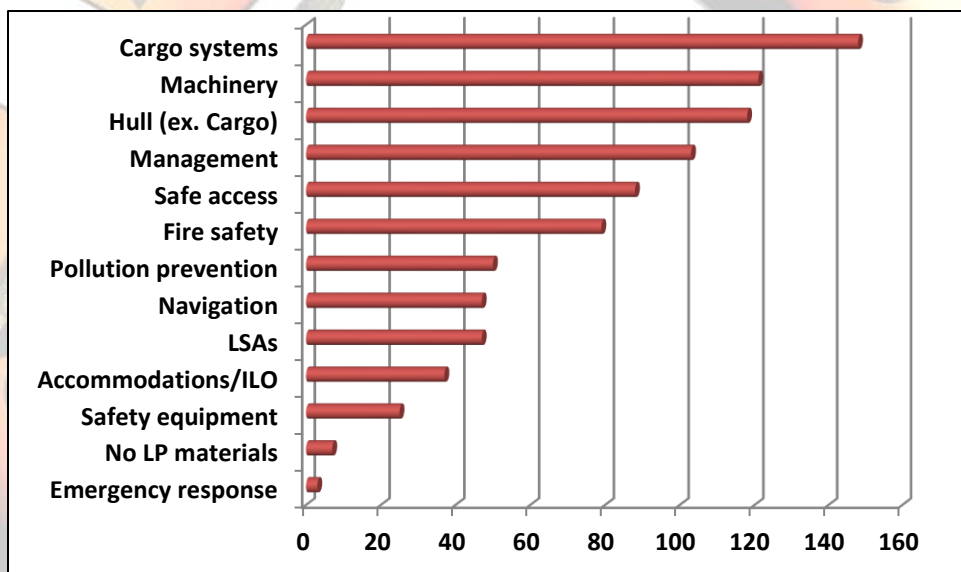


## Machinery deficiencies—2016 condition surveys

The Managers of the American Club conducted 106 condition surveys during the 2016 CY. Ninety-one (91) of the surveys resulted in deficiencies while fifteen (15) surveys resulted in no deficiencies noted. Forty-six per cent (46%) of the surveys were conducted on dry cargo vessels and tankers accounted for thirty-five per cent (35%) of total surveys.

Tankers were found to have the most deficiencies per survey with just under 10 deficiencies per survey while dry cargo vessels (excl. container ships) were found to have just over 7 deficiencies per survey as seen in the Table. A total of 873 deficiencies were noted whereby the most frequent individual category of deficiency found was related to the condition of machinery spaces. The most frequent deficiencies overall were related to the conditions and functions of cargo systems (as set forth in the Appendix to this document), particularly related to bulk carriers.

Machinery related deficiencies were found to be the second most frequent deficiency (120) accounting for 14.3% of all deficiencies observed during these surveys as see in **Figure 1** below.

