



International Gas Union
Study Group 4.1

Distribution Pipeline Integrity

June 7, 2006



Acknowledgement of Study Participants

- Bosnia
- Canada
- Czech Republic
- Denmark
- France
- Germany
- Greece
- Ireland
- Italy
- Netherlands
- Serbia
- Spain
- Slovenia
- Spain
- Switzerland
- U.K.
- USA

Co-ordinator

Mel Ydreos, Canada

Vice-Co-ordinator

Jeremy Bending, UK



Study Group Purpose

- Study Group 4.1 was formed to study and report on the emerging trends and issues related to the area of Distribution Pipeline Integrity

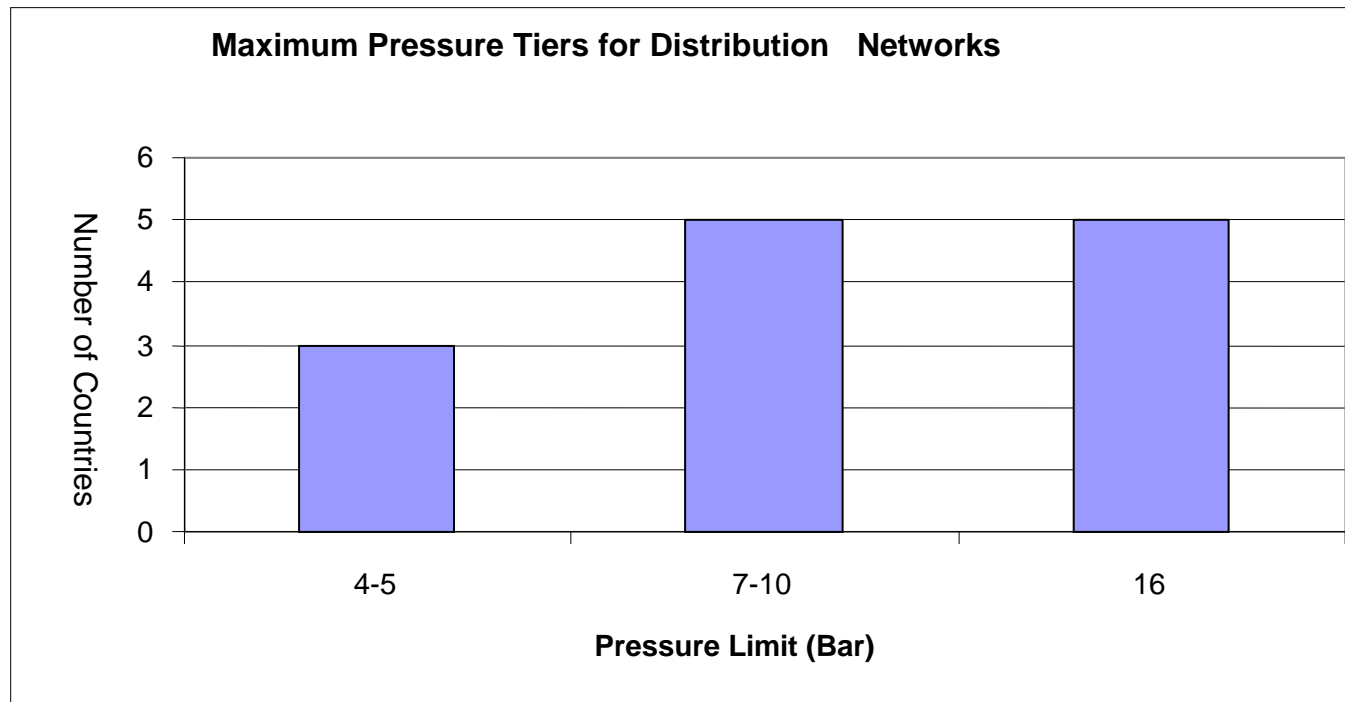


Definition of Distribution Pipeline Integrity

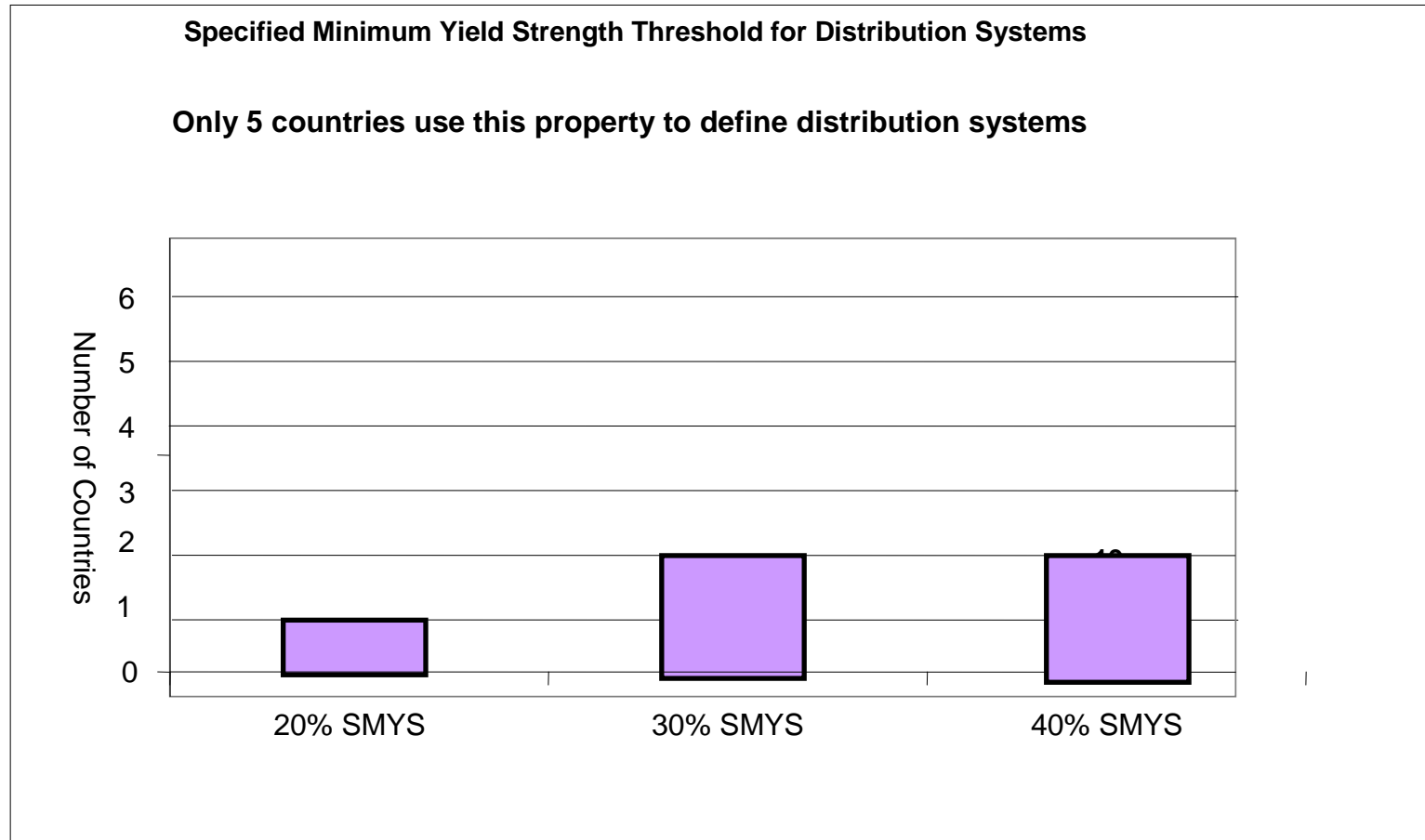
Distribution Systems have generally been defined as those systems down stream of the City Gate stations, or generally the piping networks that deliver gas within cities and towns.

However, in terms of Pipeline Integrity, a technical definition is used to define the necessary requirement, plans and approaches.

