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**A Worker Dialogue:
Improving Health, Safety and Security at
the U.S. Department of Energy**

PANEL REPORT

PANEL

Daniel Guttman*
Christine Gibbs Springer*

* *National Academy Fellow*

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Daniel Honker, *Analyst*
Matthew Thomas, *Research Associate*
Mary Krulia, *Graduate Associate*

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National Academy of Public Administration
900 7th Street, N.W.
Suite 600
Washington, DC 20001-3888
www.napawash.org

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Academy Project Number: 2156-000

* *National Academy Fellow*

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ACRONYMS

BBWI / BBWI ES&H	Bechtel B&W Idaho
CHPRC	Plateau Remediation Company
DOE	U.S. Department of Energy
HAMMER	Volpentest HAMMER Training and Education Center
HSS	Office of Health Safety and Security, U.S. Department of Energy
IAMAW	International Association of Machinists and Aerospace Workers
IBEW	International Brotherhood of Electrical Workers
ICWU	International Chemical Workers Union
IAFF	International Association of Fire Fighters
IGUA	International Guards Union of America
National Academy	National Academy of Public Administration
NCSP	National Council of Security Police
OSHA	Occupational Safety and Health Administration
PGU	Pantex Guard Union
Teamsters	International Brotherhood of Teamsters
USW	United Steel Workers
UAPP	United Association of Plumbers and Pipefitters

EXECUTIVE SUMMARY

In 2006, the U.S. Department of Energy (DOE) established the Office of Health, Safety, and Security (HSS) to consolidate oversight and enforcement of health and safety regulations at DOE sites as well as programs for ensuring the safety and well-being of workers across facilities nationwide. Central to HSS's mission is the need to collaborate with other DOE offices and the network of contractors that manage its facilities in ensuring the health and safety of the workers that design, build, operate, and maintain DOE's infrastructure. HSS must also work closely with the labor unions that represent front-line workers at DOE sites across the country.

Since its establishment, HSS has worked to build strong relationships with these partners; and recognizes the value that front-line workers can add as a source of feedback and ideas for improving health and safety. For this reason, HSS partnered with the National Academy of Public Administration (the National Academy) in 2010 to host an online discussion to tap into workers' first-hand knowledge, experience, and expertise on several topics of interest to HSS, including worker safety training, the implementation of DOE's Worker Safety and Health Program (10CFR851, also known as the 851 Rule), and knowledge transfer for the next generation of workers. This Internet-based discussion, titled *A Worker Dialogue: Improving Health, Safety, and Security at the Department of Energy*,¹ allowed participants to submit ideas in response to open-ended discussion questions and to flesh them out in open conversation by rating and commenting on one another's suggestions.

Analysis of Dialogue Results

The Dialogue was live from June 14th to July 11, 2010, during which time 125 users registered, and over 1,000 people visited the site. Traffic was primarily from workers at a few specific sites, representing a small number of unions. Although the group of participants was not representative of the population of workers as a whole, Dialogue registrants used this opportunity to offer many constructive ideas for improving worker safety training at DOE. The National Academy identified several themes in the discussion that respond to the Dialogue's central questions:

- Participants believe in-person training is more effective for workers than computer-based training;
- Participants favor using worker-trainers to conduct training, due to their perceived credibility and first-hand experience in the areas in which they train;
- Although there was some disagreement, participants largely support joint labor-management design and participation in training programs;
- Participants favor greater centralization and standardization of worker training records as means to facilitate worker mobility between sites;
- Participants stressed the need to improve mentoring and education of new workers on safety and health issues; and
- Participants support an exchange of training ideas between sites in order to share best practices and keep curricula fresh and engaging.

¹ Site archived online at <http://www.workerdialogue.org>.

The Panel recommends that HSS consider these ideas in planning any potential changes or enhancements to worker safety training at DOE sites.

Several other points surfaced in the discussion that also merit close consideration from HSS. These include the following:

- Participants generally displayed, and sometimes openly admitted, a lack of understanding of the health and safety regulations that apply to DOE sites;
- Participants expressed the belief that regulations may be unevenly enforced and sometimes ignored; and
- Participants voiced a need for a more direct channel to DOE for reporting safety violations.