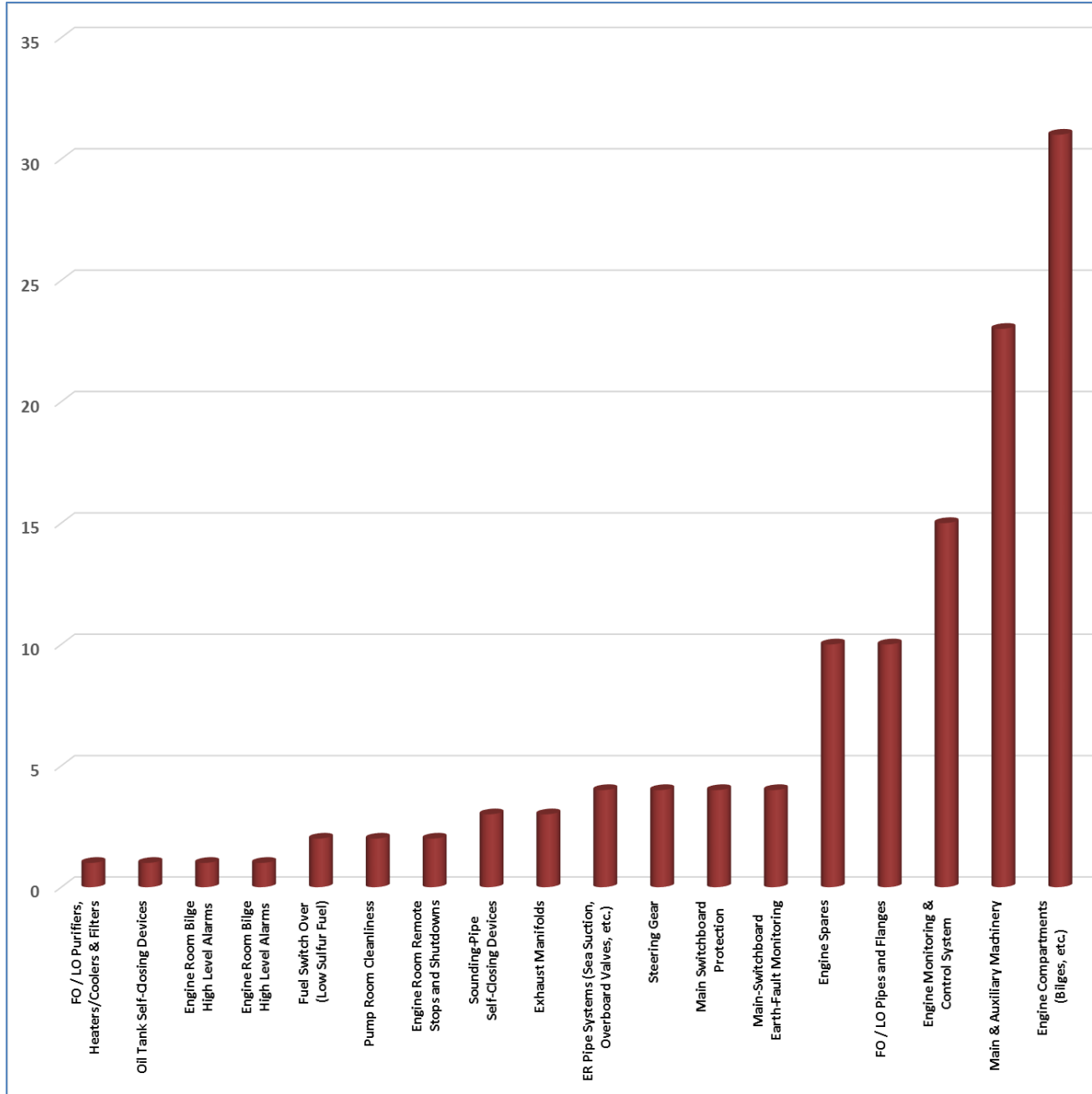


**Figure 1: Deficiencies by type and frequency for all condition surveys**

Furthermore, there are machinery systems associated with cargo systems, fire safety and pollution prevention representing another 49 deficiencies observed. When combined with the other machinery deficiencies, this accounts for 19.2% of the sum total of all deficiencies found.

Taking all of the machinery related deficiencies into account, machinery integrity deficiencies were found to be most frequent as set forth in **Figure 2**. The two most frequent machinery related deficiencies were:

- cleanliness of engine compartments including bilges being clean, tidy and free of combustible materials; and
- engine integrity related deficiencies that include the conditions of main & auxiliary engines, engine monitoring systems and insufficient spare parts.



**Figure 2: Deficiencies by type and frequency for all condition surveys**

Furthermore, fire system related deficiencies were also significant in number. These deficiencies include poor conditions in fixed fire & extinguishing systems, main & emergency fire pumps and fixed gas detection & monitoring systems. The detailed summary of all machinery related deficiencies.

**Summary**

As a result of these findings, your Managers will be releasing further loss prevention guidance in the near future to Members associated on engine room and fire safety related topics as per the findings of this report.

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