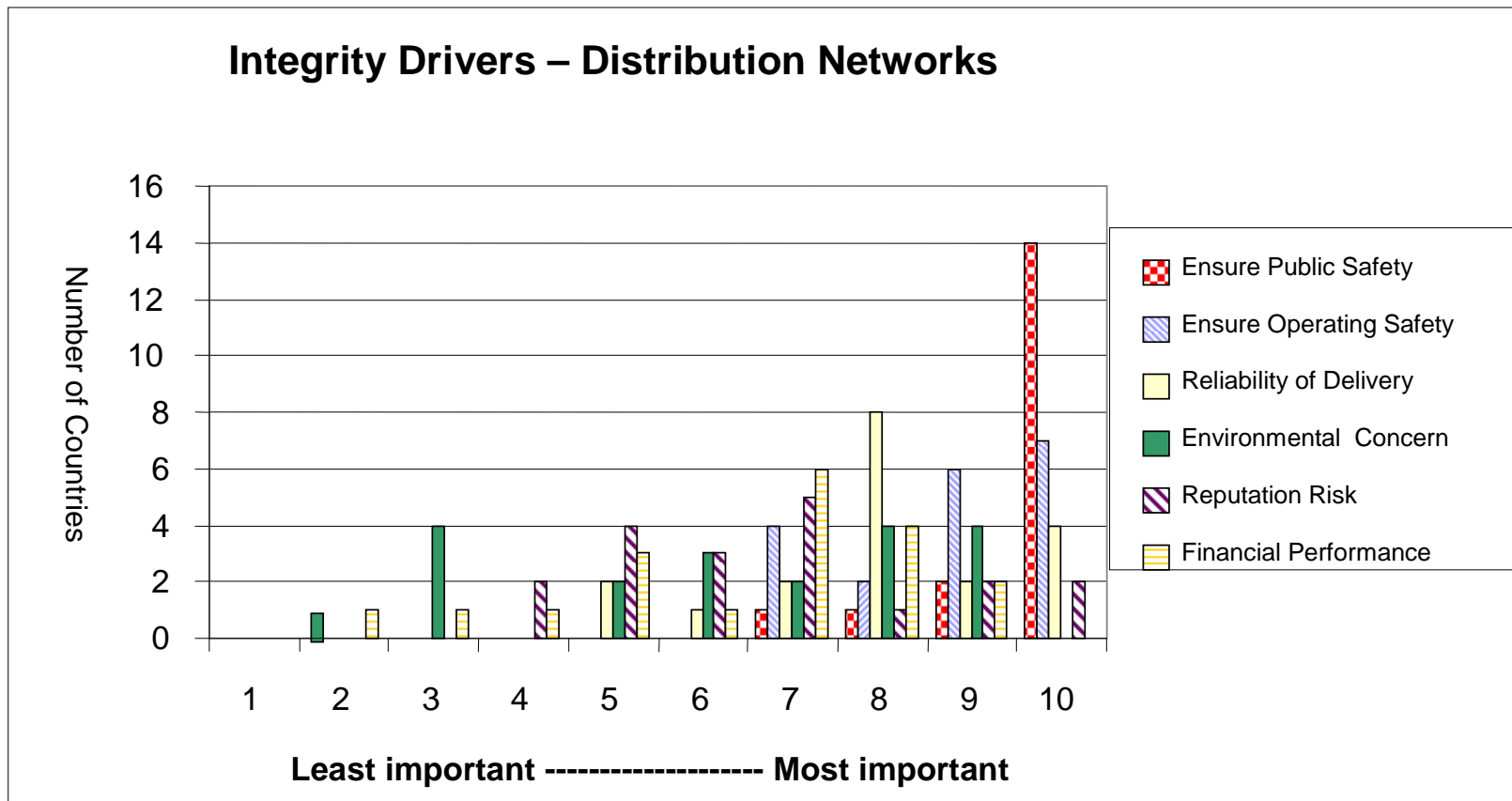
Technical Definition for Distribution Pipeline Integrity



