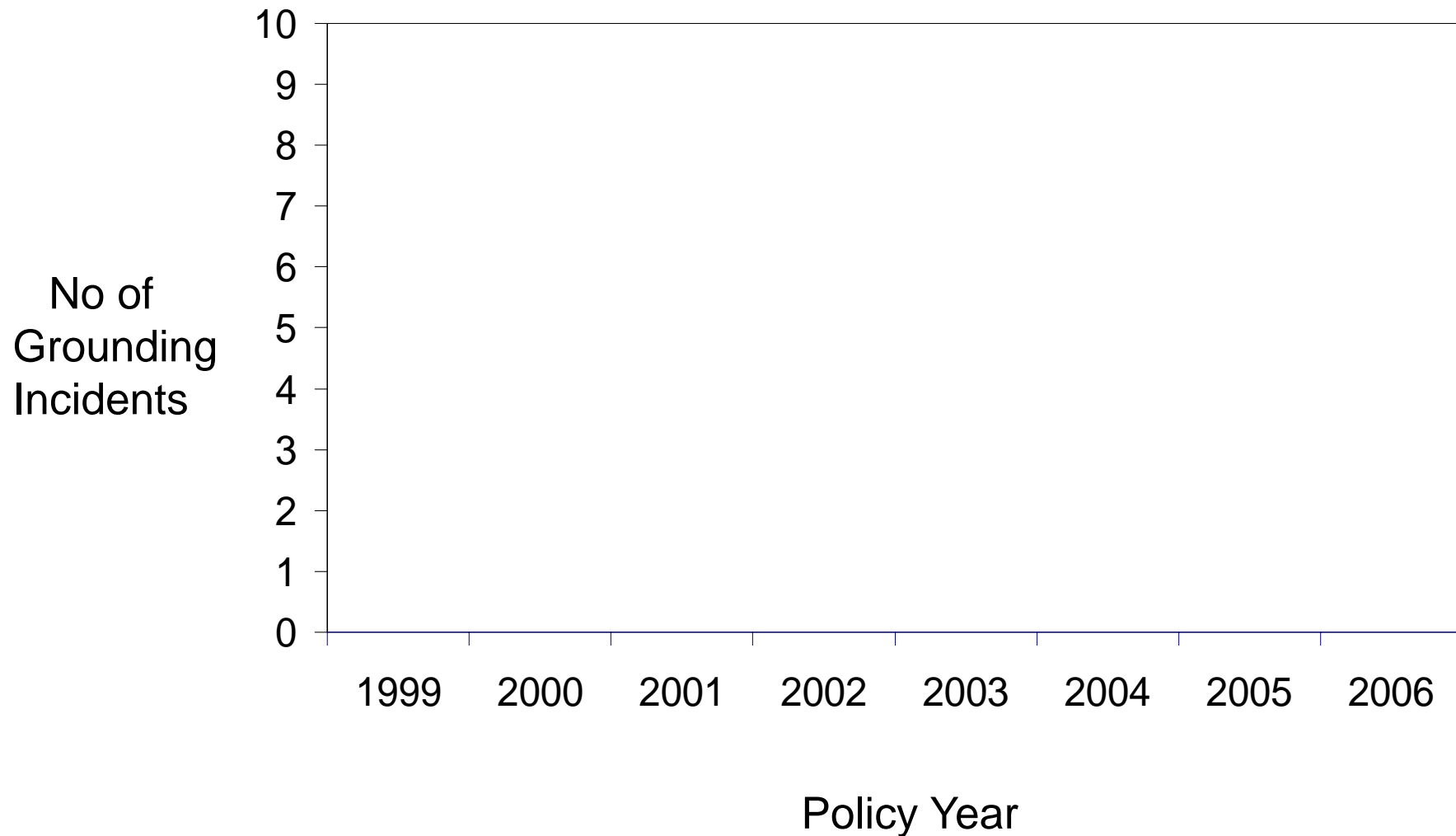
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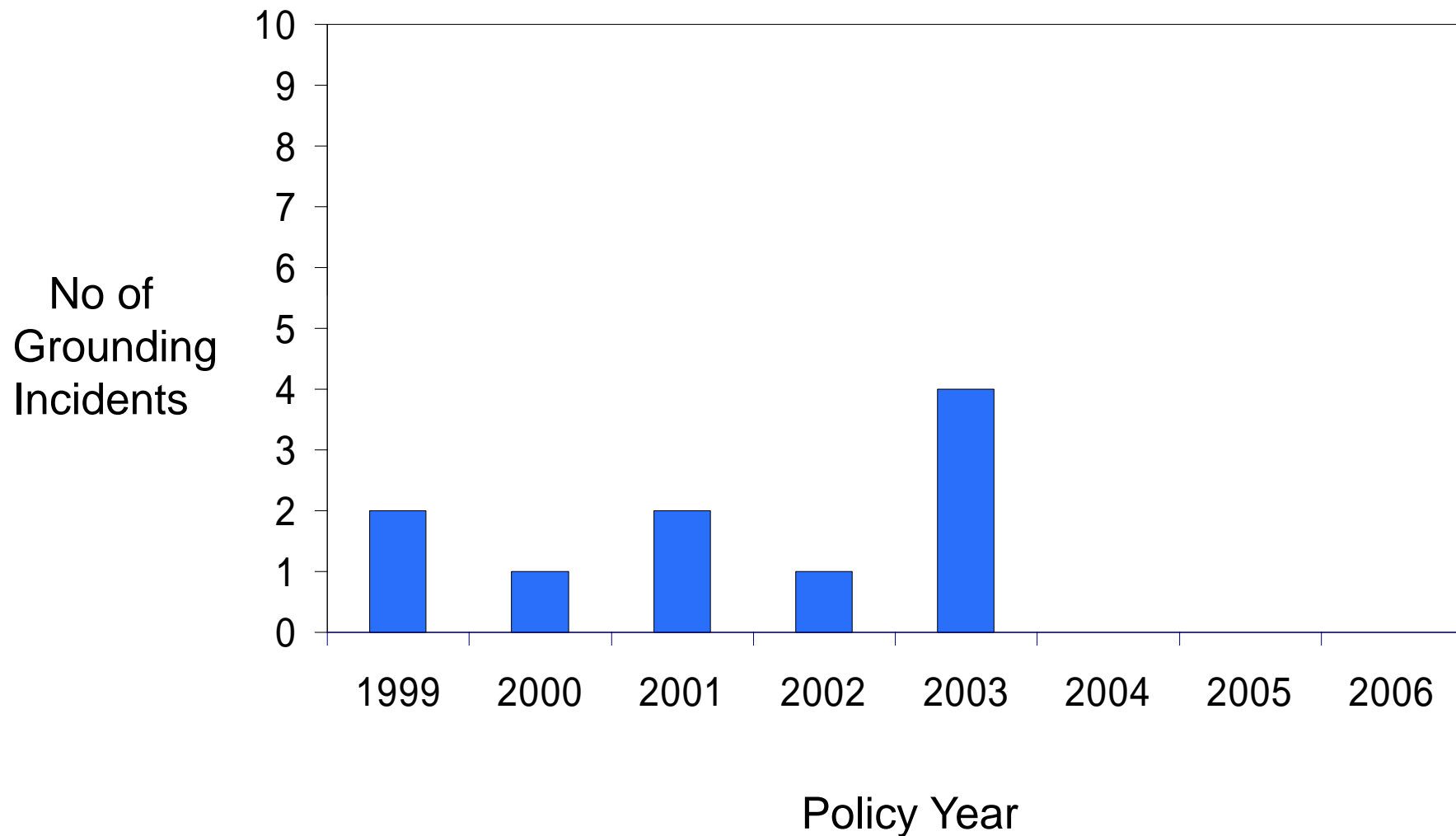
# Number of Grounding Incidents by Policy Year

(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)



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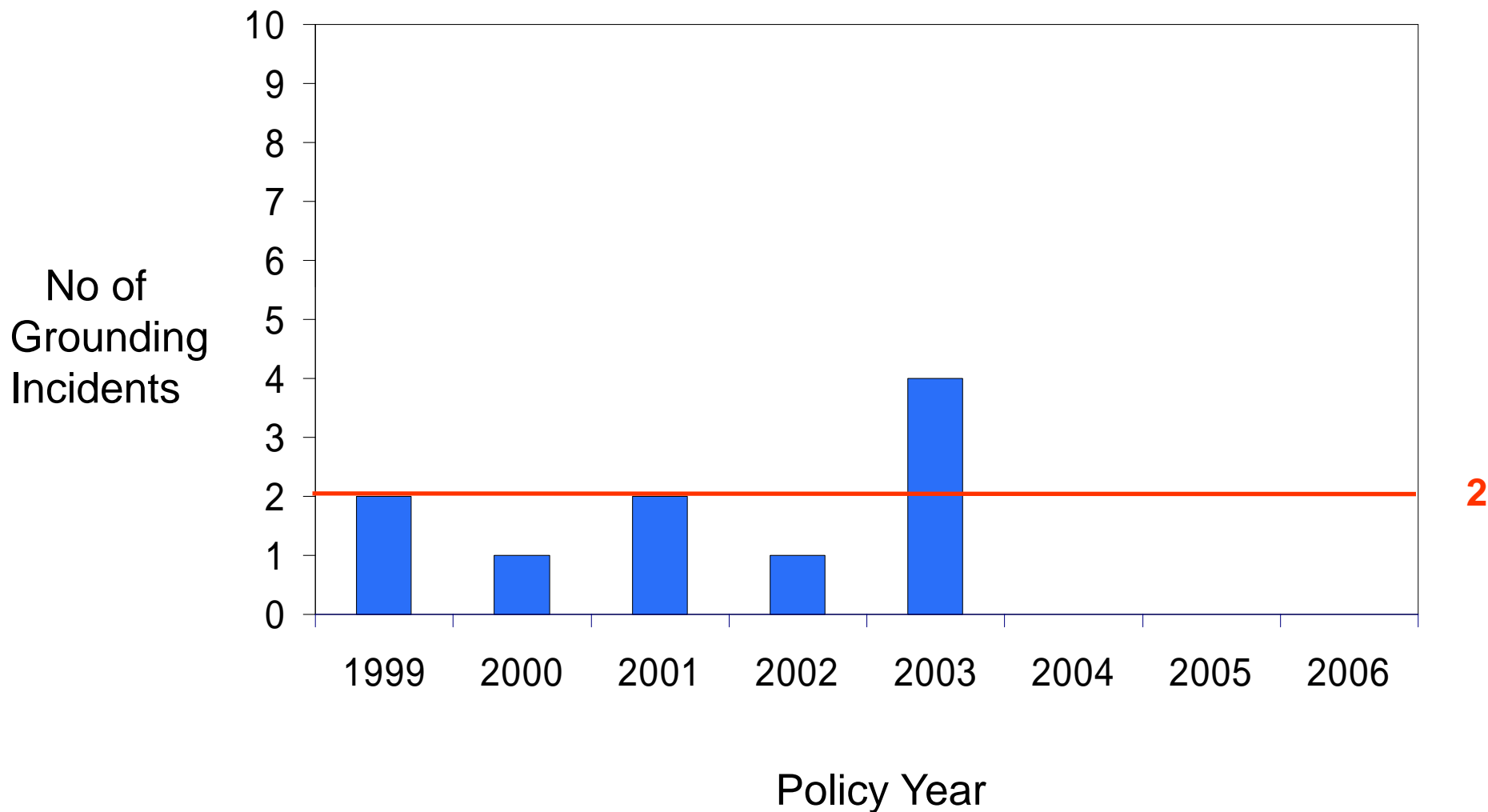
(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)





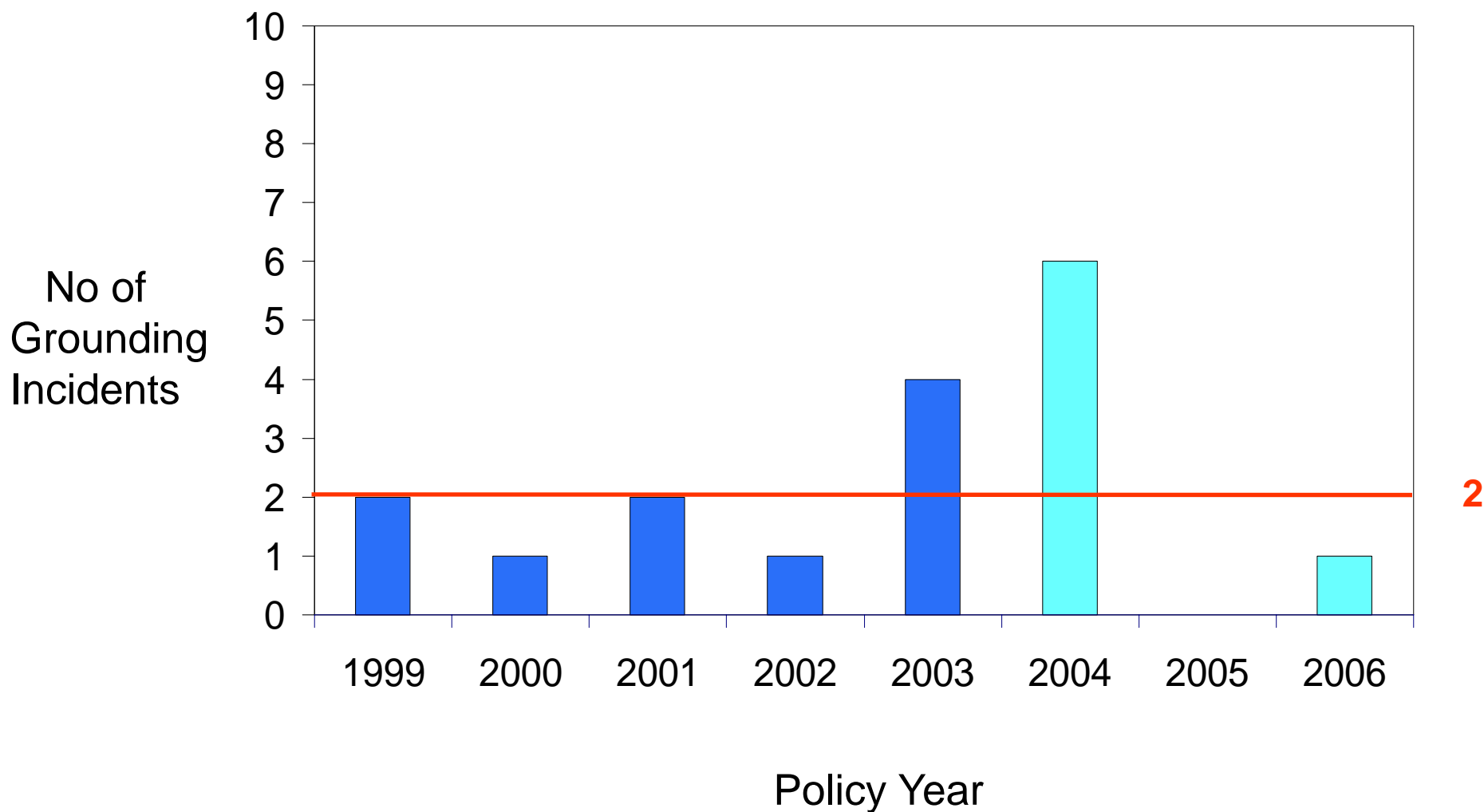
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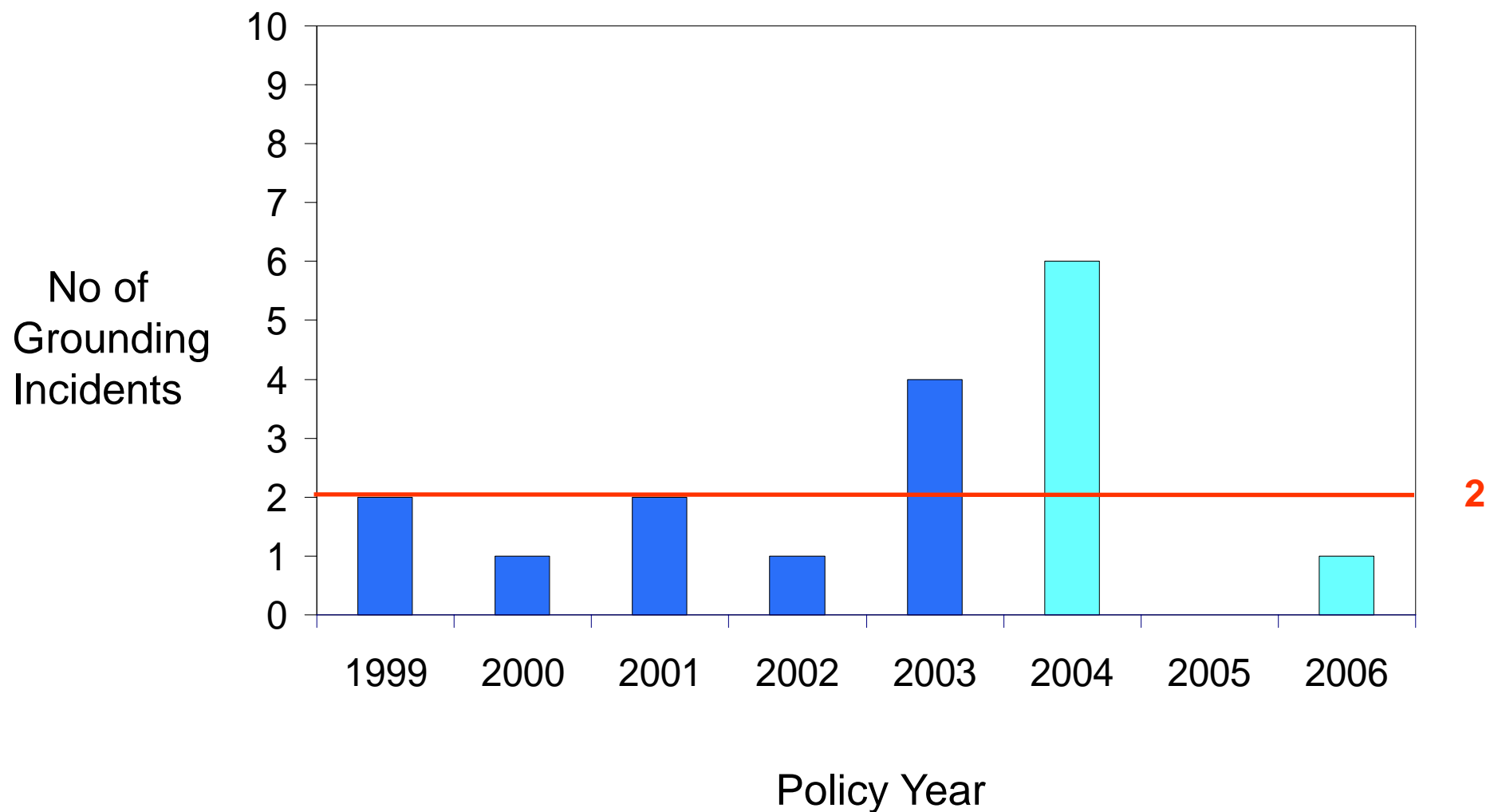
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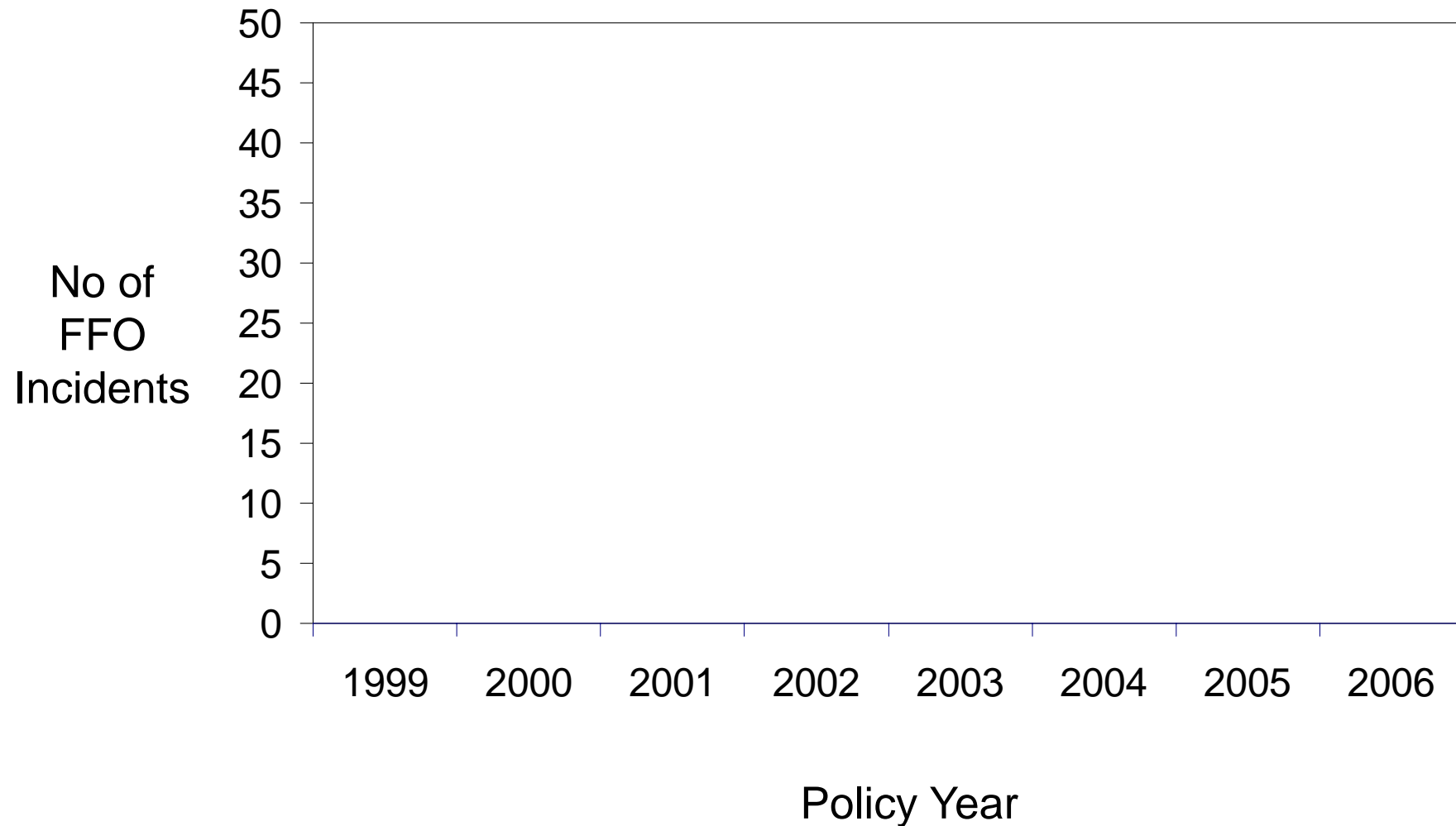
(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)