Although these issues are not in direct response to the questions posed by the Dialogue exercise, and participation may have been greater among employees with a negative perception of these issues, these viewpoints should be of concern to HSS. The Panel encourages HSS leadership to take this opportunity to continue the conversation and broaden the constructive engagement of workers on these critical safety matters.

Recommendations for Follow-Up

As the DOE office mandated to ensure the health and safety of workers at DOE sites, HSS has a responsibility to investigate further many of the claims and perceptions voiced in the Dialogue. A number of the issues raised by participants are essentially questions of empirical fact that can be researched and either substantiated or disproven. While the National Academy cannot validate the accuracy of participants' statements about specific safety practices at DOE sites, the serious nature of these statements—combined with workers' vocal frustration with the implementation of regulations—suggests that these are issues HSS should investigate further.

In addition, user comments highlight the need for HSS to evaluate current communication and education practices. The Dialogue revealed many knowledge gaps regarding the substance of regulations and reporting procedures. This presents HSS with an opportunity to educate workers about the requirements of 10CFR851 and the means they have for reporting violations. Overall, the Dialogue results stress the need for a more comprehensive approach across DOE sites to the education, communication, reporting and resolution of safety violations.

HSS has made worker engagement a high priority in its mission to ensure health and safety at DOE facilities. With this Dialogue, HSS has taken an important first step toward engaging front-line workers in a constructive effort to improve health, safety and security across DOE. The Panel applauds this initiative and encourages HSS to view this type of engagement as a long-term process rather than a single event. Further, the Panel supports sharing the results of this Dialogue with employees and communicating next steps—whatever form those may take.

CONSOLIDATED LIST OF RECOMMENDATIONS

Recommendations Based on the Dialogue Results

Recommendation	Section	Page
HSS should further investigate statements made in the Dialogue regarding health, safety and security violations to determine whether there is factual basis for these claims.	II	28
Based on the numerous comments calling for improved safety violation reporting processes at DOE sites, HSS should assess the current state of reporting systems at different sites and determine if improvements should be made.	II	28
HSS should explore ways to educate and more effectively communicate with workers about the safety regulations governing their work and about HSS's role in enforcing them. Moreover, HSS should use this as an opportunity assess the degree to which workers lack understanding of how these rules are applied at DOE sites, identify critical gaps, and undertake training and education as appropriate.	II	29

Recommendations Based on the Engagement Process

Recommendation	Section	Page
In future online stakeholder consultation, HSS should develop one central, compelling discussion question and avoid separated discussion forums in order to spur discussion on interrelated topics.	III	31
In future online dialogues with stakeholders, HSS should limit the number of required demographic questions and consider complementing the dialogue with a traditional survey. This would help ensure a smoother experience for users of the dialogue, while enabling HSS to gather richer and more useful information.	III	31
To maximize participation in future consultation efforts, HSS should consider alternate channels that acknowledge the environments in which front-line employees work, including their level of access to and comfort level with computers and email. This would allow HSS to tailor content more effectively to meet workers' needs and would both improve the quality of the interaction among participations, and the usefulness of the results for HSS.	III	32

Recommendation	Section	Page
HSS should view the Dialogue as a starting point for continued engagement with union workers rather than as a single event. HSS could undertake several actions that would serve to enhance communication and build trust: <ul style="list-style-type: none">○ Acknowledge workers’ contributions in the Dialogue;○ Communicate to participants and union partners the outcomes of the Dialogue; and○ Articulate and undertake concrete next steps as a direct result of input received.	III	38

INTRODUCTION

Among the many agencies and departments that make up the Federal Government, few have a mission more dependent on high-tech infrastructure and reliable operations than the U.S. Department of Energy (DOE). With a mandate to be the “innovation engine” of the American economy, DOE relies on a large, nationwide workforce to design, construct, operate, and maintain the infrastructure that supports DOE’s operations as well as a coherent organizational approach to make that infrastructure truly functional in the development and deployment of new energy and security technology.