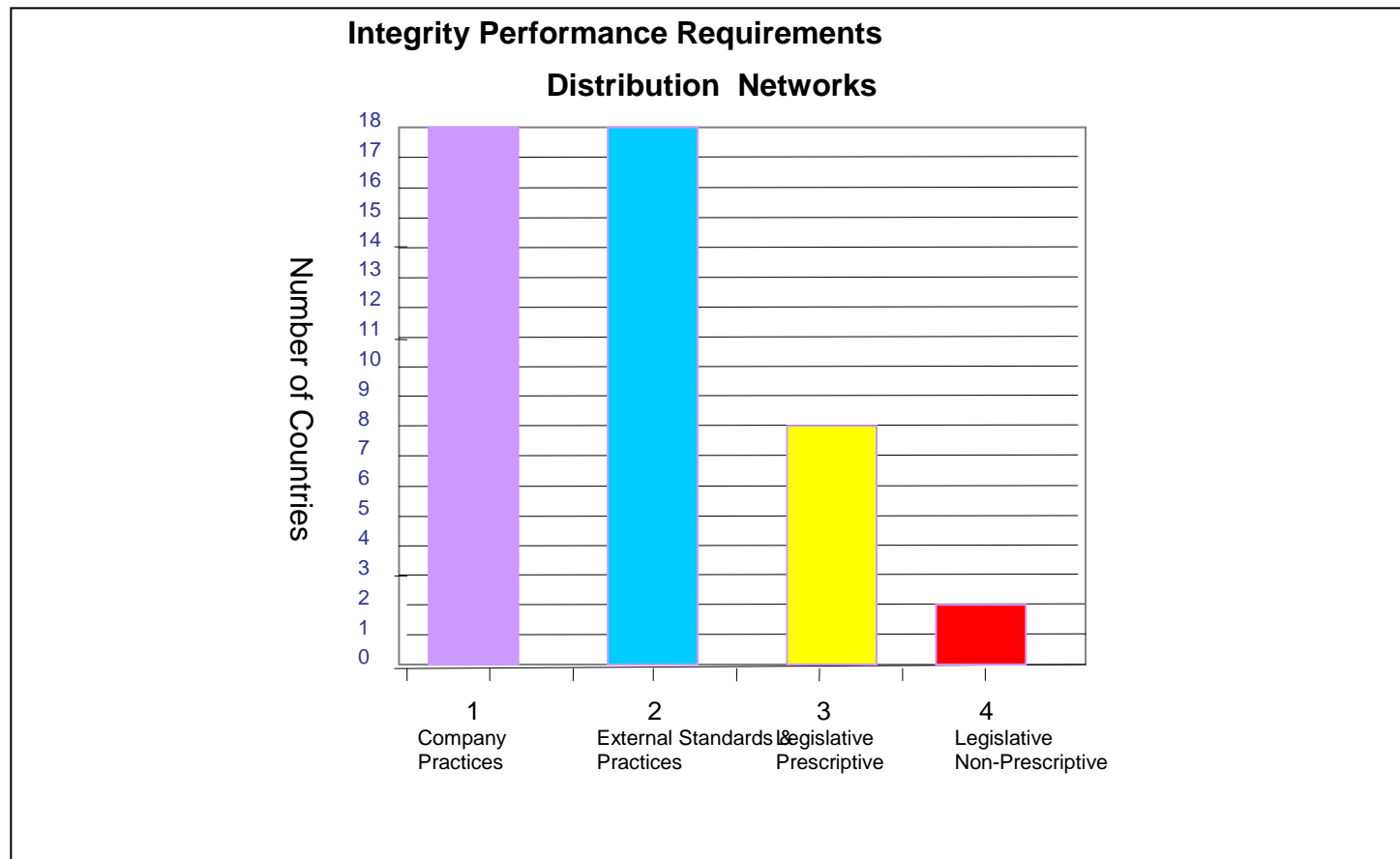
Technical Definition for Distribution Pipeline Integrity