# Number of FFO Incidents by Policy Year

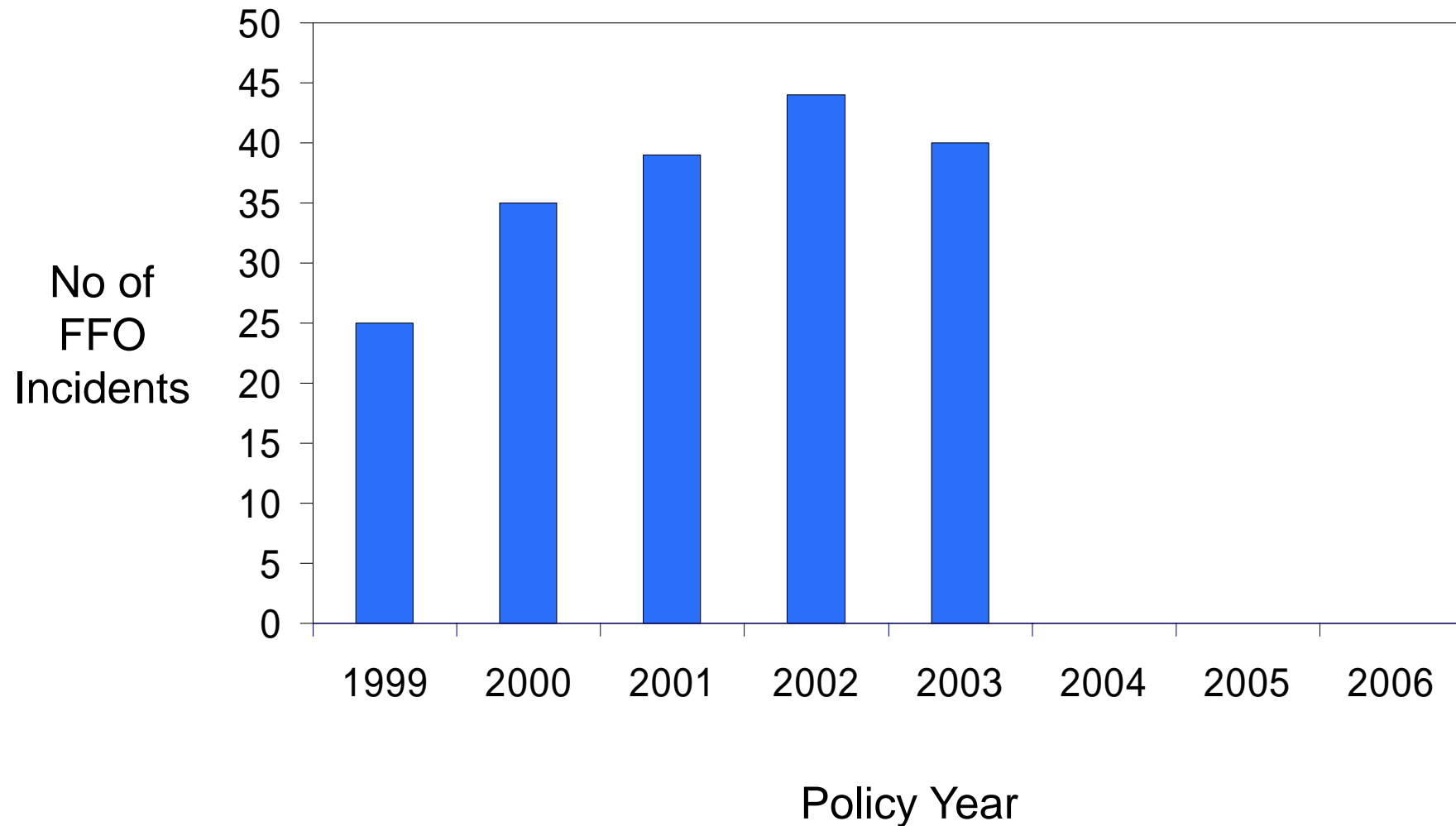
(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)





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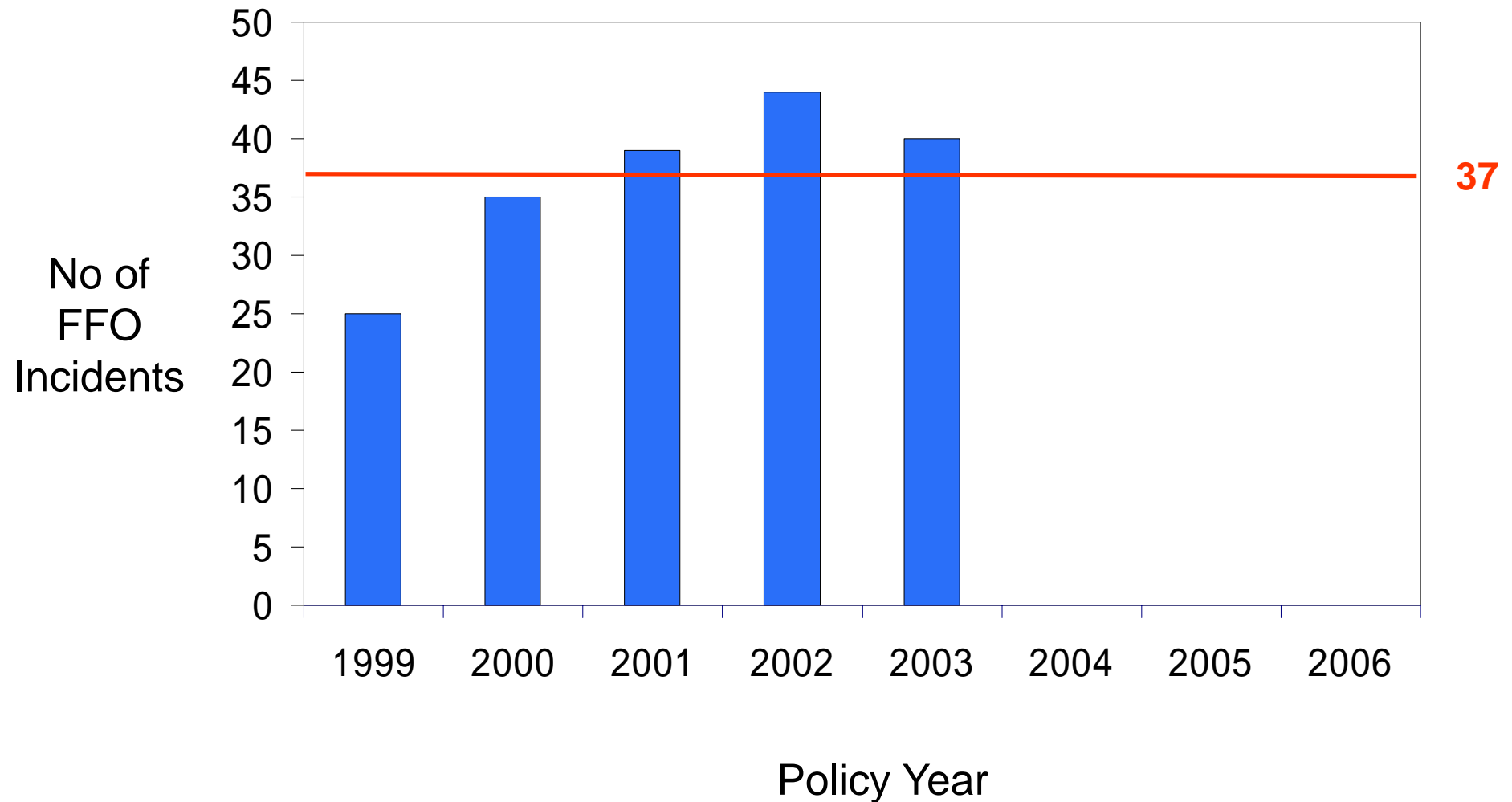