In 2006, recognizing the need to ensure the health, safety and security of the Department’s diverse workforce and of its facilities themselves, DOE consolidated these programs into the newly-established Office of Health, Safety and Security (HSS). According to its mission, HSS “is responsible for policy development and technical assistance; safety analysis; corporate safety and security programs; education and training; complex-wide independent oversight; and enforcement.”² In performing these many functions across such a large and decentralized department, HSS must work with other DOE offices and the networks of contractors that manage DOE facilities. But with a mandate to protect the health, safety and security of the DOE workforce, HSS must particularly collaborate with the labor unions that represent front-line workers at the Department’s sites across the country.

In the four years since its establishment, HSS has worked to build trusting relationships with the labor unions representing workers at various DOE facilities, recognizing that collaboration with these groups is inherent for an office with such a broad mission. One forum where these are built and maintained is the Focus Group, where HSS meets regularly with union representatives to discuss health and safety issues affecting their workers. However, outreach efforts like this have generally been limited to union leaders at the national level, thus limiting their ability to obtain valuable input from workers on the front line. Recognizing this, HSS is proactively trying to build capacity for consultation and collaboration both within DOE and with its external constituents. In 2009, the National Academy of Public Administration recommended actions to strengthen HSS’s readiness for collaboration one of which was to pilot-test a collaborative tool to engage labor union partners.

HSS recognizes that reaching out to workers directly to obtain feedback and ideas on health and safety issues holds the potential both to enhance HSS’s ability to deliver on its mission and to strengthen its relationship with this important group of constituents.

Overview of the Worker Dialogue

In the summer of 2010, HSS partnered with the National Academy of Public Administration (the National Academy) to host a time-limited online discussion with front-line DOE workers called *A Worker Dialogue: Improving Health, Safety, and Security at the Department of Energy*.³ Leveraging the power of Web 2.0 tools, the Dialogue solicited ideas and feedback from DOE workers on a variety of topics, including:

² http://www.hss.doe.gov/mission_functions.html

³ Site archived online at <http://www.workerdialogue.org>.

- The improvement of worker safety training;
- Standardization of worker safety training programs;
- Implementation of the Worker Safety and Health Program (also known as 10CFR851);⁴
- Workforce Succession Planning and Knowledge Transfer; and
- Workers' Personal Experience with Workplace Safety and Health.

The goal of the Dialogue was to draw on the ideas of front-line workers to produce concrete, actionable suggestions for enhancing health and safety programs delivered by HSS. The Dialogue is based on the idea of mass collaboration—that a group, in open discussion, can pool their collective experience and expertise to create innovative ideas and valuable insights for decision makers. In this case, the Dialogue offered several benefits not afforded by more traditional means of stakeholder consultation. First, the Dialogue was not limited by the number of participants or amount of input, which are frequent constraints in in-person town halls or listening sessions. Second, the Dialogue was powered by a platform that enabled workers to suggest ideas, refine and build on them in open discussion, and rate those they found most compelling.

In addition to these advantages, the Dialogue served as an opportunity to build HSS's capacity for online consultation. HSS has recognized the benefits of collaborative technology and has made a concentrated effort to use it to gain from the ideas and perspectives of its constituent groups. The Worker Dialogue was the next step in demonstrating the value of collaboration—whether online or in person—to DOE and to government in general.

Between June 14th and July 11, 2010, the Dialogue drew interest from DOE workers, receiving over 1,000 visits, 38 individual ideas and 182 comments. The Dialogue platform, open for participation 24/7 over this period, allowed users to submit ideas in each of the five discussion forums and to rate, tag and comment on other users' submissions. For six weeks prior to the Dialogue's launch, HSS and the National Academy invited workers to the site by conducting targeted outreach via the labor unions and DOE facility managers, relying heavily on viral, "word-of-mouth" communications to bring people to the Dialogue.

⁴ 10CFR851, commonly called the 851 Rule, was established in 2006 as the primary rule governing worker health and safety and contractor activities at DOE sites. More information is available at: <http://www.hss.energy.gov/healthsafety/WSHP/rule851/851preamble.pdf>.

**SECTION I.
DEMOGRAPHIC INFORMATION**

During the four weeks it was live, 125 workers in the DOE system registered to participate in *A Worker Dialogue*. To participate in the discussion, visitors were required to register for an account by providing an email address, creating a username and password, and answering a set of questions about their background, such as their occupation, location, and level of experience. The purpose of gathering this information was to gain an understanding of the community of participants' background beyond what could be inferred from users' ideas and comments. The National Academy collected this information for the sole purpose of analysis in the aggregate, and users' responses to these questions were not visible to any other user on the site.

