



Power Delivery
Intelligence Initiative

Power Delivery Intelligence Initiative Stakeholder Focus Survey Executive Summary January 2018

Introduction

Power Delivery Intelligence Initiative (PDI²), organized in April 2016, is a not-for-profit trade association serving the power industry. The group aims to collect and use data to provide an objective means to evaluate power infrastructure investments from the perspective of life-cycle costs to determine which power delivery solutions – overhead or underground – to employ. Member companies currently include material suppliers, cable makers and engineering companies. For more information, please visit www.pdi2.org.

Survey rationale

For its inaugural project, PDI² felt strongly that a brief survey, strategically targeted to utilities and engineering companies, would be important to validate its beliefs regarding the current state of thinking in the industry as it relates to infrastructure decisions. The focus of the survey was to obtain baseline information against a set of questions that would help:

- Confirm assumptions based on PDI²'s collective experience
- Discover thoughts counter to the group's assumptions
- Uncover notable or interesting responses

Survey implementation and demographics

This survey was specifically designed to be a quick snapshot – more like a focus-group than a highly detailed, all-inclusive exercise. However, PDI² did require selection of respondents be diverse in size and location as a parameter of implementation.

PDI² authored the eight questions used in the survey, and contracted Power Delivery Consultants, Inc. (PDC) to administer the survey. PDC was asked to select a small, focused sample of utilities and engineering companies that:

- Denote varying size – from small to large
- Represent every geographic sector of NA
- Specify or design both overhead and underground transmission circuits

The goal was 15 completed surveys. Eleven utilities and four engineering companies responded. Participating utilities varied in size from small (single state) to large (multi-state), investor-owned and one municipally-owned. They were spread over the East coast, mid-Atlantic, New England, South, Midwest, Mountain, Pacific and Canada. Seven of the eleven utilities primarily focus on transmission with 80 percent OHL projects and 20 percent UG. Four utilities were more heavily involved in distribution with projects 75 percent UG. Engineering companies surveyed were all large with design

and installation oversight capabilities on all aspects of electrical transmission and distribution for both OHL and UG.

Results

Below is a brief synopsis of each response. A more detailed summary of each question, including geographic differences in responses is available on the [news](#) page of our web site.

(Note: Questions 1 and 6 were to collect demographic information.)

Question 2 asked about the most important considerations when thinking about the type of installation decision. Cost of the project and constructability were the top responses.

Question 3 dealt with the most important consideration when thinking about the cost of a project. Installation costs and initial investment costs were the top two considerations.

Question 4 considered the effect of public opinion on project decisions. The average response of all utilities noted reliability as having the greatest impact. This was followed closely by aesthetics, land disturbance and environmental impact. Engineering companies specified aesthetics as most important, followed by environmental impact, reliability and economic impact.

Question 5 asked utilities what is most important to the customer when thinking about overall satisfaction. Monthly cost of service was the clear leader in response from both utilities and engineering companies. Aesthetics and reliability were nearly equally weighted as secondary important considerations across organizations and geographies.

Question 7 related to important considerations when seeking approval for a project. Initial cost was considered the primary factor – by a wide margin – for both utilities and engineering companies. Ease of right-of-way also was a secondary consideration for engineering companies.

Question 8 considered financing for underground projects. Utility rate money was the number one response. Verbatim comments indicated that money borrowed from banks or investors is typically repaid through rate increases – either shared across an entire customer base or by the local customers that benefitted from the project. UG fees and issue bonds were also included in the responses, but to a much lesser degree. It is likely that UG fees are associated with locations where customers demand UG and are willing to pay the cost difference between OHL and UG. Bonds are usually related to private parties that build lines or a municipality that also provides electrical services.

Summary

Overall, the responses confirmed PDi²'s assumptions regarding how infrastructure decisions currently are made. This information will serve as a basis for additional work going forward. The full results of this study are published on [pdi2.org](#). Our ultimate goal is data-driven decision making. Immediate future projects include an assessment of the reliability and resiliency impacts of flooding on transmission utility systems, and typical cost differences between equivalent OH and UG systems for utility transmission systems.

If you are interested in the survey raw data, please contact thowe@pdi2.org.