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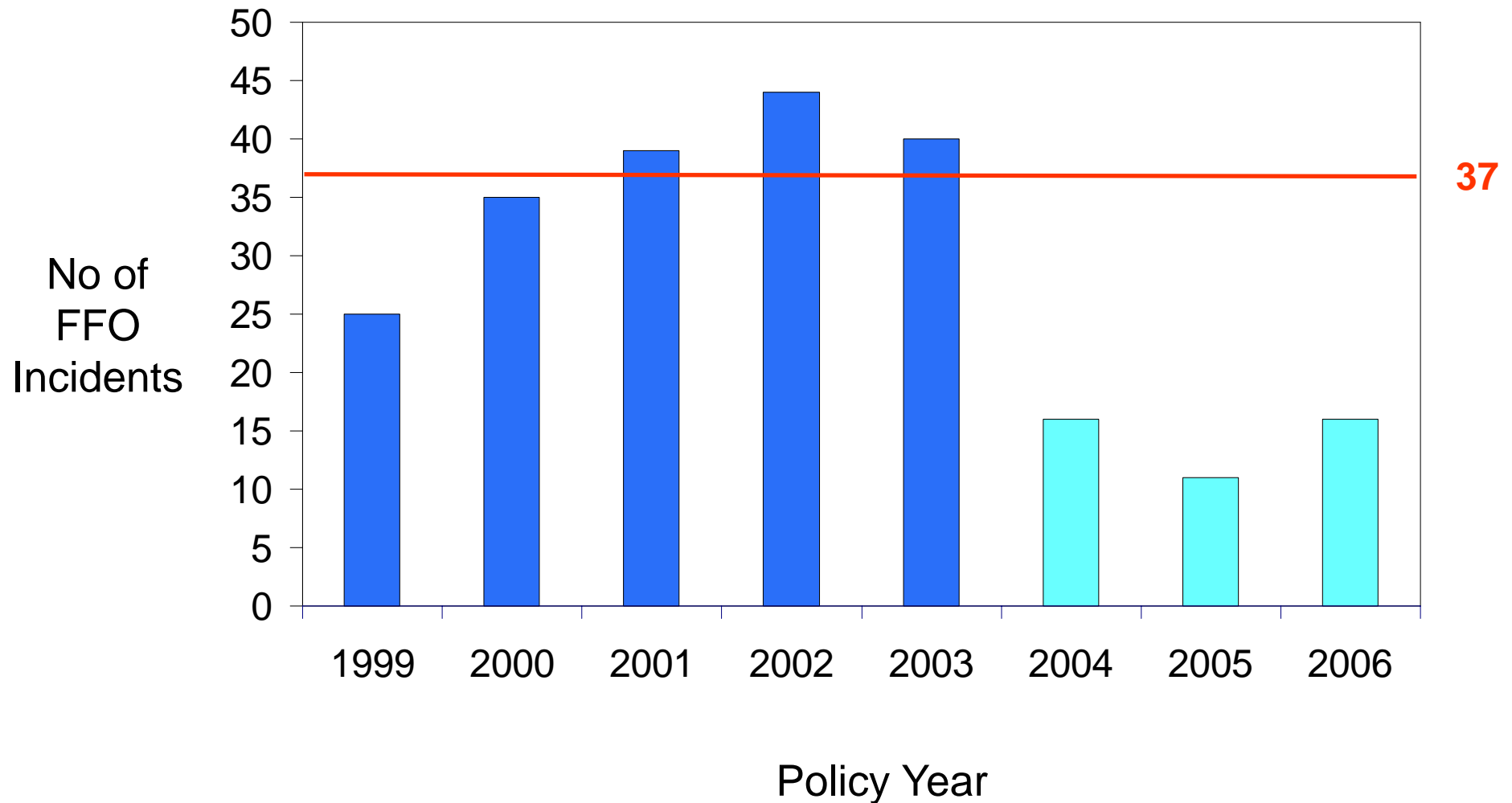
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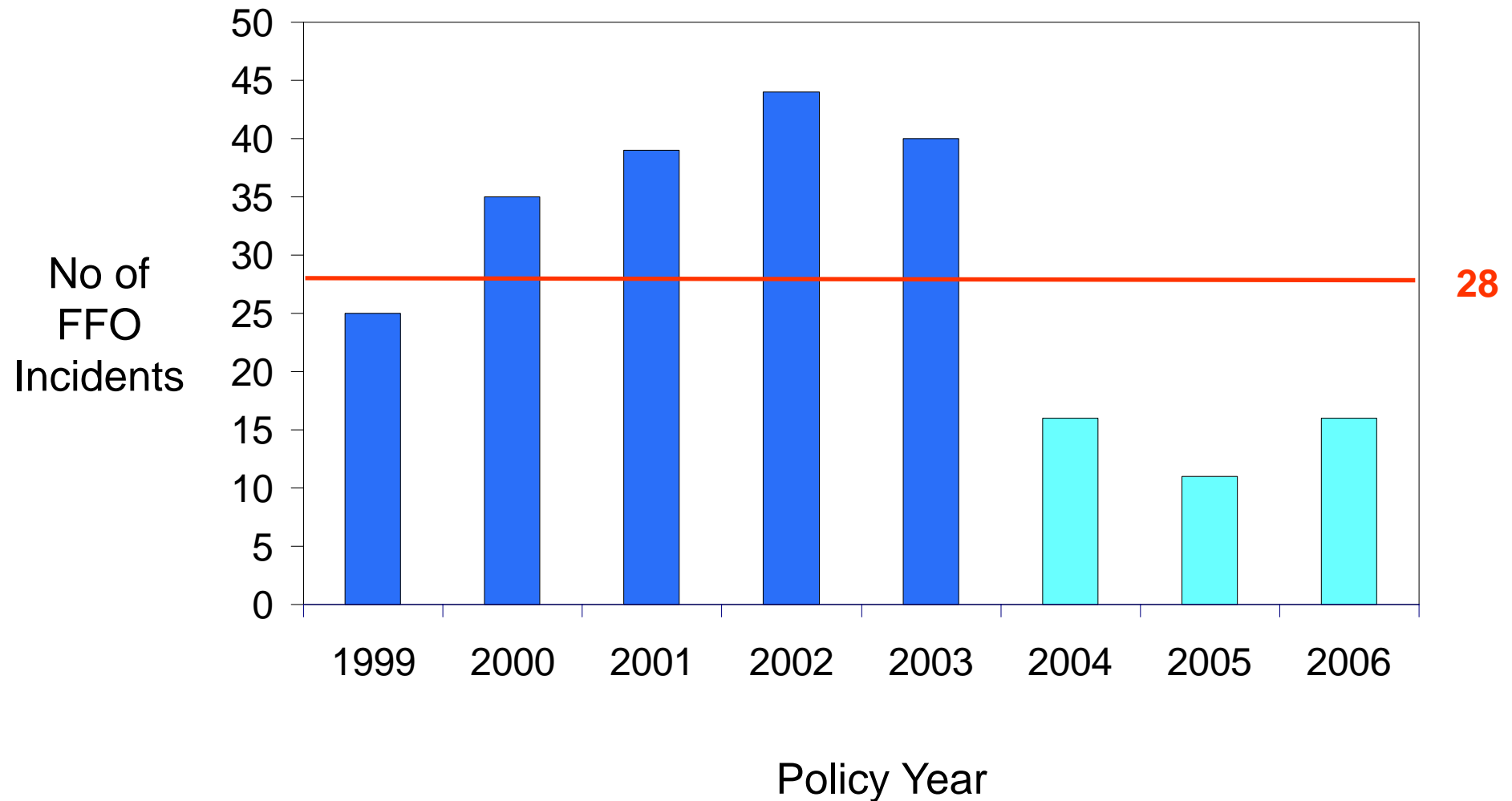
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# Number of FFO Incidents by Policy Year

(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)





# Number of Incidents 1999-2006 by Country

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(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)



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(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)

Country

No of  
Incidents



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Country	No of Incidents
USA	61



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Country	No of Incidents
USA	61
China	23
Japan	20





# Number of Incidents 1999-2006 by Country

(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)

Country	No of Incidents
USA	61
China	23
Japan	20
Brazil	17
Argentina	13
Canada	13
Italy	12
Belgium	12
Netherlands	10



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Country	No of Incidents
USA	61
China	23
Japan	20
Brazil	17
Argentina	13
Canada	13
Italy	12
Belgium	12
Netherlands	10
Germany	9
UK	9
Australia	8



# Number of Incidents 1999-2006 by Country

(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)

Country	No of Incidents	Pilotage Moves Per Annum
USA	61	
China	23	
Japan	20	
Brazil	17	
Argentina	13	
Canada	13	
Italy	12	
Belgium	12	
Netherlands	10	
Germany	9	
UK	9	
Australia	8	



# Number of Incidents 1999-2006 by Country

(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)

Country	No of Incidents	Pilotage Moves Per Annum
USA	61	377,600
China	23	190,000
Japan	20	157,066
Brazil	17	93,440
Argentina	13	35,520
Canada	13	129,600
Italy	12	70,400
Belgium	12	79,630
Netherlands	10	134,080
Germany	9	168,412
UK	9	156,800
Australia	8	55,000



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## by Country

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# Number of Incidents 1999-2006

## by Country

(Claims with a paid & estimated value of \$100,000 and above known or believed to have been caused by pilot error)

Country	No of Incidents	Pilotage Moves Per Annum	Total Moves 1999-2006	Pilotage Moves Per Incident
USA	61	377,600	3,020,800	49,521
China	23	190,000	1,520,000	66,087
Japan	20	157,066	1,256,528	62,826
Brazil	17	93,440	747,520	43,972
Argentina	13	35,520	284,160	21,858
Canada	13	129,600	1,036,800	79,754
Italy	12	70,400	563,200	46,933
Belgium	12	79,630	637,040	53,087
Netherlands	10	134,080	1,072,640	107,264
Germany	9	168,412	1,347,296	149,700
UK	9	156,800	1,254,400	139,378
Australia	8	55,000	424,000	55,000



# Number of Incidents 1999-2006

## by Country

Country	No of Incidents	Pilotage Moves Per Annum	Total Moves 1999-2006	Pilotage Moves Per Incident
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# Number of Incidents 1999-2006

## by Country

Country	No of Incidents	Pilotage Moves Per Annum	Total Moves 1999-2006	Pilotage Moves Per Incident
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# Number of Incidents 1999-2006

## by Country

Country	No of Incidents	Pilotage Moves Per Annum	Total Moves 1999-2006	Pilotage Moves Per Incident
Argentina	13	35,520	284,160	21,858
Malaysia	4	12,160	97,280	24,320
Taiwan	7	23,680	189,440	27,063
Cyprus	1	3,520	28,160	28,160
Colombia	3	13,210	105,680	35,227
Mexico	1	4,480	35,840	35,840
Morocco	1	4,800	38,400	38,400
Sri Lanka	1	4,800	38,400	38,400
Denmark	4	19,423	155,384	38,846
Brazil	17	93440	747,520	43,972
Italy	12	70,400	563,200	46,933
Thailand	4	24,000	192,000	48,000



# Observations

## Grounding in New York Harbour 2006

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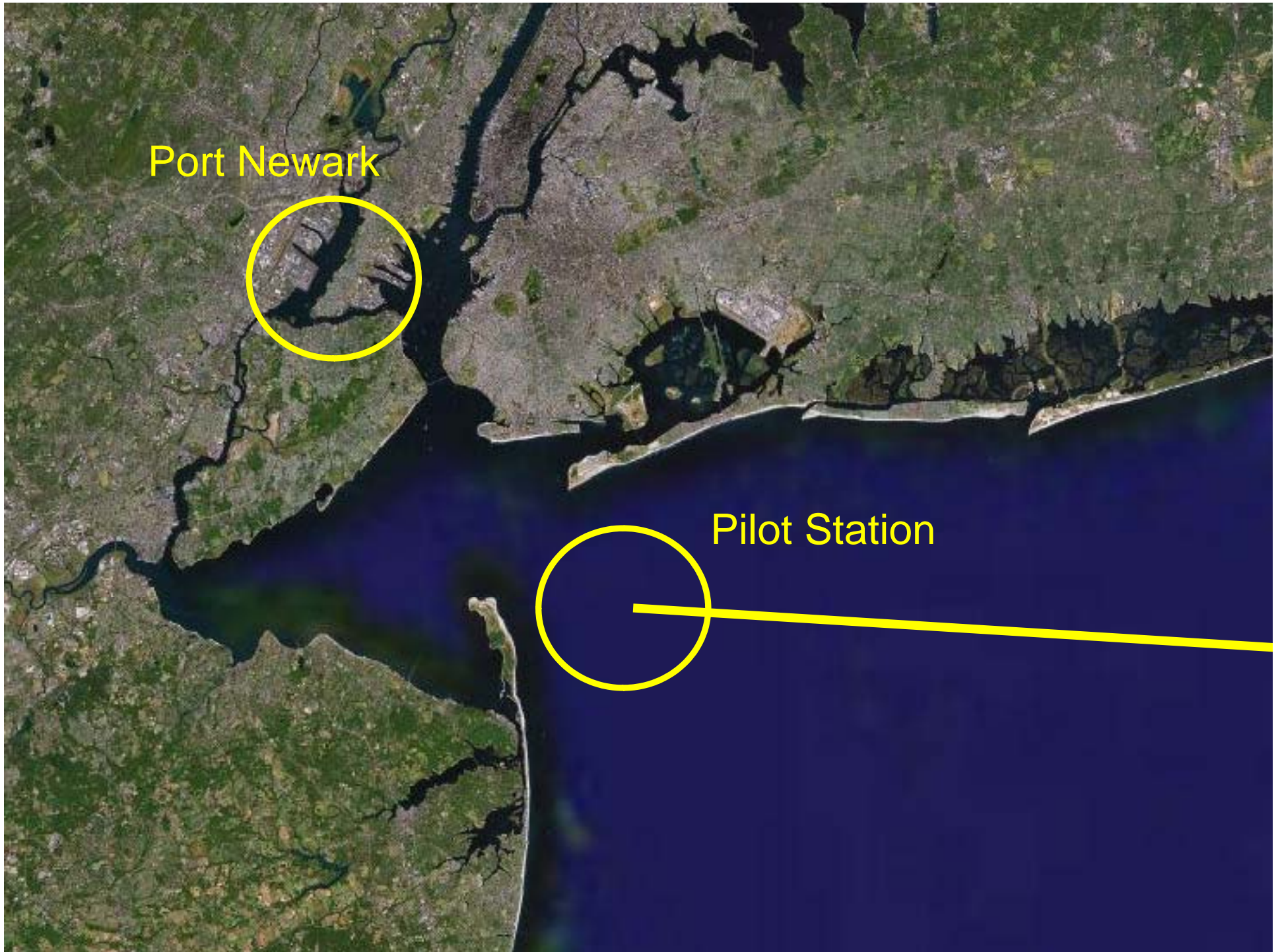