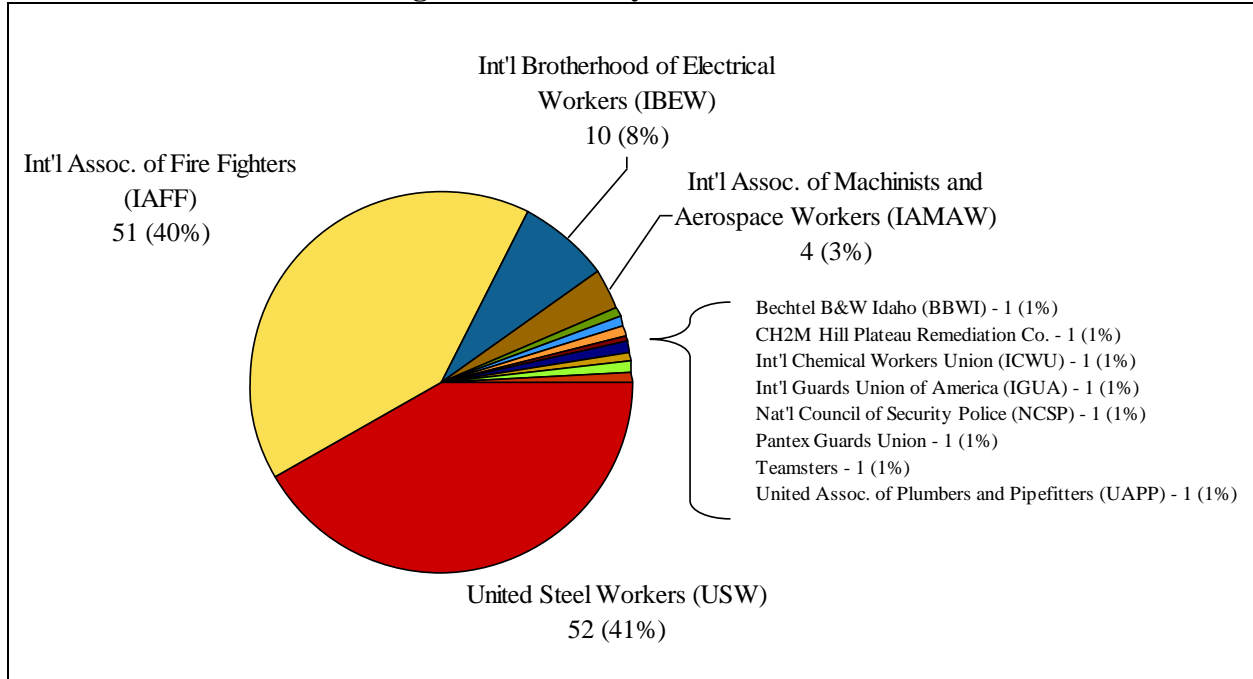
While collecting this demographic information adds to what can be learned from the Dialogue, these questions were not intended to act as a survey, and thus there are several notable limitations to the data. First, the results are not intended to be a representative sample of the perspectives of DOE workers, but rather a collection of ideas on how to improve worker safety training. While the 125 registered users provided valuable information, as a sample they are not representative of the entire population of DOE workers. Further, the Dialogue was a voluntary activity for DOE union workers, and so the results are subject to self-selection bias. Finally, because these responses were self-reported, their accuracy cannot be verified.

Union Affiliations and Employment in the DOE System

Union Affiliation

As DOE's union workforce is made up of a host of labor unions, it was important to HSS and the National Academy to gain a picture of the number of workers participating from each union. Figure 1.01 illustrates the unions and organizations represented in the Worker Dialogue as identified by registered users.