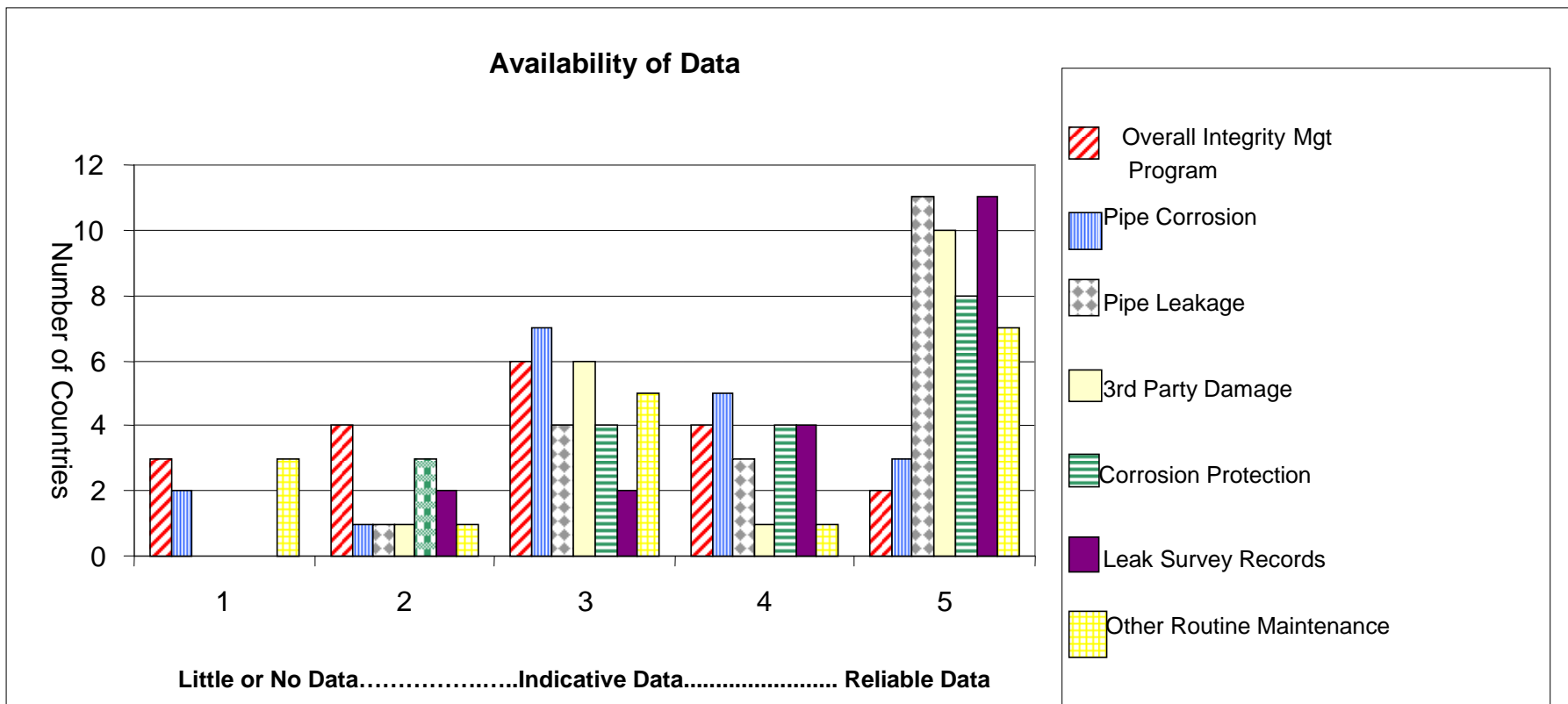
Integrity Drivers for Distribution Networks