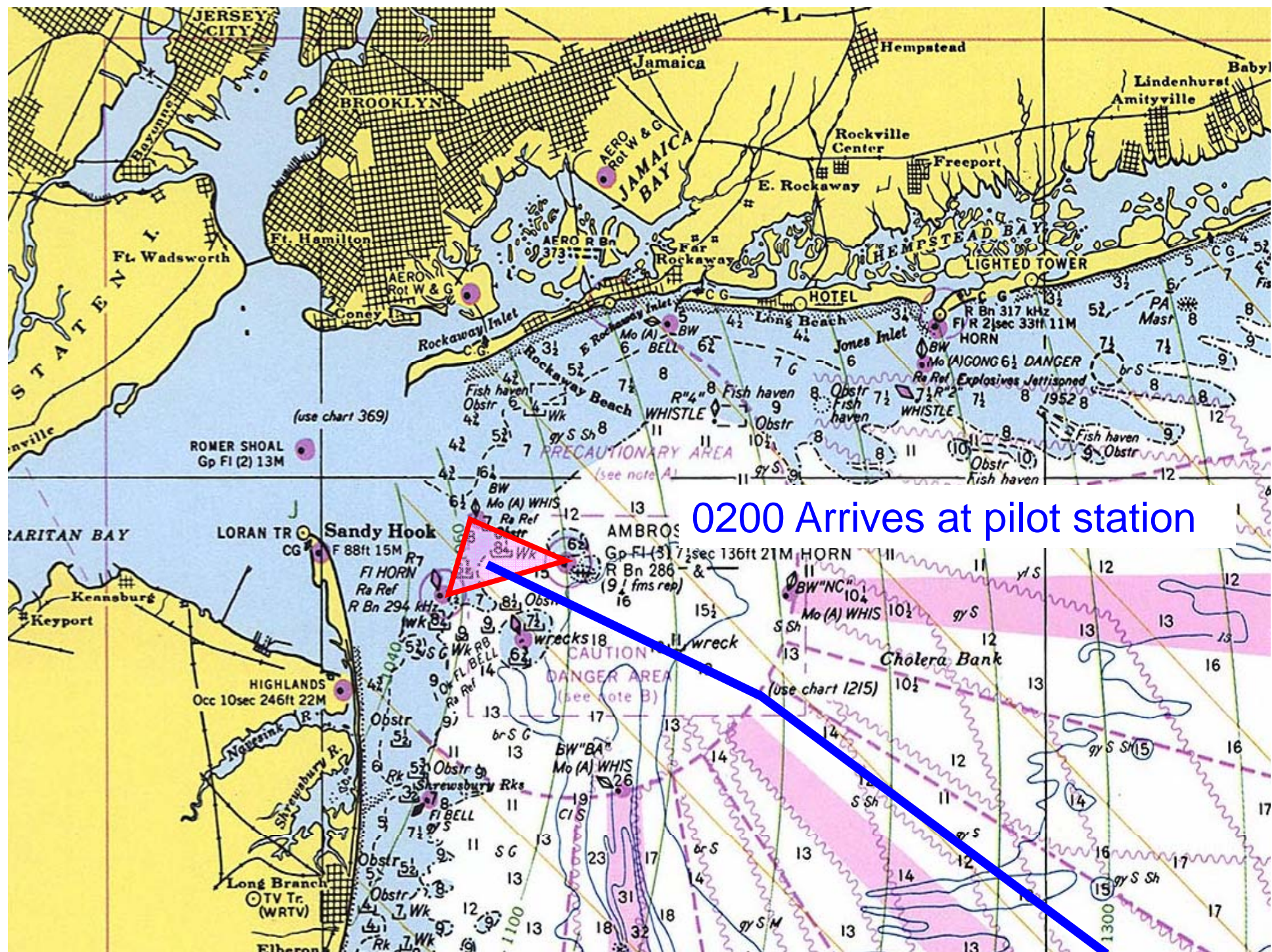


Port Newark

Pilot Station



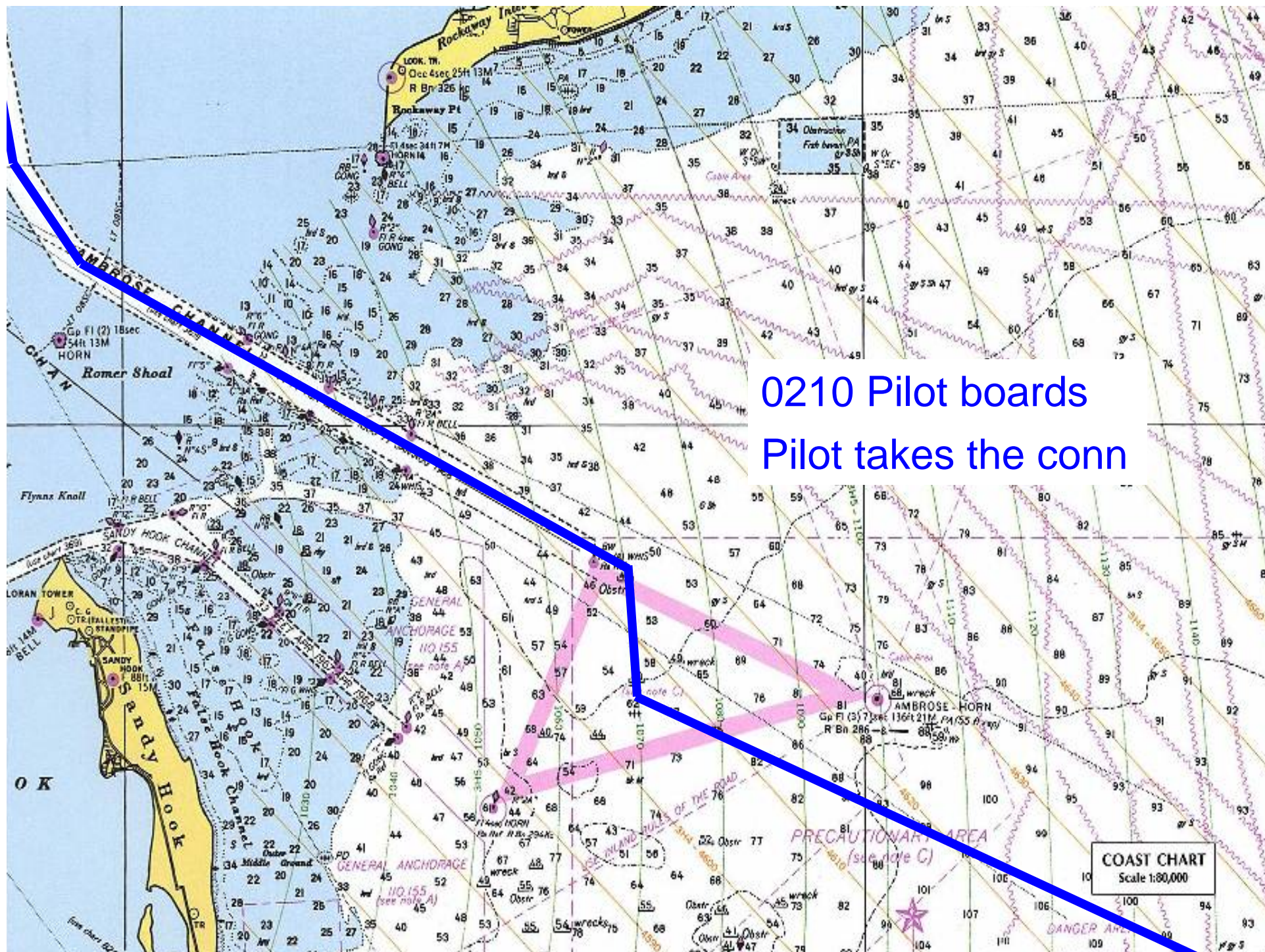










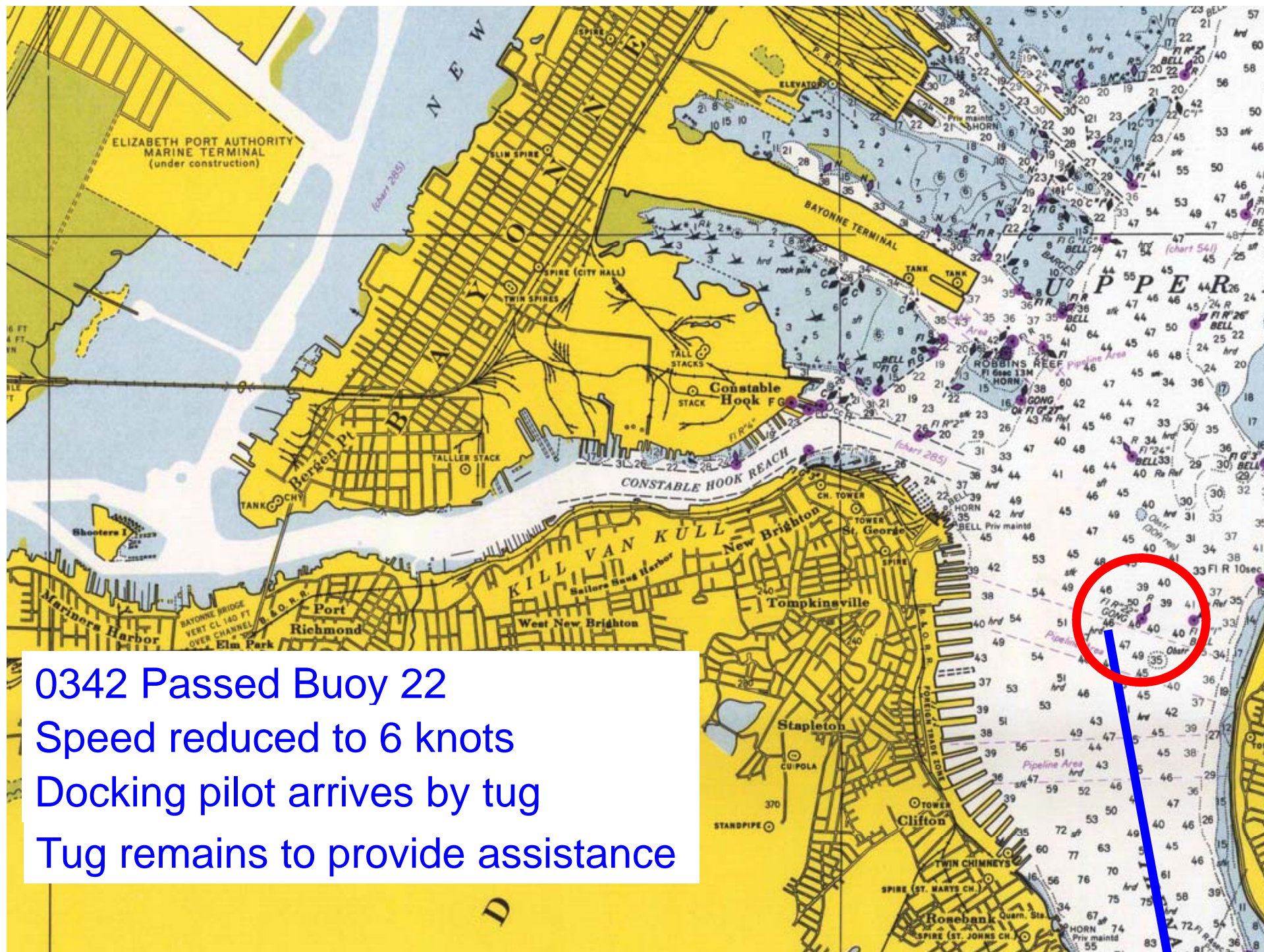


0210 Pilot boards  
Pilot takes the conn









0342 Passed Buoy 22  
Speed reduced to 6 knots  
Docking pilot arrives by tug  
Tug remains to provide assistance









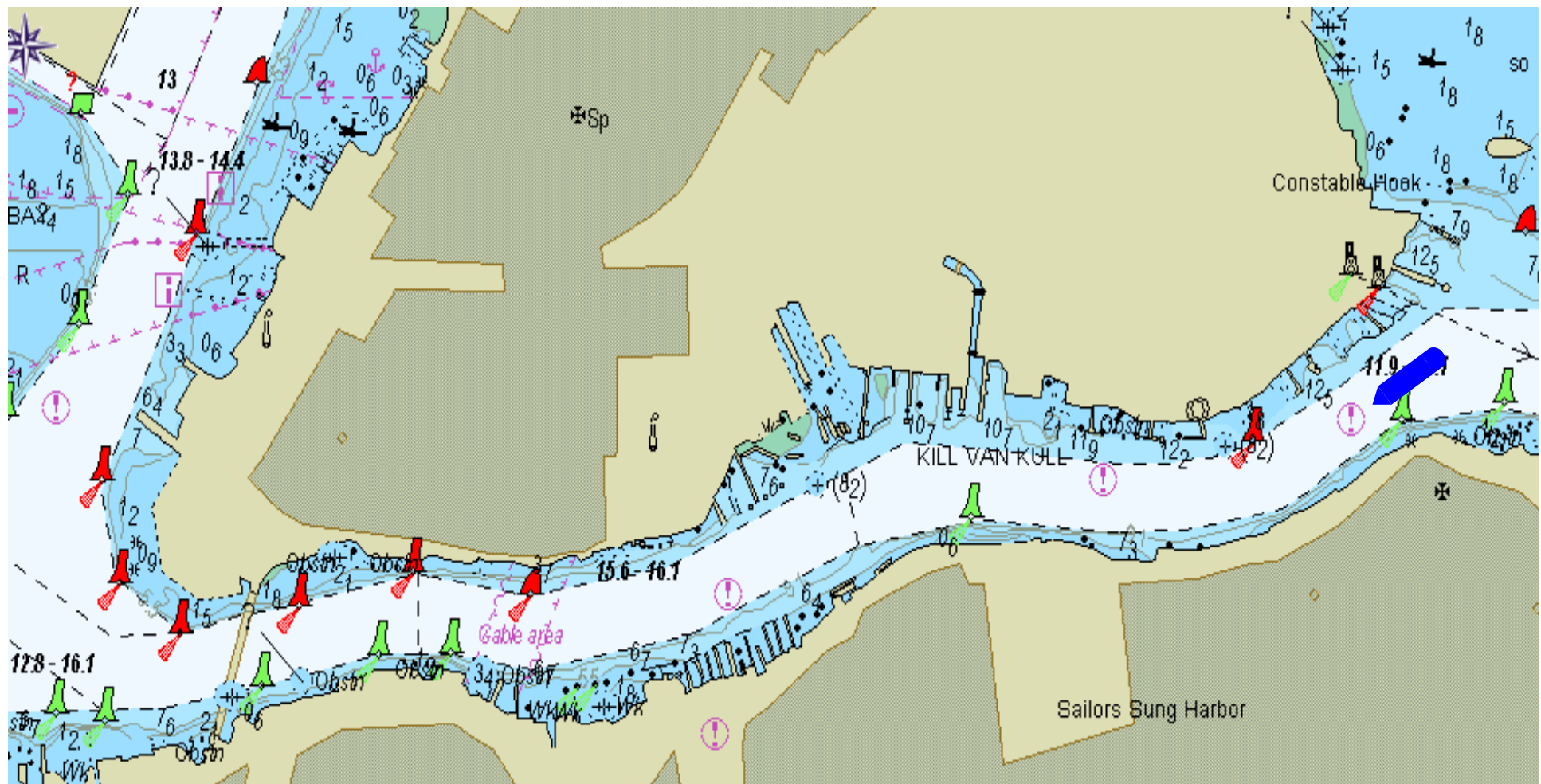
A detailed nautical chart of the New York Harbor area. The chart shows the Bayonne Bridge crossing the Kill Van Kull. Key locations include the Bayonne Terminal, Robbins Reef, and the Kill Van Kull. A blue circle highlights the area around the Bayonne Bridge, and a blue line indicates a ship's path from the bridge towards the Kill Van Kull. The chart includes various navigational markers, soundings, and labels for different areas and structures.

**Bayonne Bridge**

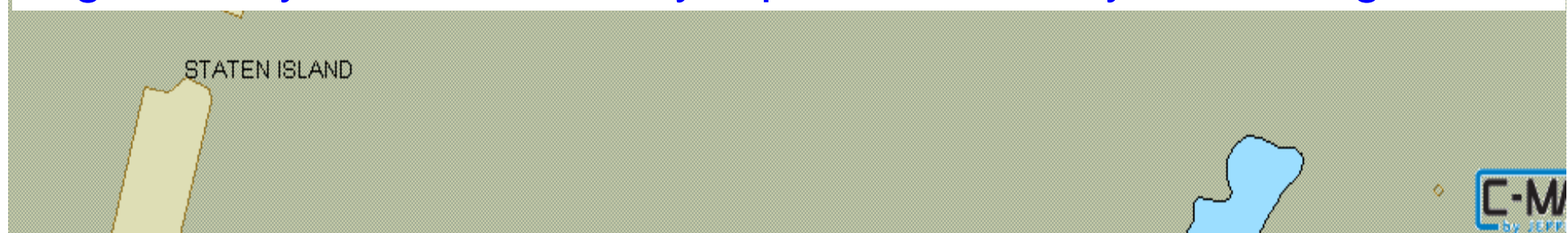
Ship continues towards Kill Van Kull  
Docking pilot takes conn at "Conhook Reach"  
Joined by second tug





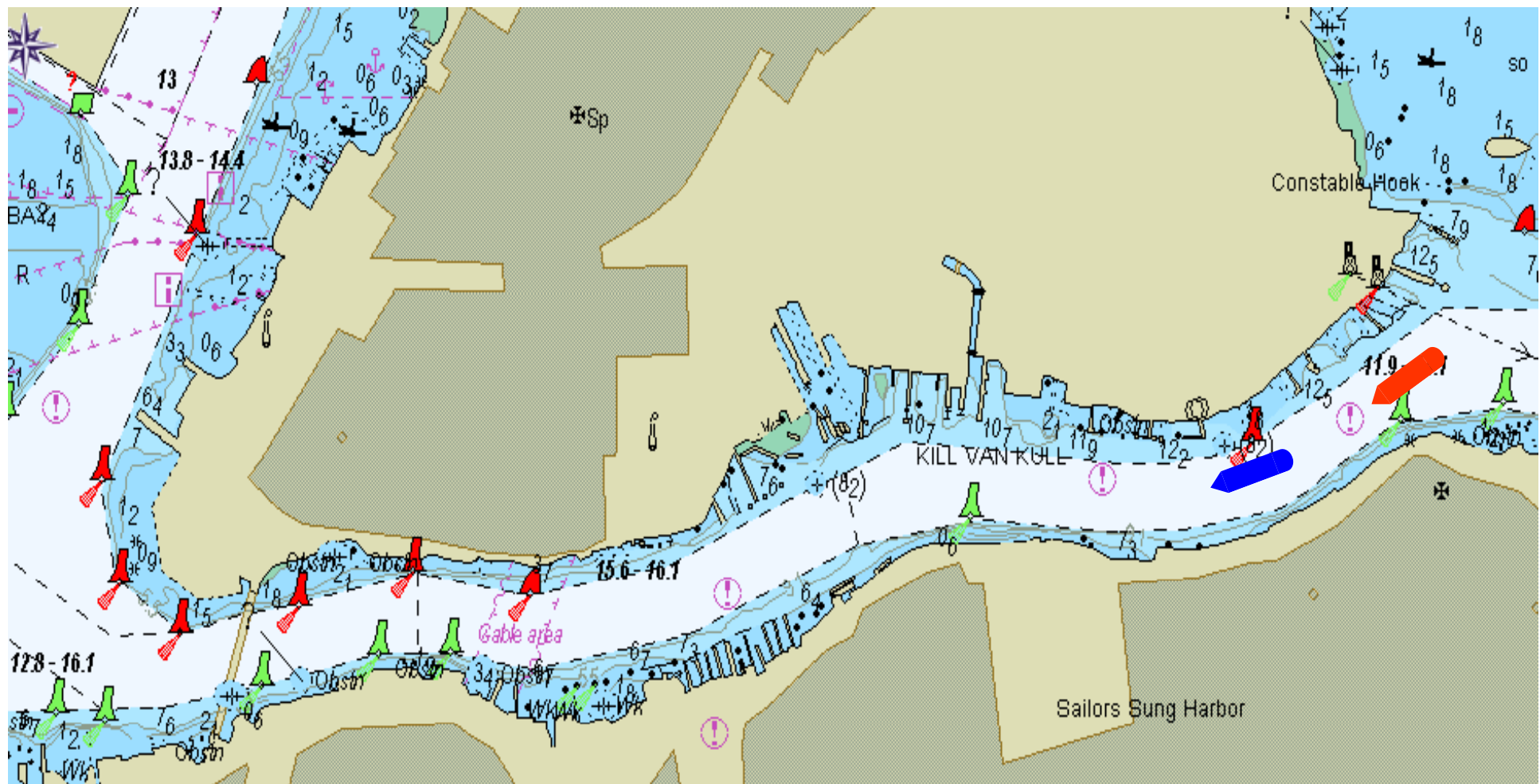


On bridge: master, docking pilot, sea pilot, 2<sup>nd</sup> officer, helmsman  
Significantly reduced visibility reported near Bayonne Bridge



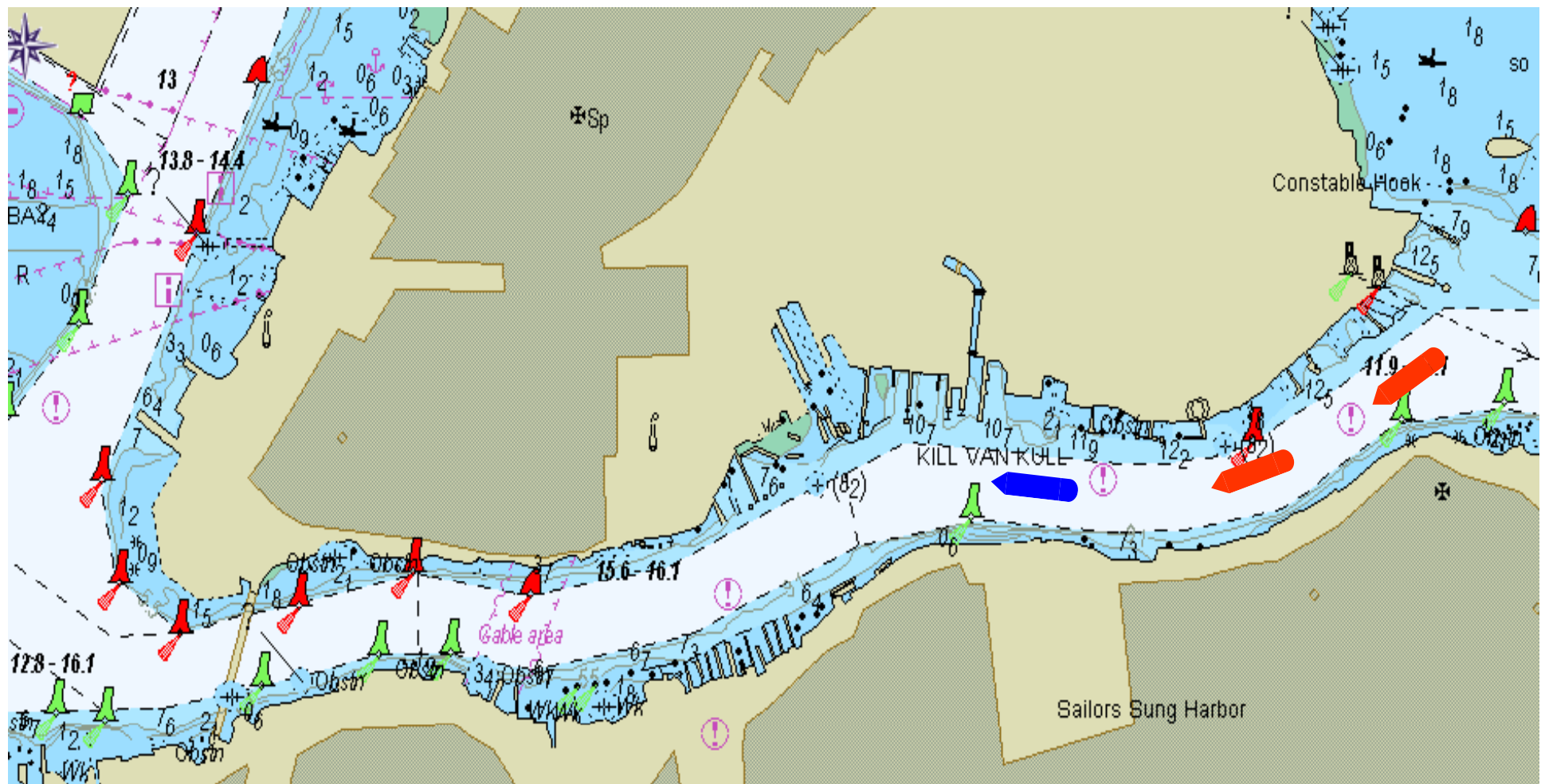






On bridge: master, docking pilot, sea pilot, 2<sup>nd</sup> officer, helmsman  
Significantly reduced visibility reported near Bayonne Bridge  
Docking pilot orders third tug - *"You will be on port bow with rope"*