Figure 1.01
Registered Users by Union Affiliation



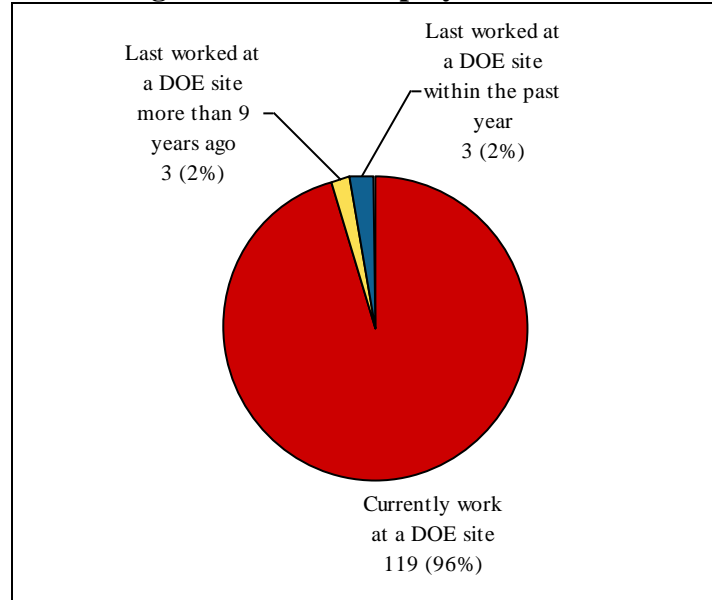
As shown in Figure 1.01, the 125 registered users were affiliated with 10 different unions⁵, although two groups made up the overwhelming majority of users. Over eighty percent of users identified as members of either the United Steel Workers (USW) (52 users) or the International Association of Fire Fighters (IAFF) (51 users). Of the other twenty-two registered users, 10 identified as members of the International Brotherhood of Electrical Workers (IBEW) and four as members of the International Association of Machinists and Aerospace Workers (IAMAW). Six other unions each saw one registered user. Although this does not diminish the value of the ideas and comments that were submitted, this disparity in registration numbers does suggest that the feedback received in the Dialogue strongly reflects the perspectives of USW and IAFF members.

Current Employment Status

The Dialogue asked users to specify their current status of employment within the DOE system. As shown in Figure 1.02, nearly all the Dialogue's registered users had recent or current experience at a DOE site.

⁵ Registered users from Bechtel B&W Idaho and CH2M Hill Plateau Remediation Co. are not included as union participants, as these organizations are not affiliated with a union in DOE.