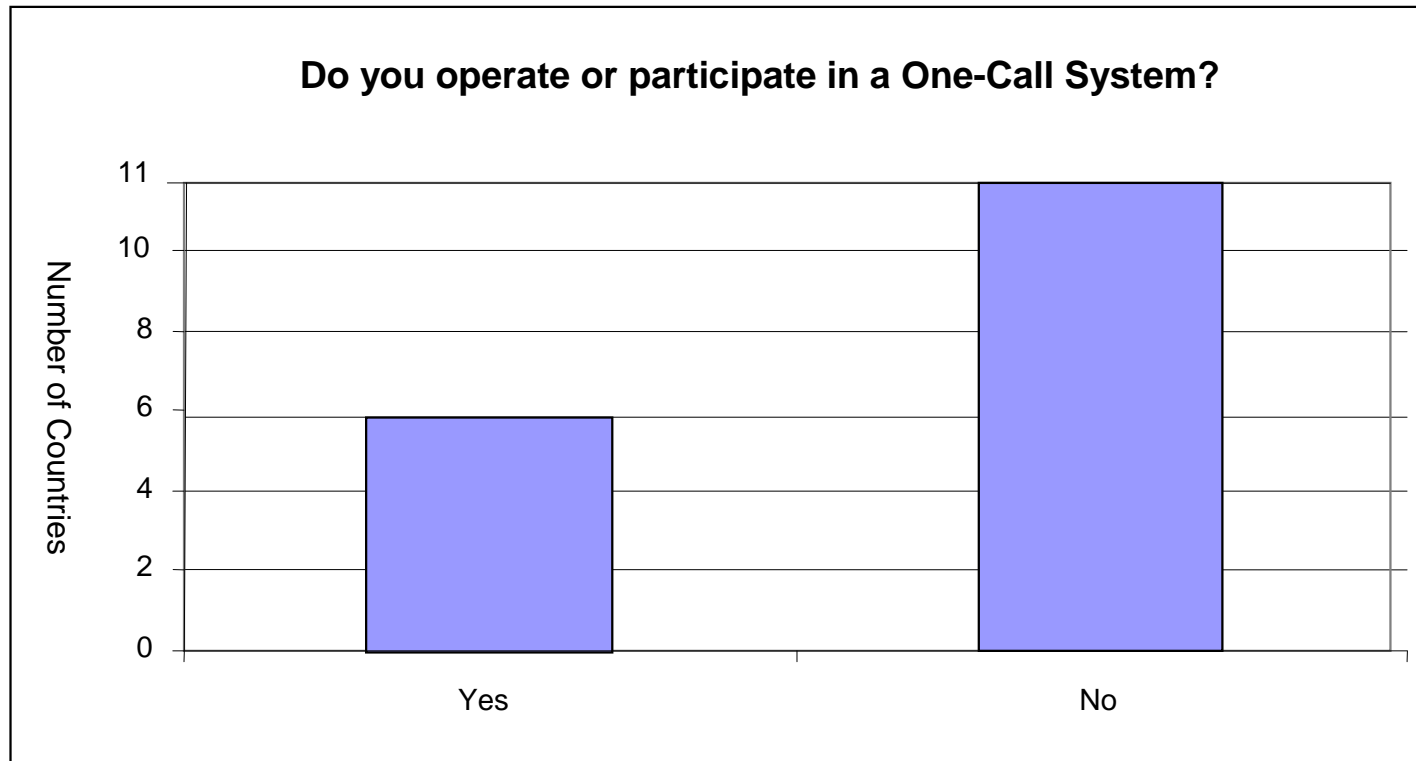
Integrity Performance Requirements



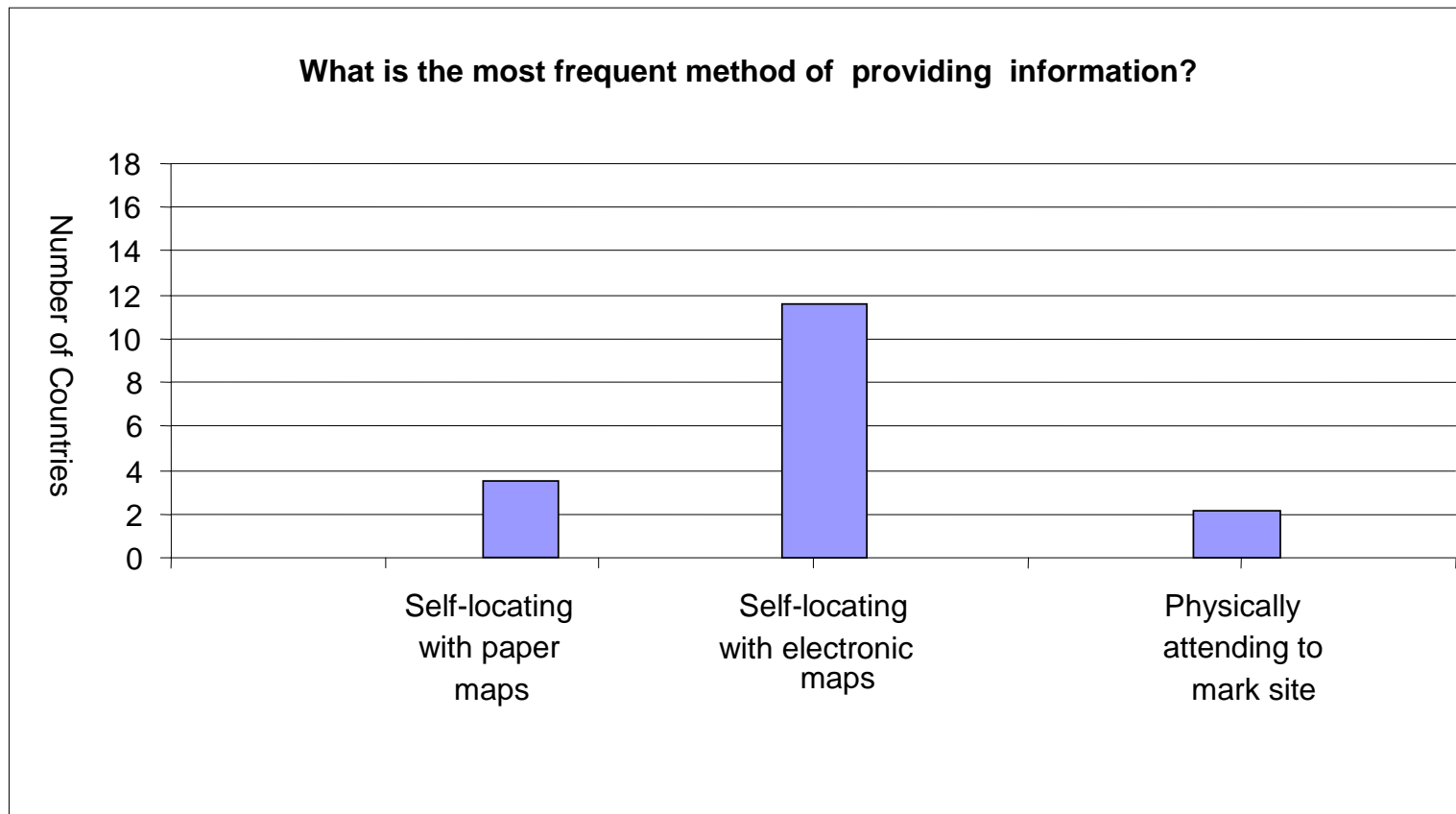
Availability of Data



Plant Damage Prevention- Use of One-Call Systems



Plant Damage Prevention – Provision of Information





Conclusions

- In view of the evolution of the gas industry and the networks that exist to deliver and distribute natural gas, a variety of pressure tiers and/or pipeline specified minimum yield strengths are used to define the facilities that would be covered by a Distribution Integrity plan.
- Currently well established external and internal standards and procedures exist that ensure the operational reliability and safety of the networks.
- The key drivers to the establishment of integrity programs are public and operational safety and reliability of the network. The secondary drivers are reputational, financial and environmental matters



Conclusions (cont'd)

- Legislation and laws around Distribution Pipeline Integrity requirements and "rules" are still evolving. Non-prescriptive regulations and legislation allow for the application of proper risk based models to be used in the development of appropriate and effective approaches.
- Relatively good data exists on the effectiveness of operating and maintenance practices; however, there is a lack of high level data to demonstrate the overall effectiveness of the integrity programs.



Conclusions (cont'd)

- It appears that no single approach to plant damage prevention leads to exceptional performance. The best approach is to select and implement those elements of plant damage prevention that have proven to reduce plant damage. Further study of best practices is recommended.
- Efforts to improve the and competency and awareness of excavators so as to reduce poor and improper excavating must be ongoing.