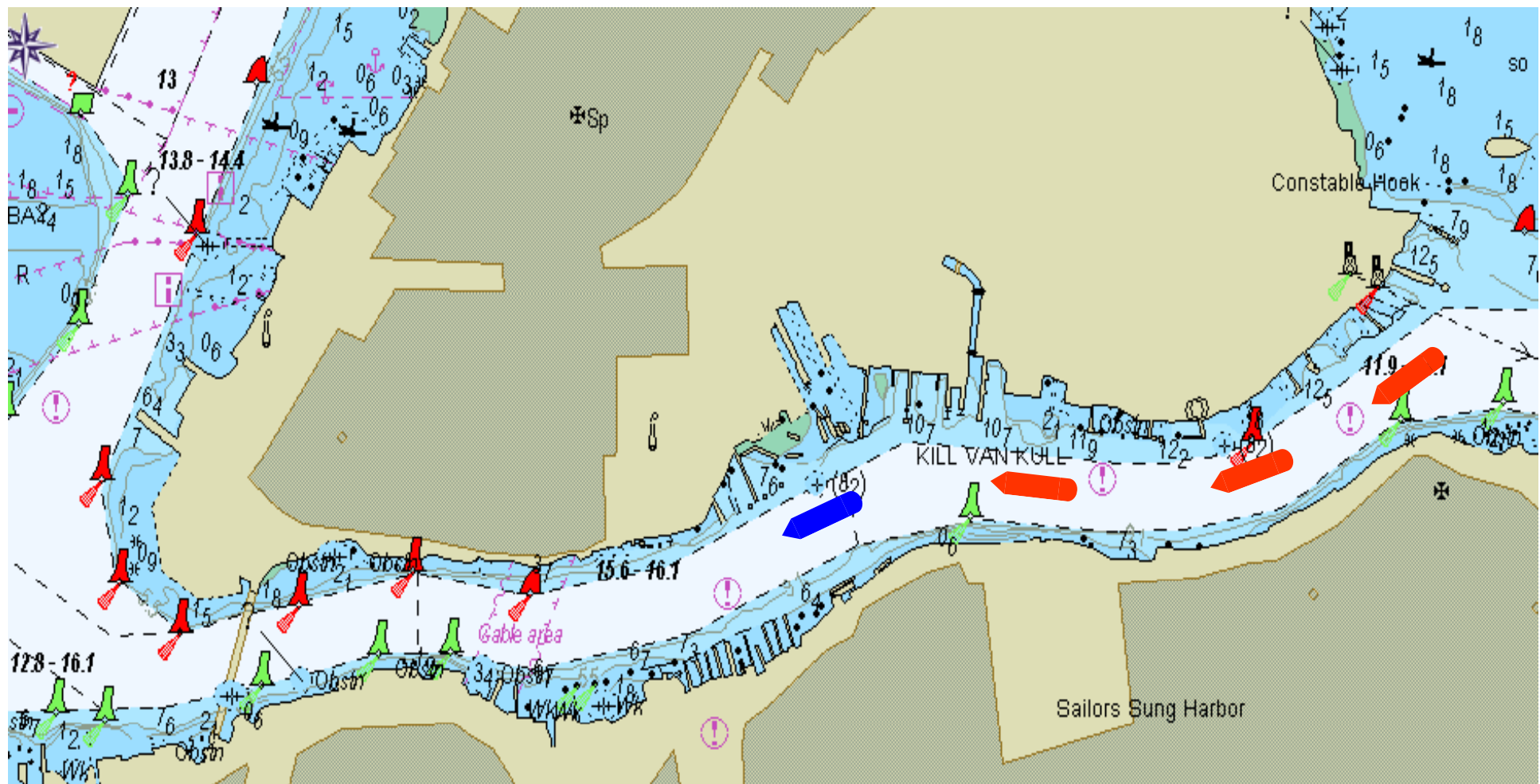




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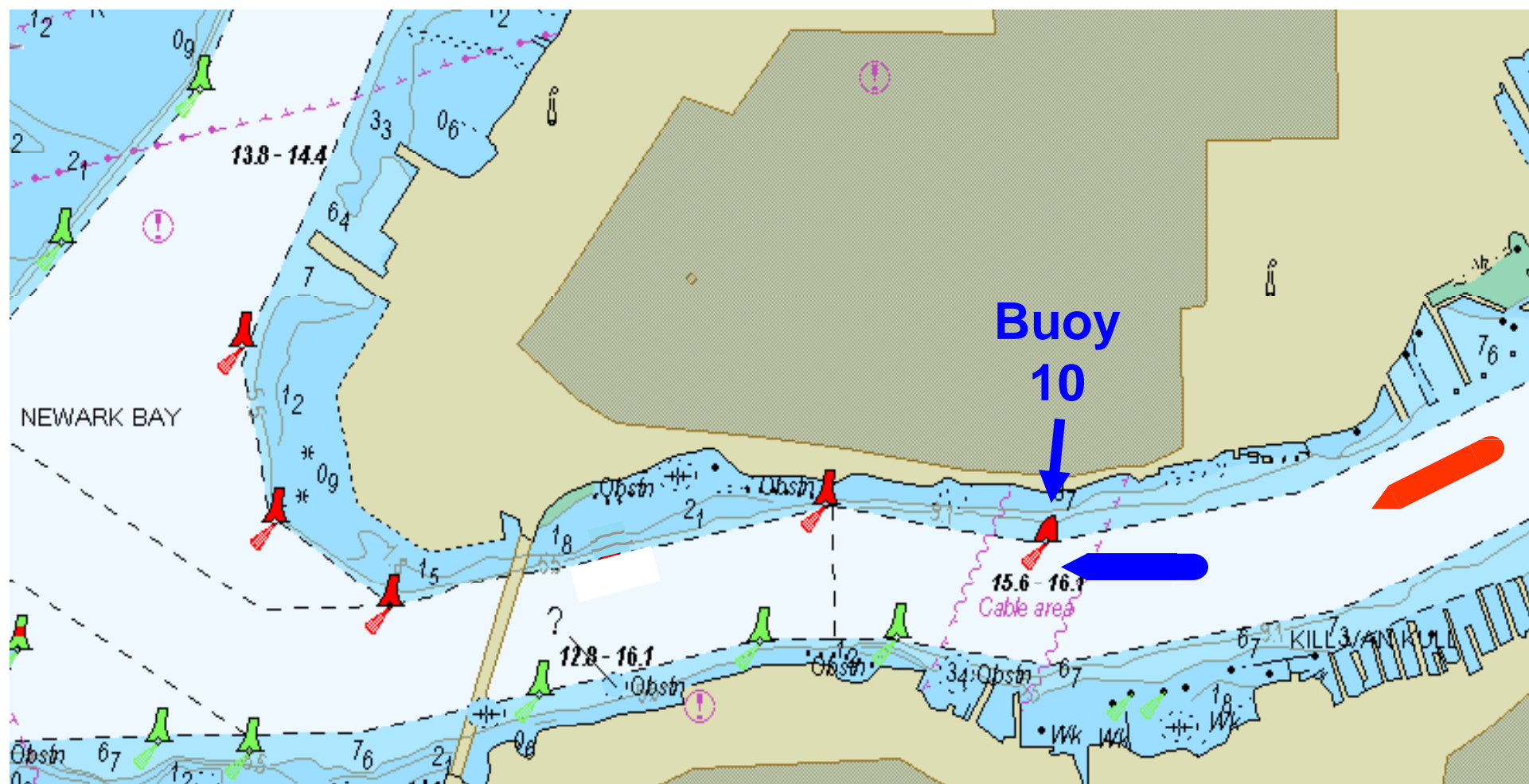






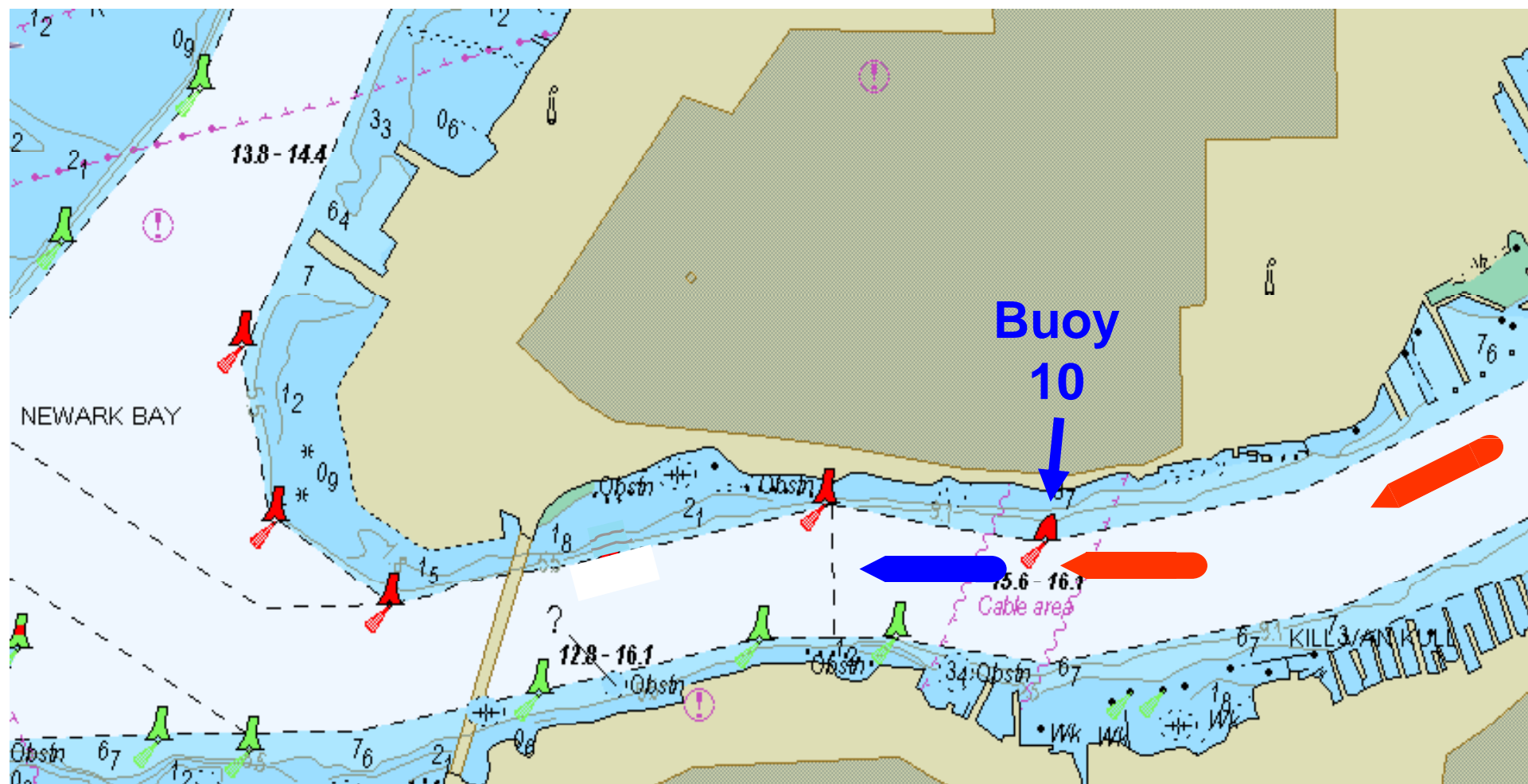
On bridge: master, docking pilot, sea pilot, 2<sup>nd</sup> officer, helmsman  
Significantly reduced visibility reported near Bayonne Bridge  
Docking pilot orders third tug - *"You will be on port bow with rope"*  
Speed 6 knots (Slow Ahead)  
First tug makes fast on starboard bow. Second tug follows astern





Vessel passes Buoy 10





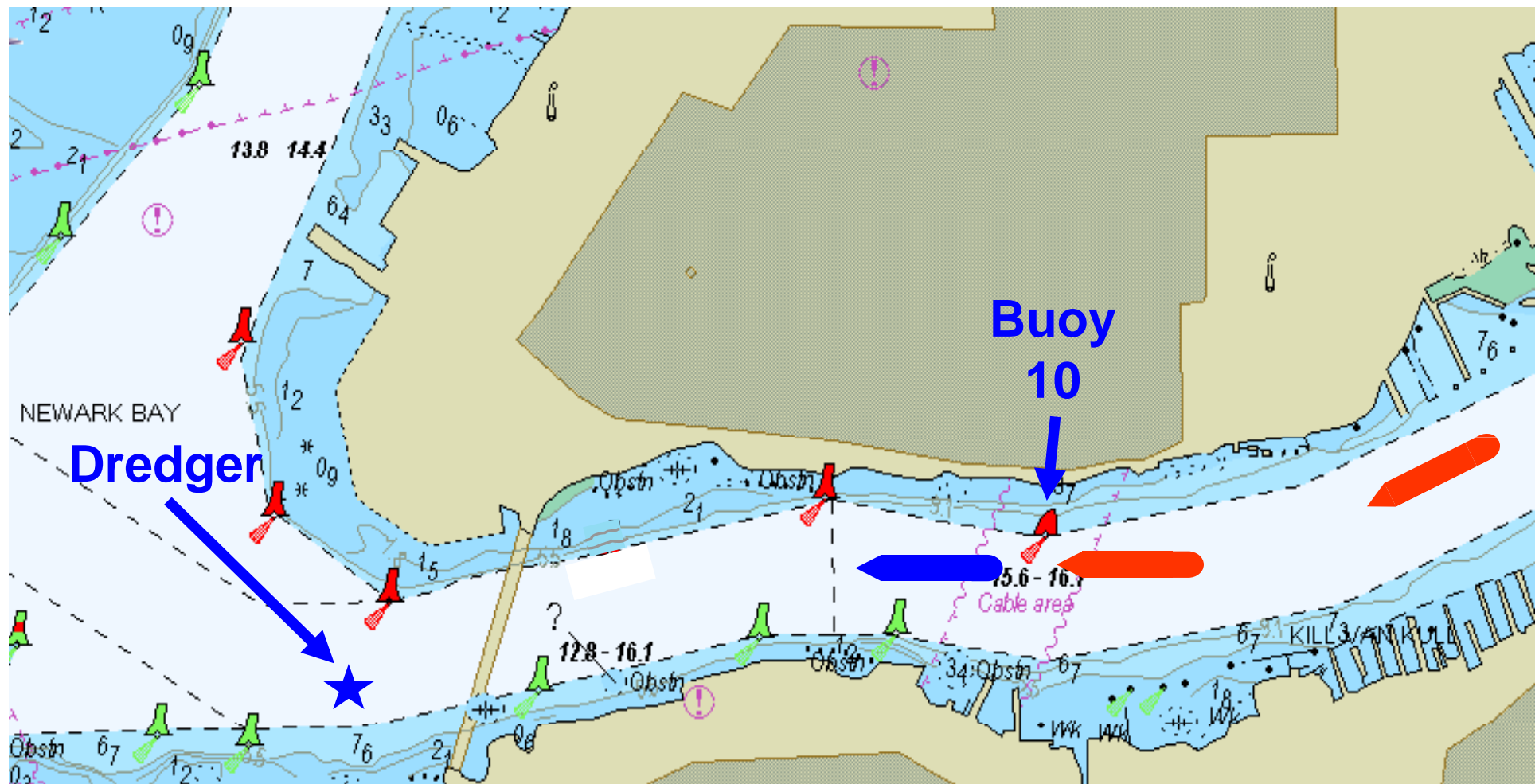
Vessel passes Buoy 10 - visibility now "almost zero"