Figure 1.02
Registered Users Employment Status

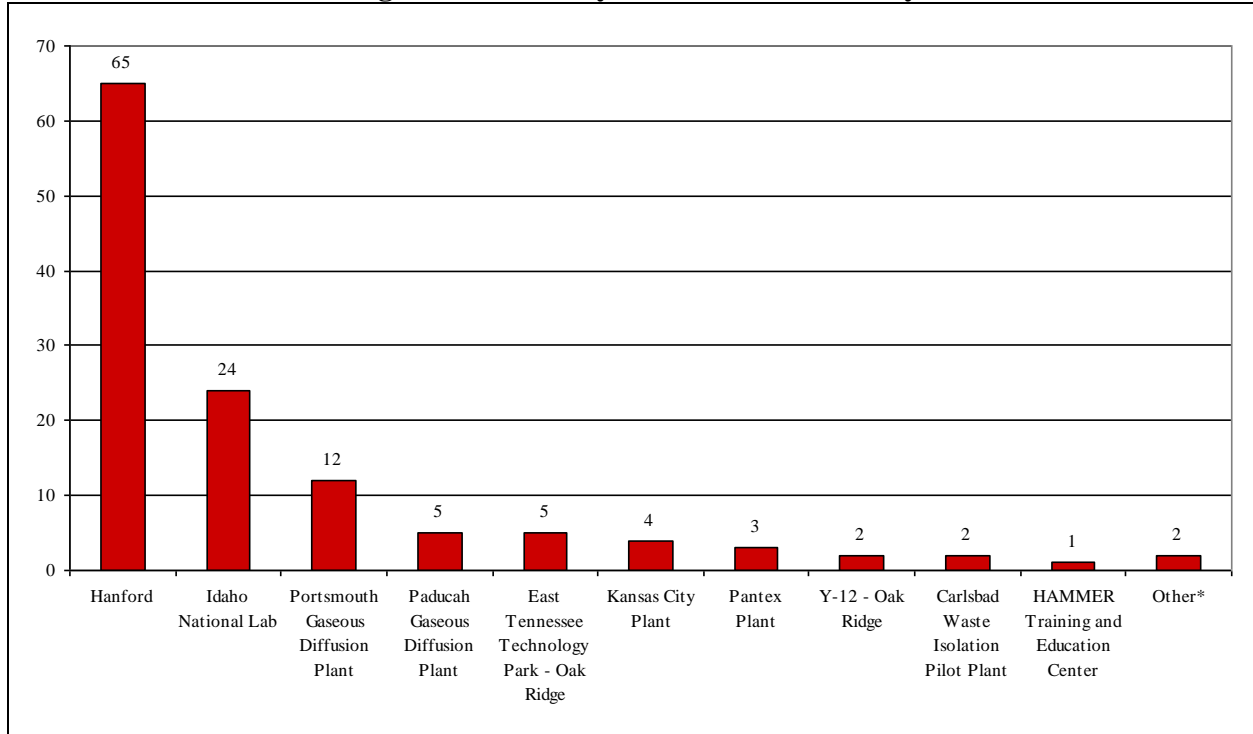


Nearly all (96%) of the Dialogue’s registered users were employed at a DOE facility at the time they registered, while a small proportion (2%) reported working at a DOE site in the past year. Three users (2%) self-identified as last working in the DOE system more than nine years ago.

Current DOE Site

Registered users for the Dialogue came from eleven different DOE facilities across the country, though the majority came from only a few sites. As illustrated in Figure 1.03, workers from Hanford made up more than fifty percent of the Dialogue’s participants, with 65 registered users. The Idaho National Laboratory and Portsmouth Gaseous Diffusion Plant each saw strong turnout with 24 and 12 registered users, respectively. The remaining eight sites each had five or fewer registered users.