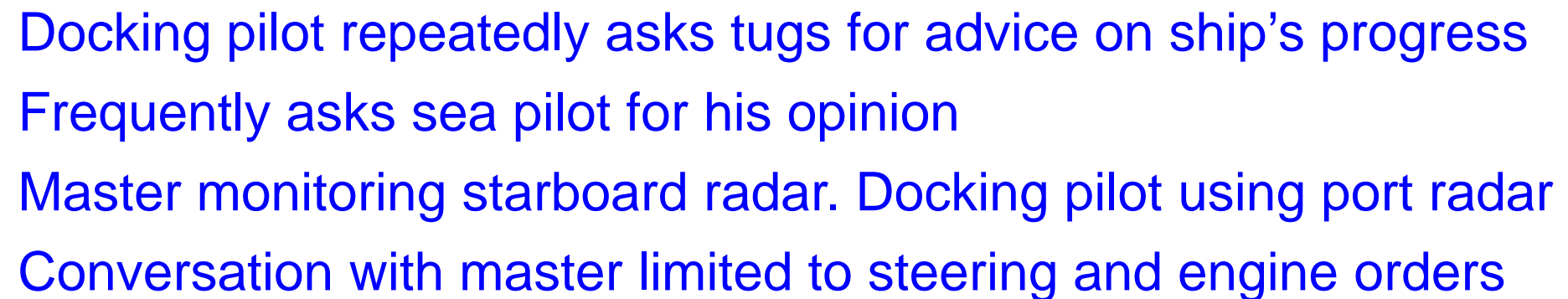


Vessel passes Buoy 10 – visibility now “almost zero”  
Dredger working in fairway just west of Bayonne Bridge

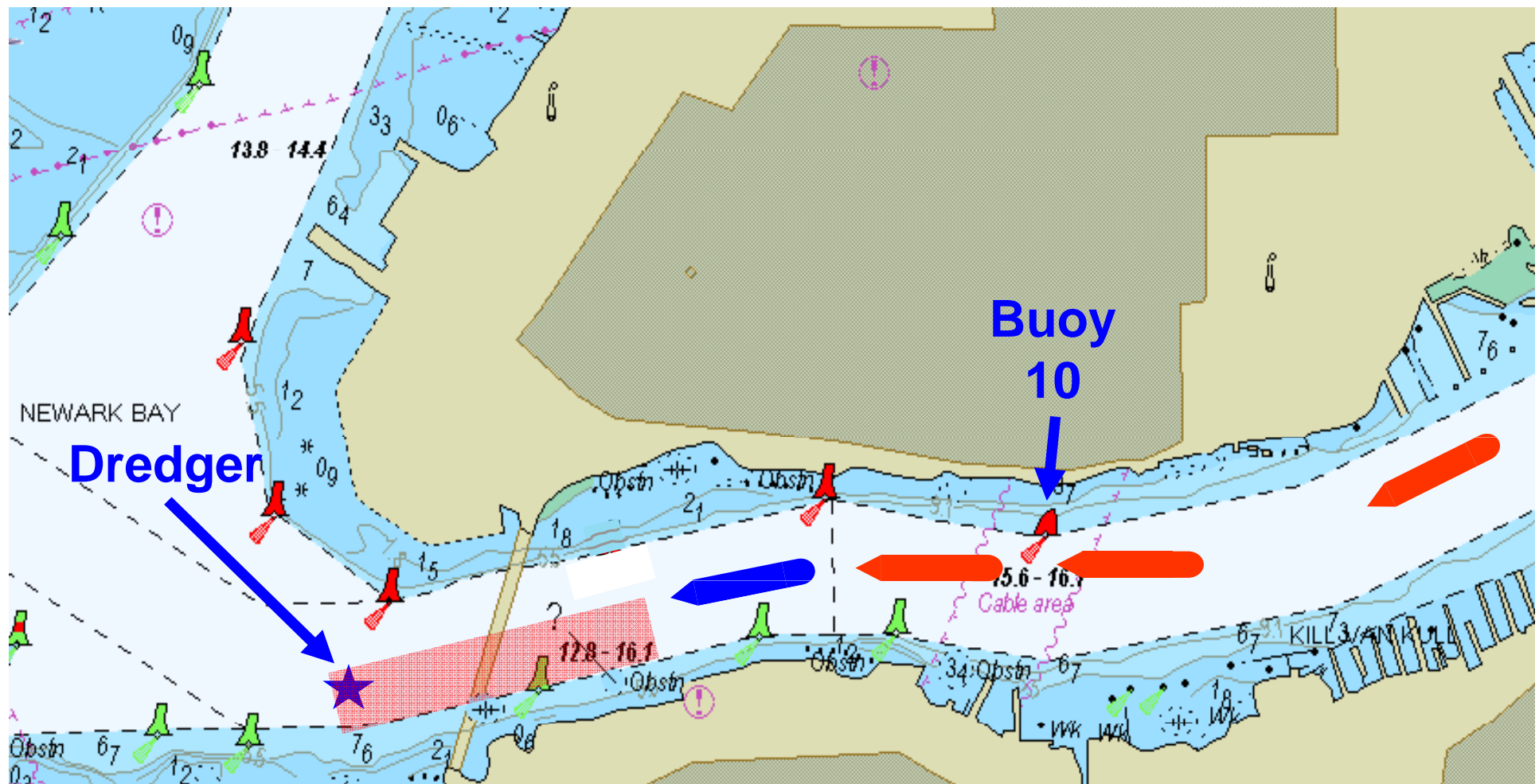












Dead slow ahead approaching bridge

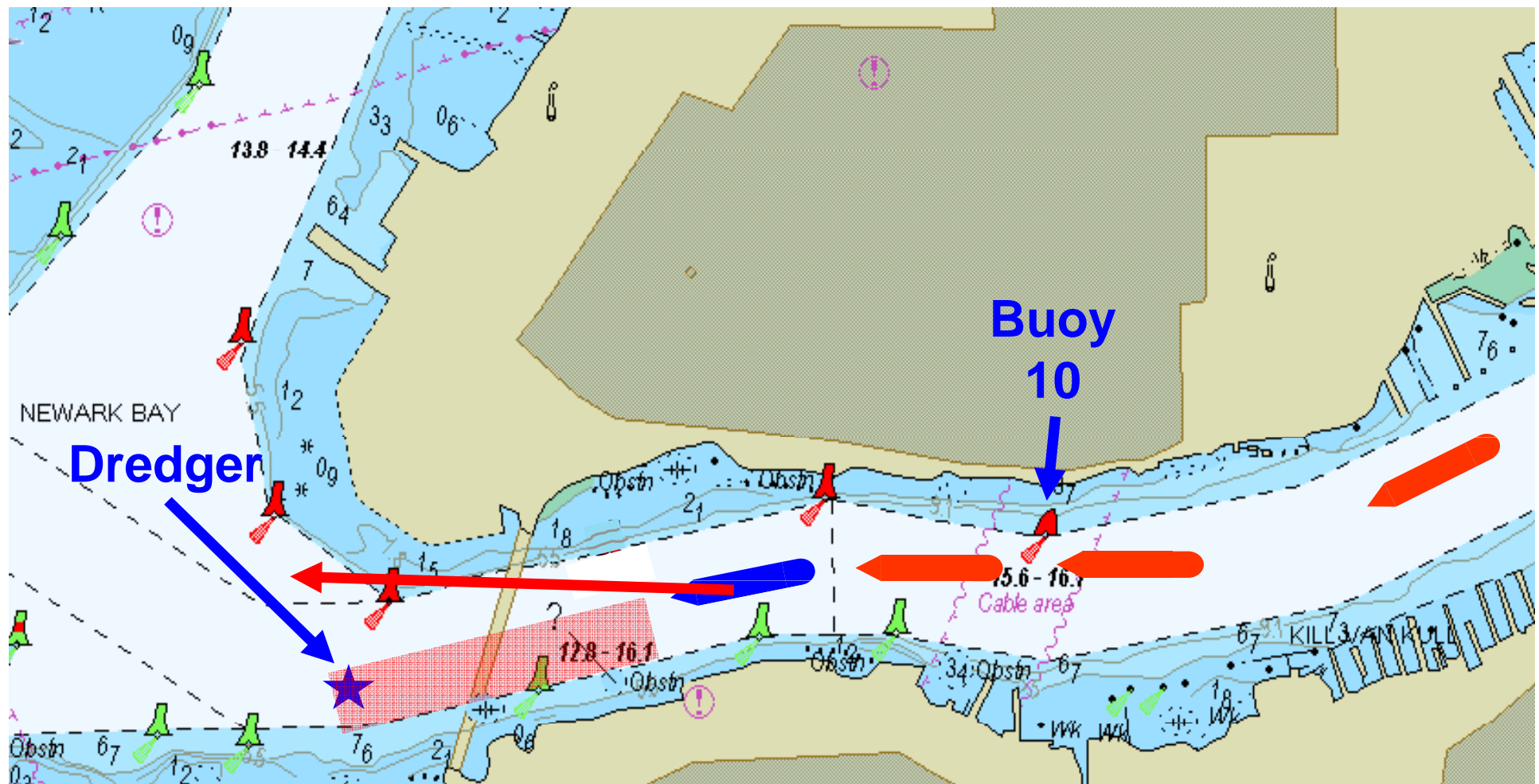
Pilot calls first tug on starboard bow for position check

First tug: *"You are right in the middle of the channel"*

Docking pilot to sea pilot: *"What do you think – a little right?"*

Sea pilot: *"Yeah – got to come right"*





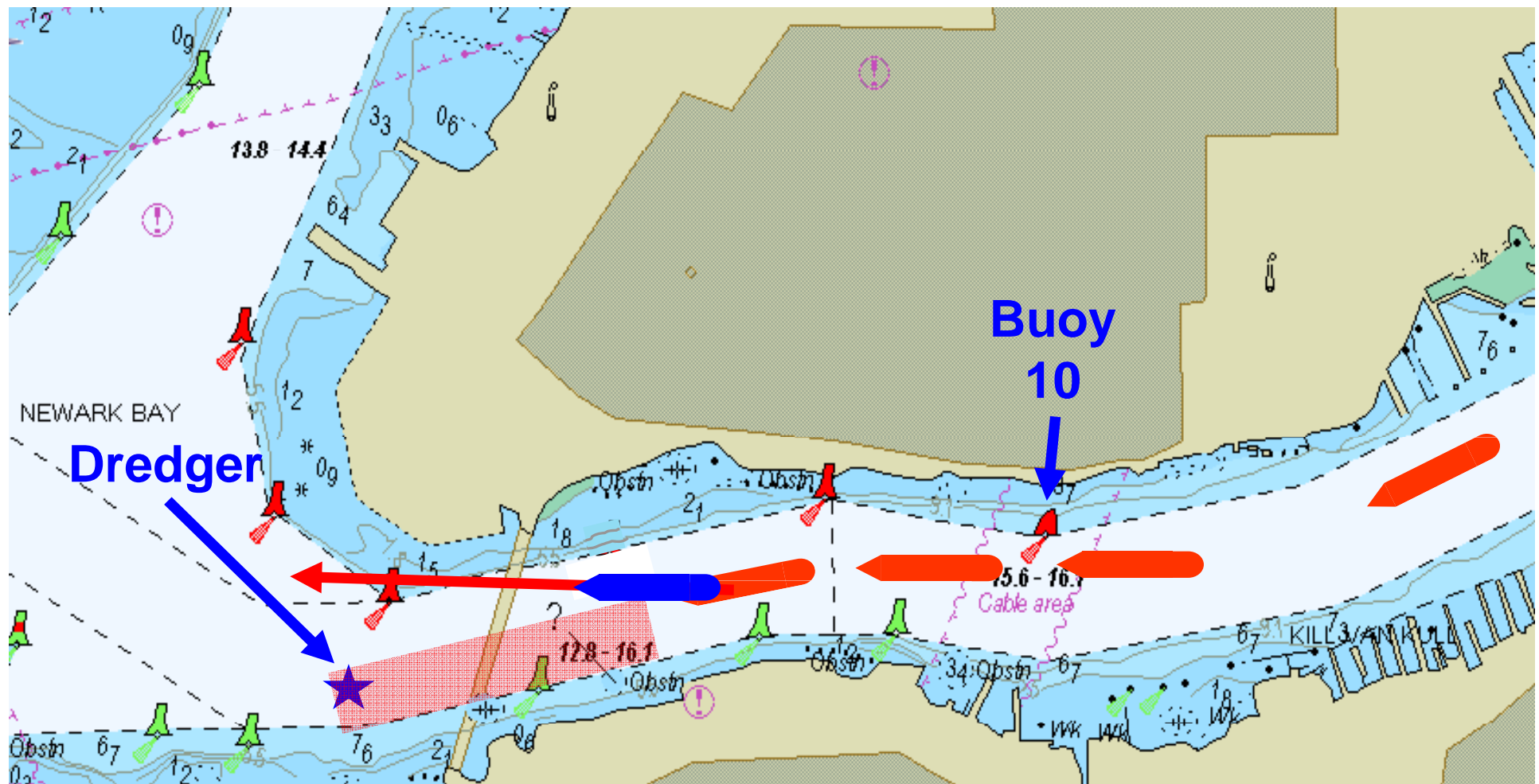
Docking pilot orders “Starboard 20”. Speed is 6 knots.

Third tug now off port bow. Pilot asks “Do you see anything?”

Third tug: “I don’t see a chock here”

Answer should have alerted pilot that third tug was not made fast

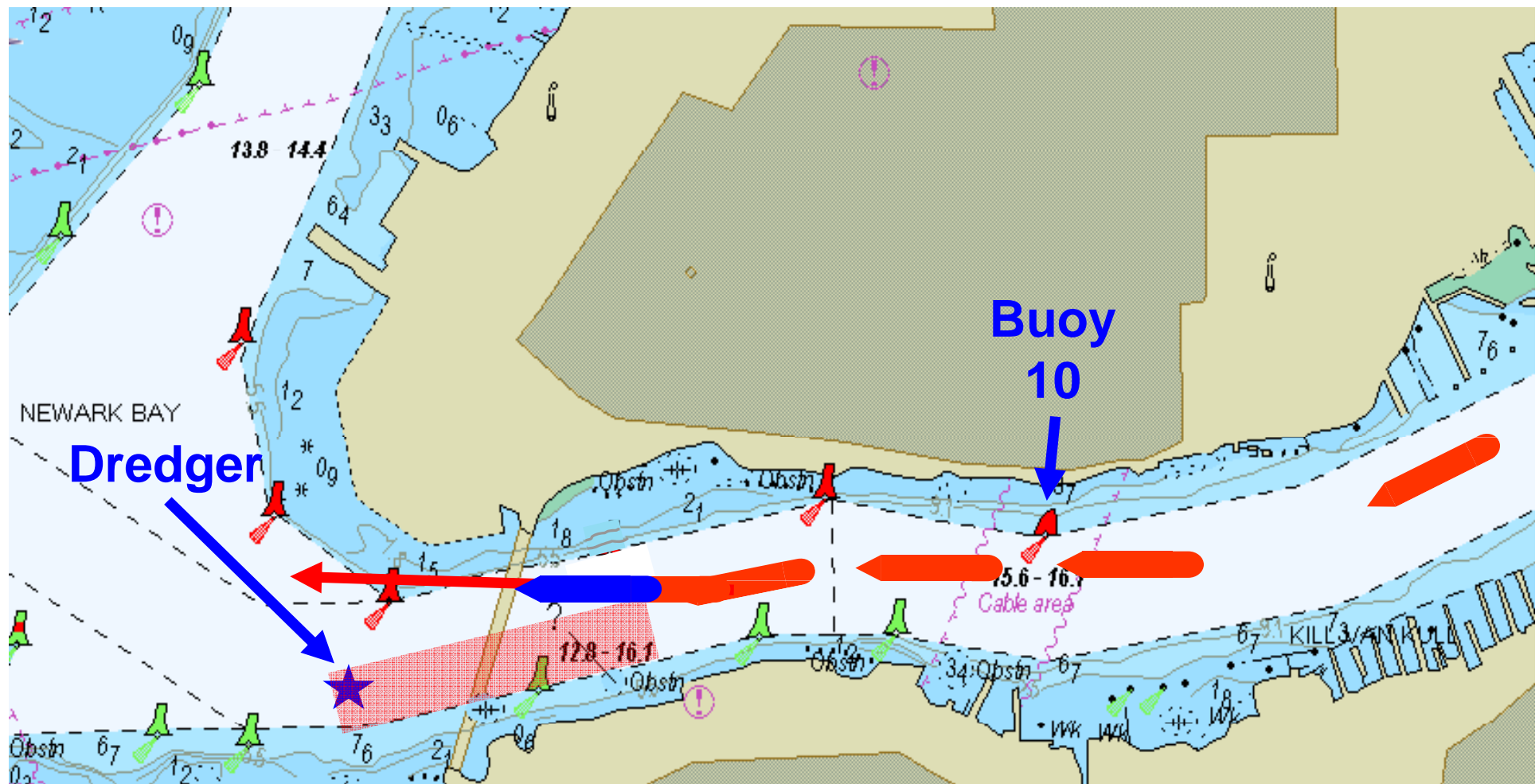
Pilot responds: “Looking for anything you can see. I’m at zero here”



Pilot asks first tug on starboard bow: *“How are we looking?”*

Tug: *“Still looking good....you’re a little bit right of mid channel”*

Docking pilot asks sea pilot *“What do you think, come right?”*

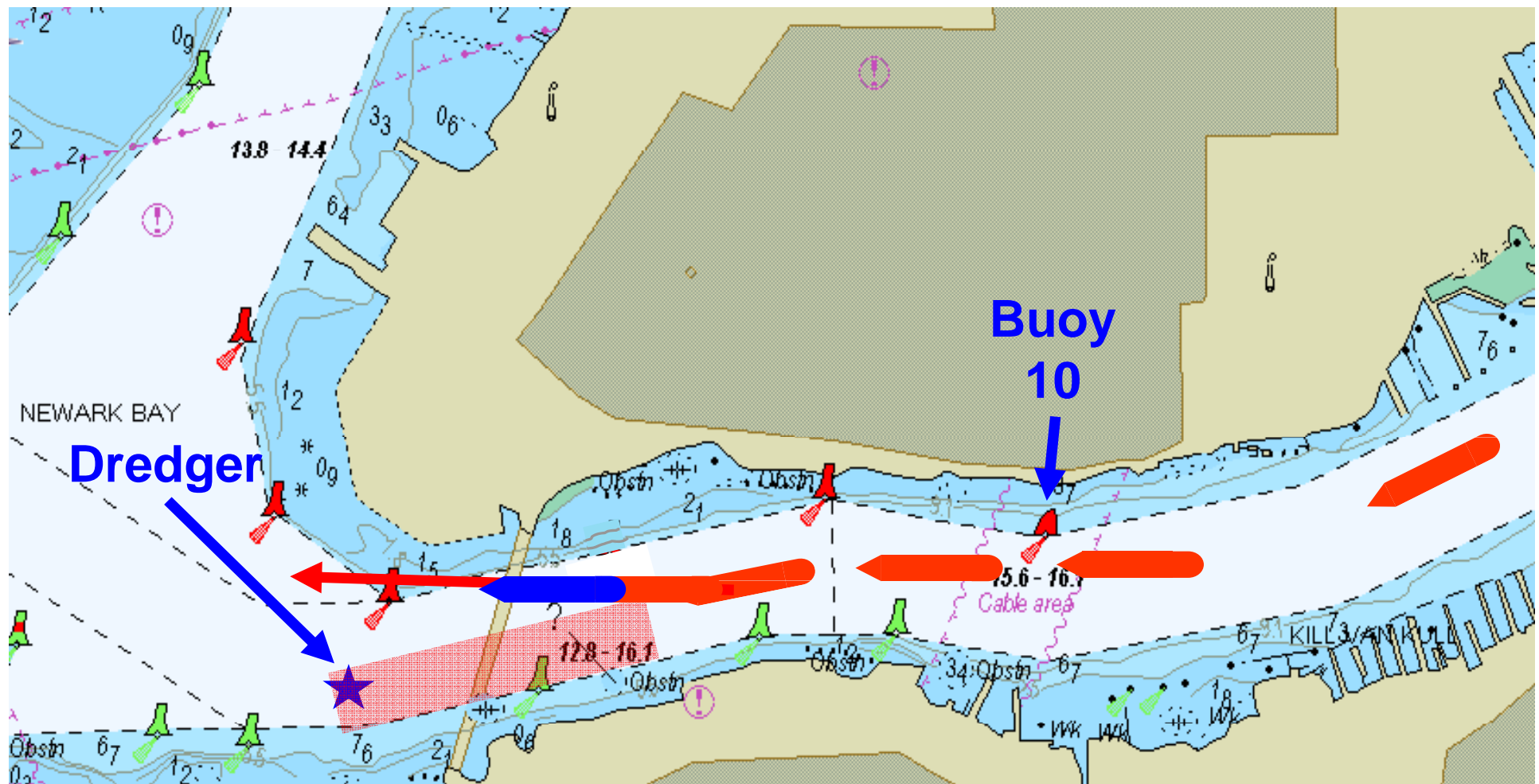


Pilot asks first tug on starboard bow: *"How are we looking?"*

Tug: *"Still looking good....you're a little bit right of mid channel"*

Docking pilot asks sea pilot *"What do you think, come right?"*

Sea pilot: *"Wait until you get under the bridge"*



Pilot asks first tug on starboard bow: *"How are we looking?"*

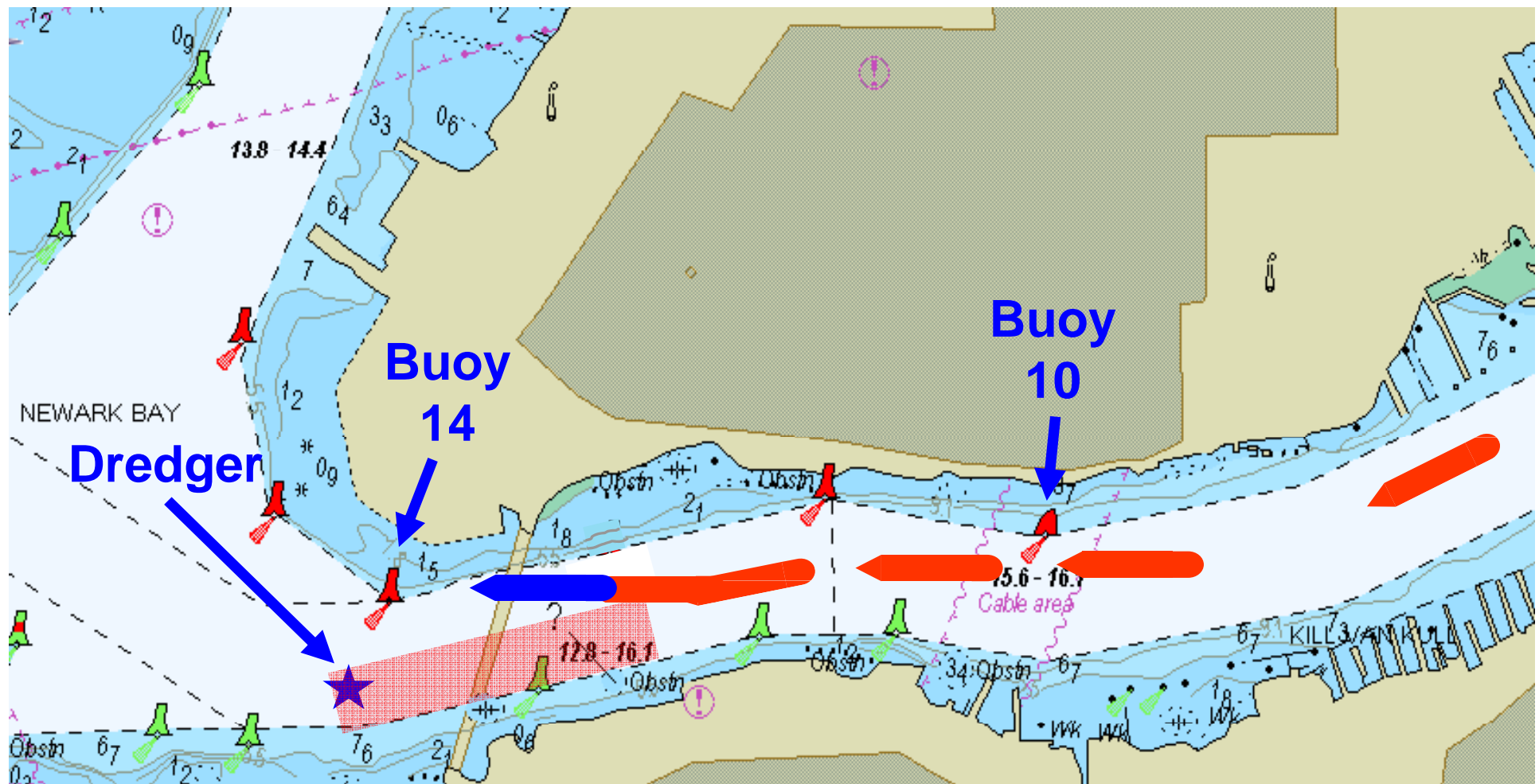
Tug: *"Still looking good....you're a little bit right of mid channel"*

Docking pilot asks sea pilot *"What do you think, come right?"*

Sea pilot: *"Wait until you get under the bridge"*

Docking pilot: *"I'm still.....midship!"*



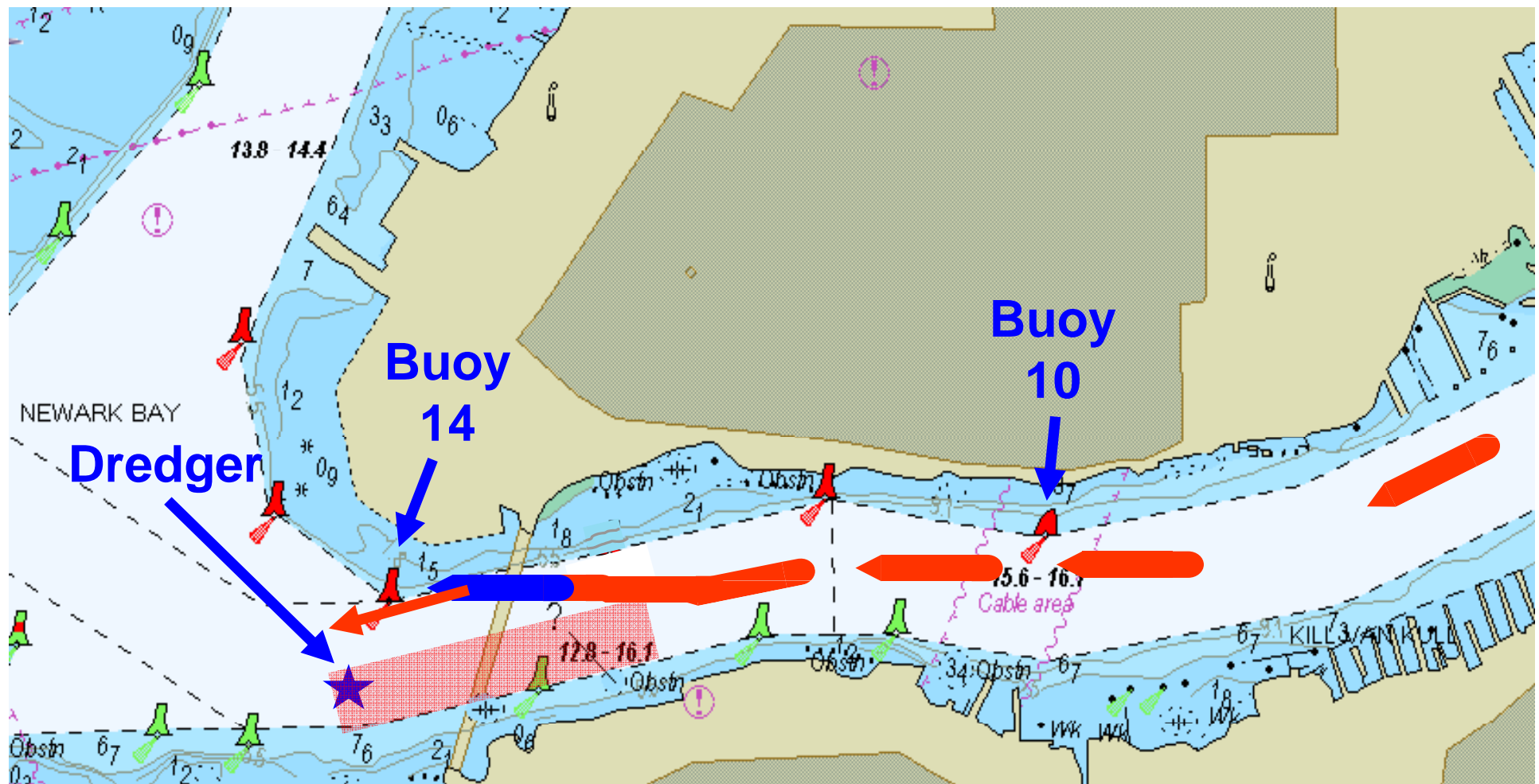


Sea pilot checks radar and states “Beacon buoy” (Buoy 14)

Docking pilot: “We’ve got another buoy to go around?”

First tug on starboard bow: “I think you are too far right”





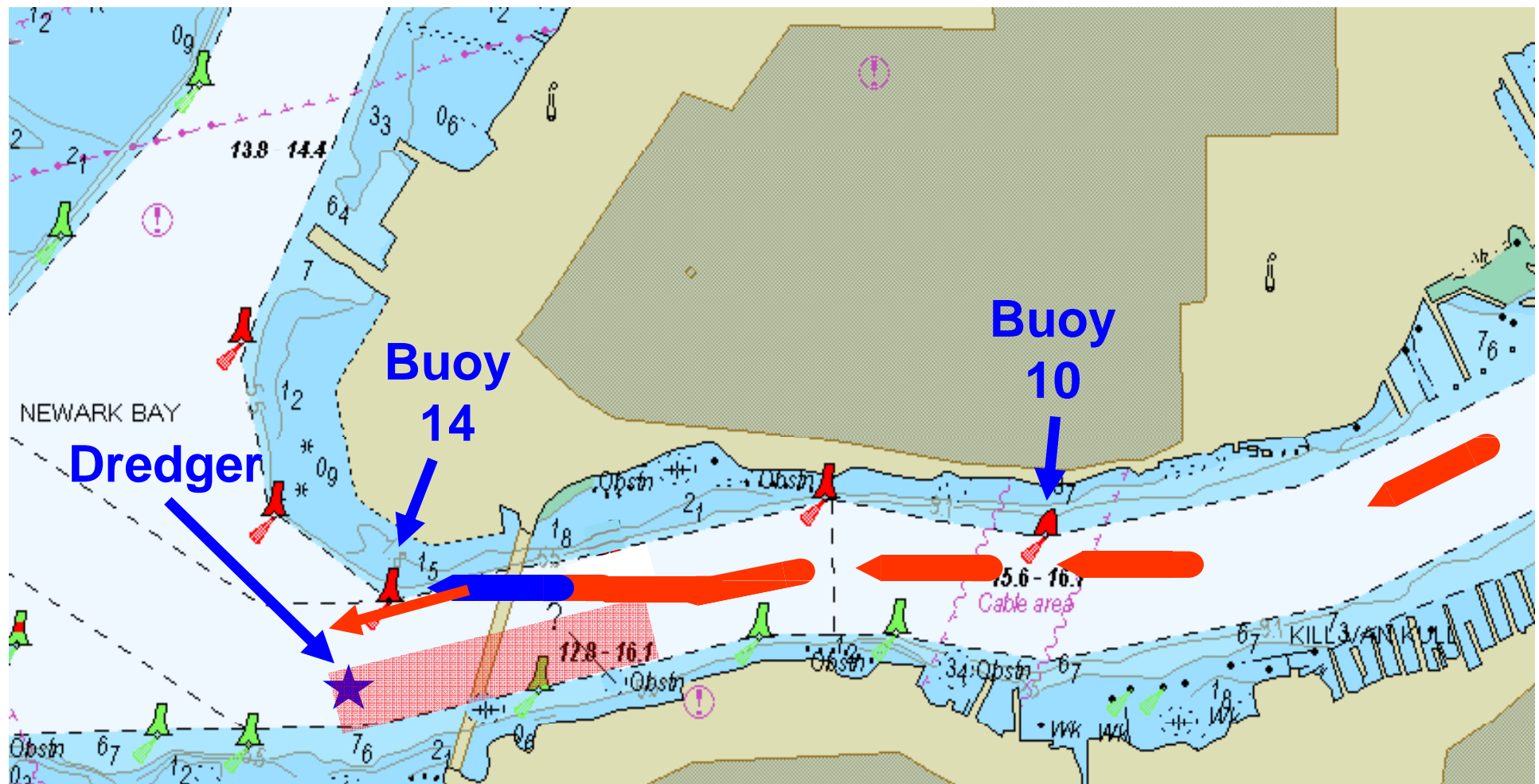
Sea pilot checks radar and states *“Beacon buoy”* (Buoy 14)

Docking pilot: *“We’ve got another buoy to go around?”*

First tug on starboard bow: *“I think you are too far right”*

Sea pilot to docking pilot *“You want to come left a little bit here”*

Docking pilot: *“Port 20”*

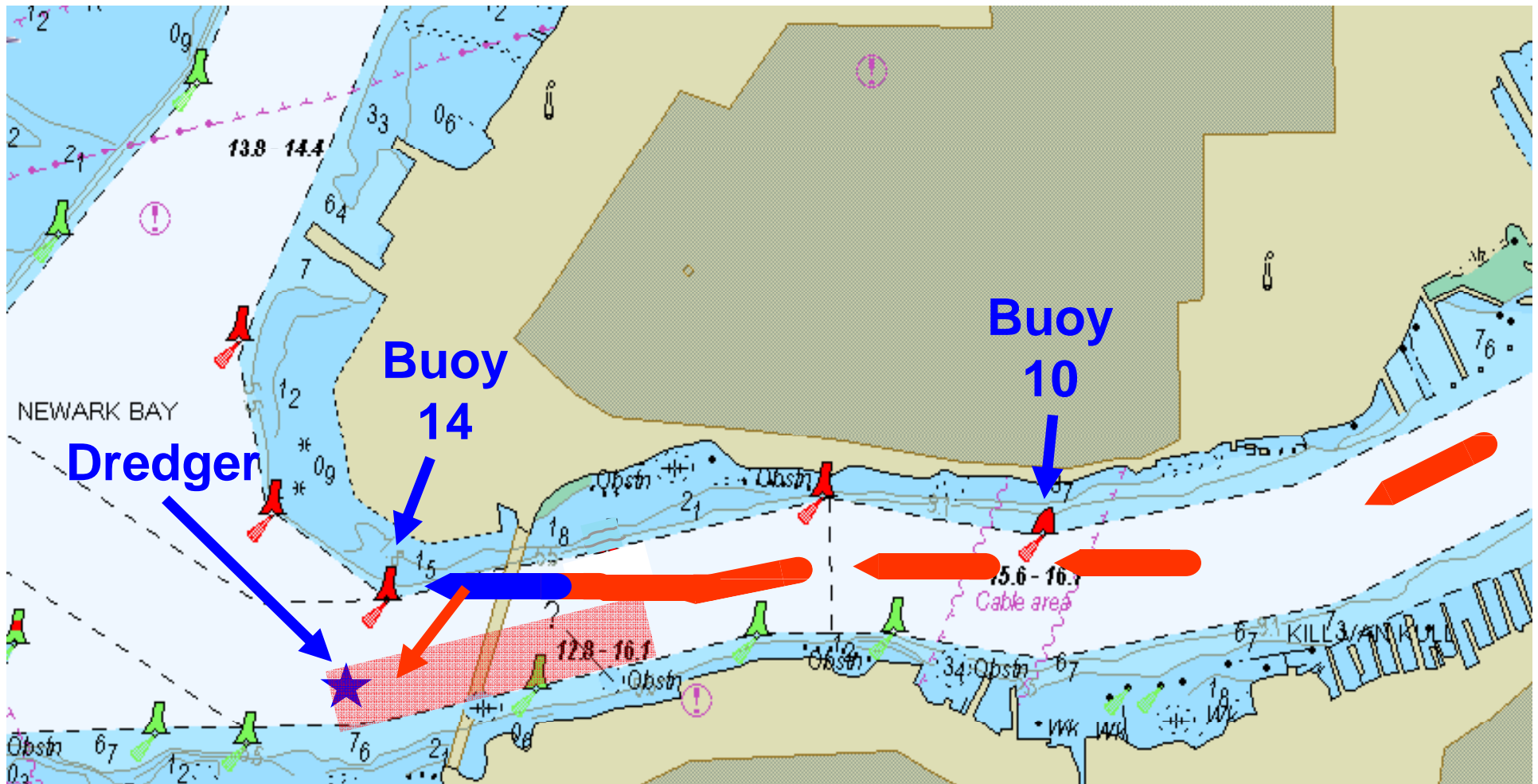


First tug: *"I'm looking straight out at the buoy"*

Docking pilot: *"Hard to port"*







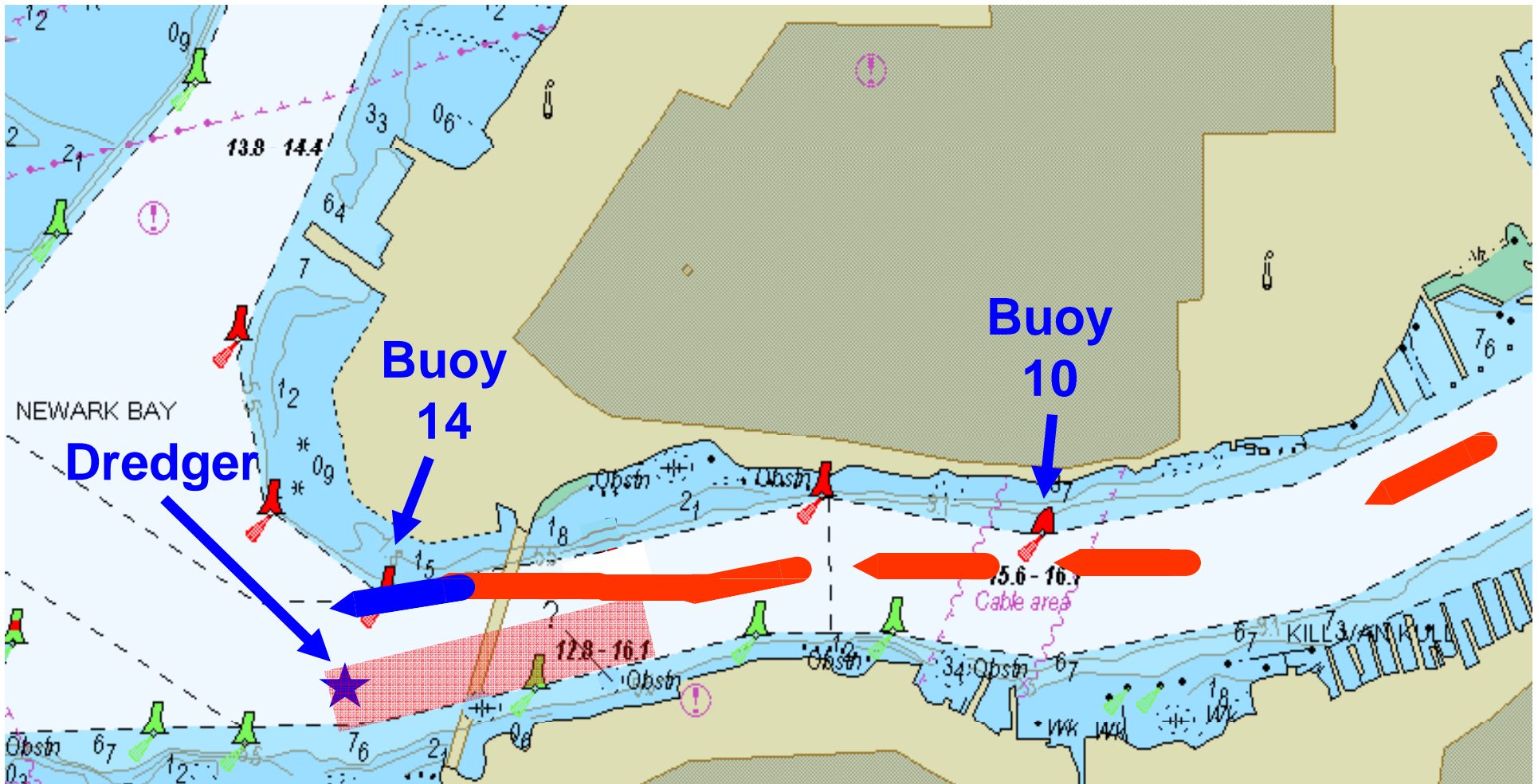
First tug: *"I'm looking straight out at the buoy"*

## Docking pilot: “Hard to port”

Orders first tug on starboard bow to push ship away from buoy

Orders third tug on port bow to go half astern but not made fast

Says nothing to second tug at stern



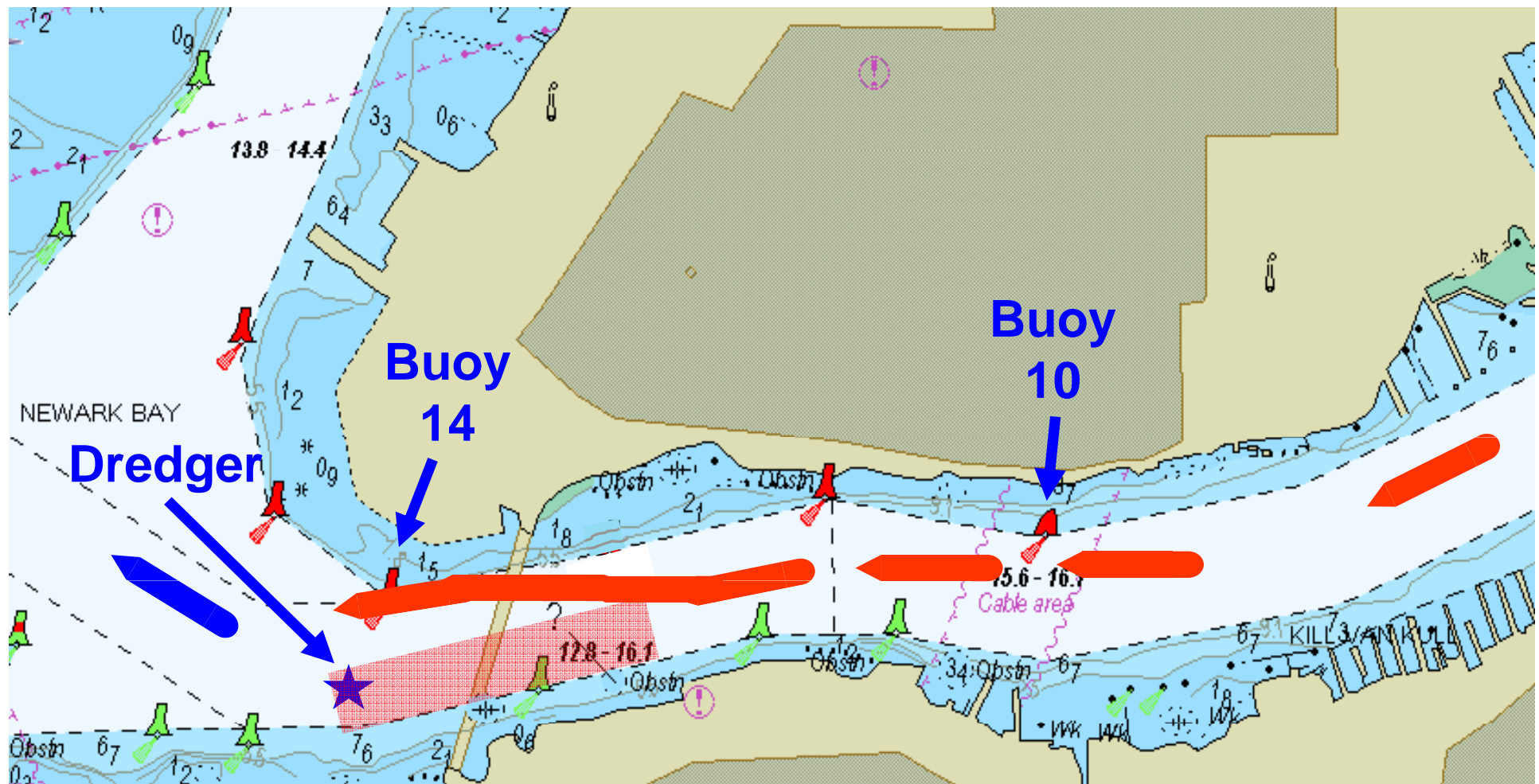
## Docking pilot gives various helm orders

Vessel's starboard side passes within approx 50 feet of Buoy 14

Ship touches ledge and quickly lists 10 degrees to starboard

## No 4 fuel oil tank and No 5 ballast tank found to be taking water

# Ship comes to rest on sea bed in Bergen Point West Reach



Docking pilot gives various helm orders

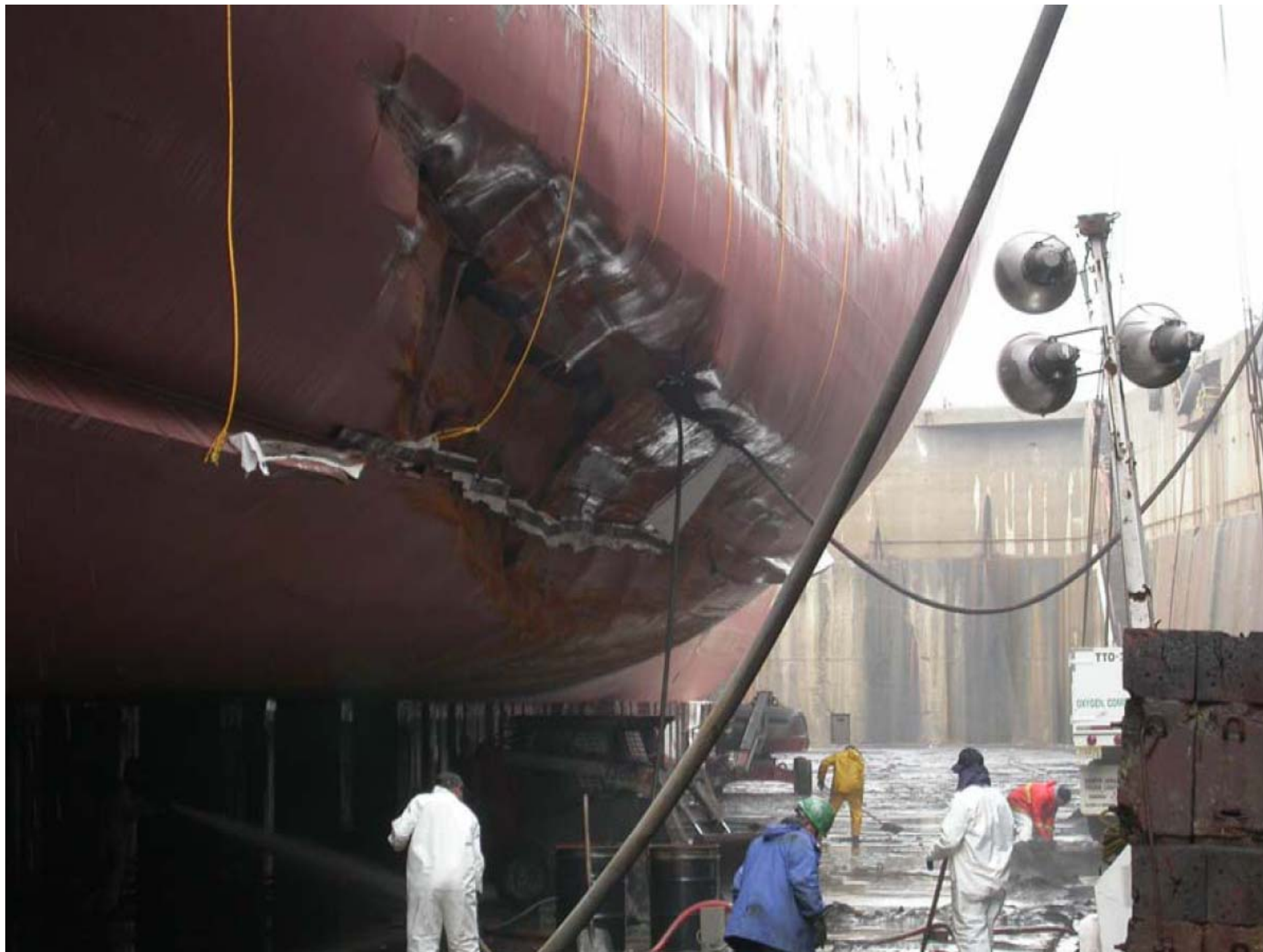
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Ship comes to rest on sea bed in Bergen Point West Reach





- Repair costs nearly \$2 million
- Off hire for 24 days
- Charterers deducted approx \$0.5 mill from hire

*“The required exchanges of information between master and pilot were brief and lacking in detail”*

*“Neither the master nor the (sea) pilot had been informed of the docking pilot’s intended course under the Bayonne Bridge”*

Buoy No 14 found to be out of position but *“was not causal to the grounding”*

*“The docking pilot .... appeared to have lost his bearings as (the vessel) approached the bridge ”*

*“The probable cause of the grounding .... was the error of the docking pilot in not using all available resources to determine the vessel’s position”*

*“Contributing to the cause of the grounding was the failure of both pilots to practice good bridge resource management”*



- Frequency of major incidents due to pilot error not high
- However, consequences may be serious:
  - harm to crews and third parties
  - environmental issues
  - damage to ship, property and/or cargo
  - business interruption
- Many common findings

- Common findings:
  - Master/Pilot exchange inadequate
  - passage plan not discussed in detail
  - principles of BRM not always followed

- International measures to improve situation:
    - SOLAS
    - STCW
    - ISM (including codes and guidelines)
  - Some requirements mandatory
  - Compliance checked by PSC and ISM auditors
  - Largely targeted at seafarers
-

- International measures for pilots:
  - IMO Resolution A.960
  - operational and training standards for pilots
  - good range of principles
- Guidelines only

*“Every pilot should be trained in bridge resource management with an emphasis on the exchange of information that is essential for safe transit”*

*“.... pilotage authorities should be encouraged to provide updating and refresher training ..... in bridge resource management for pilots .....”*

*“.... pilotage authority should satisfy itself, at regular intervals not exceeding five years, that all pilots .... continue to possess recent navigational knowledge of the local area .... meet the medical fitness standards ... and possess knowledge of current ... laws, regulations and other requirements ....”*



- Master ultimately responsible for safety of ship
- May be unfamiliar with certain ports and waters
- Well trained pilot with good local knowledge required
- A.960 is a positive step towards achieving this aim
- However, extent of adoption unclear
- International Group planning to raise matter at IMO

*“Efficient pilotage depends, among other things, upon the effectiveness of the communications and information exchanges between the pilot, the master and the bridge personnel and upon the mutual understanding each has for the functions and duties of the other”*





# Ocean Hull Workshop – Pilot Error

Mark Williams

International Group of P&I Clubs

*September 15, 2008*