Figure 1.03
Registered Users by Current DOE Facility

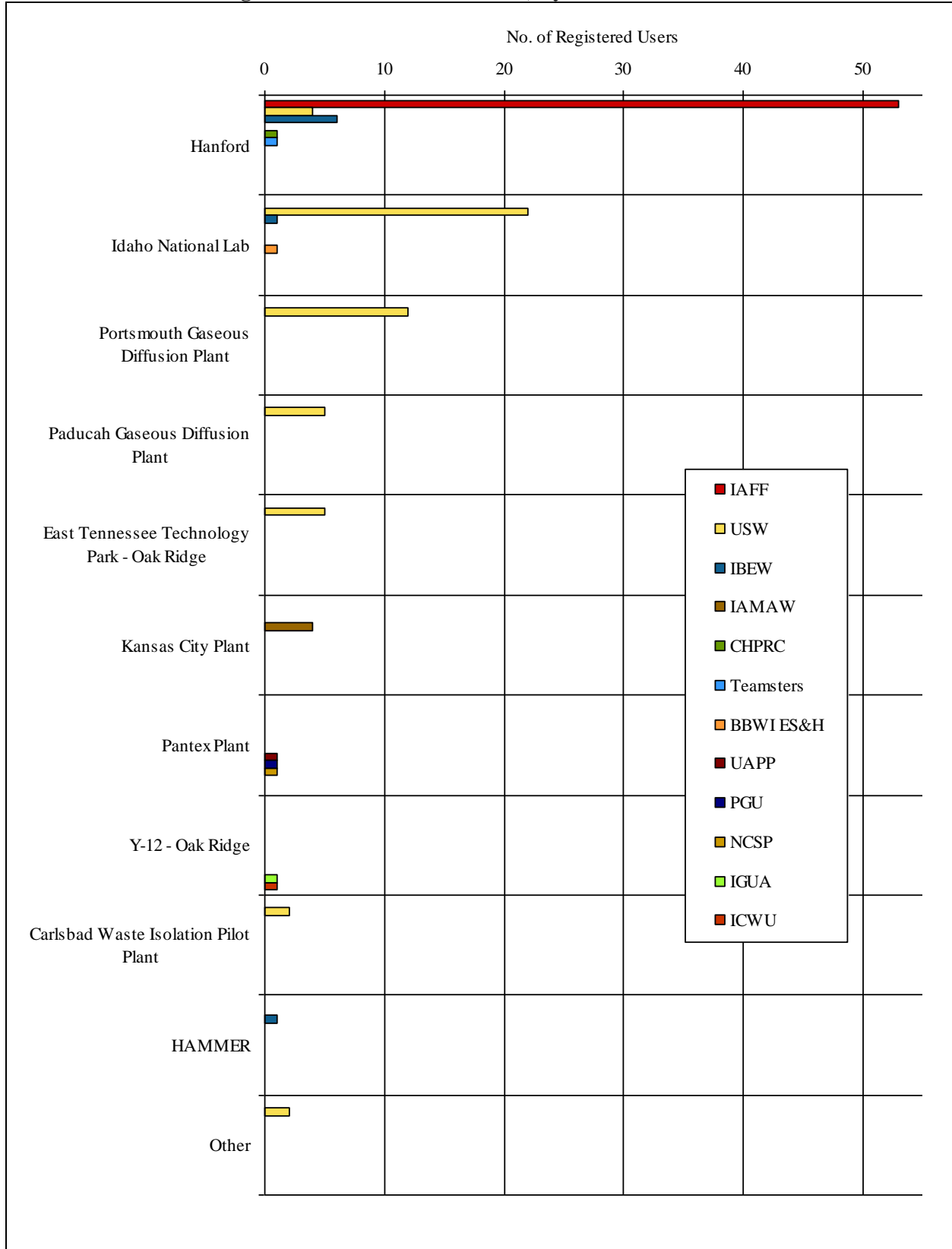


* “Other” responses included: Uranium Disposition Services and USW (United Steel Workers).

When examining the number of registered users at each facility, as illustrated in Figure 1.04, several findings became evident:

- First, the high turnout from the Hanford Site was primarily driven by high participation rates from IAFF members. Also notable is the fact that members of the IAFF came only from Hanford and no other site.
- Second, Hanford saw the most diverse union participation among the DOE sites in the Dialogue. Users from five different labor unions registered from the Hanford Site, which contributed to making Hanford the most active site in the Dialogue.
- Third, though the USW saw the greatest representation among the unions, members from this union were the most dispersed, coming from seven different DOE sites—a finding suggesting that efforts to bring USW workers from multiple sites was successful. Users from the IBEW registered from three locations, also indicating a broad outreach campaign.

Figure 1.04
Registered Users at DOE Sites, by Union Affiliation



Dedicated vs. Transient Workers

DOE’s diverse union workforce is made up of workers that are dedicated to particular sites and those that split their time between multiple locations. In *A Worker Dialogue*, all but four of the 125 registered users indicated that they were dedicated to work at a one site for at least half of their time, indicating that the Dialogue’s results are strongly reflective of workers stationed primarily at one site.

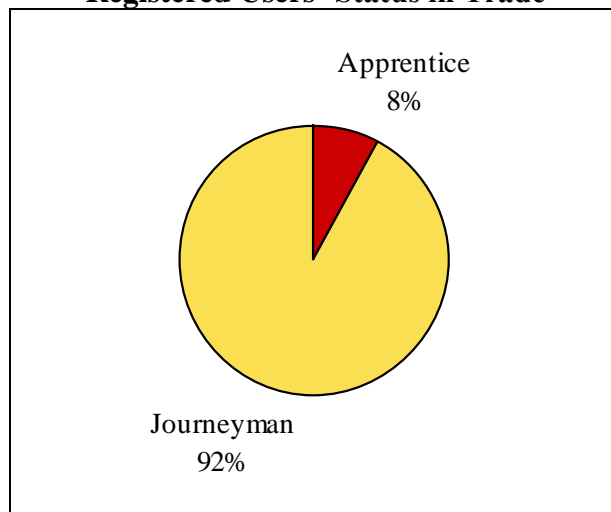
Work Experience in Trade

Participants were asked two questions to ascertain their level of experience when creating an account: their status as a journeyman or apprentice in the labor union, and their years of experience in their trade. Responses to these questions indicate that the results of the Dialogue strongly reflect the perspectives of more experienced, longer-tenured workers.

Journeyman vs. Apprentice Workers

As illustrated in Figure 1.05, an overwhelming majority of registered users (92%) reported being journeymen, while 8% identified as apprentices.

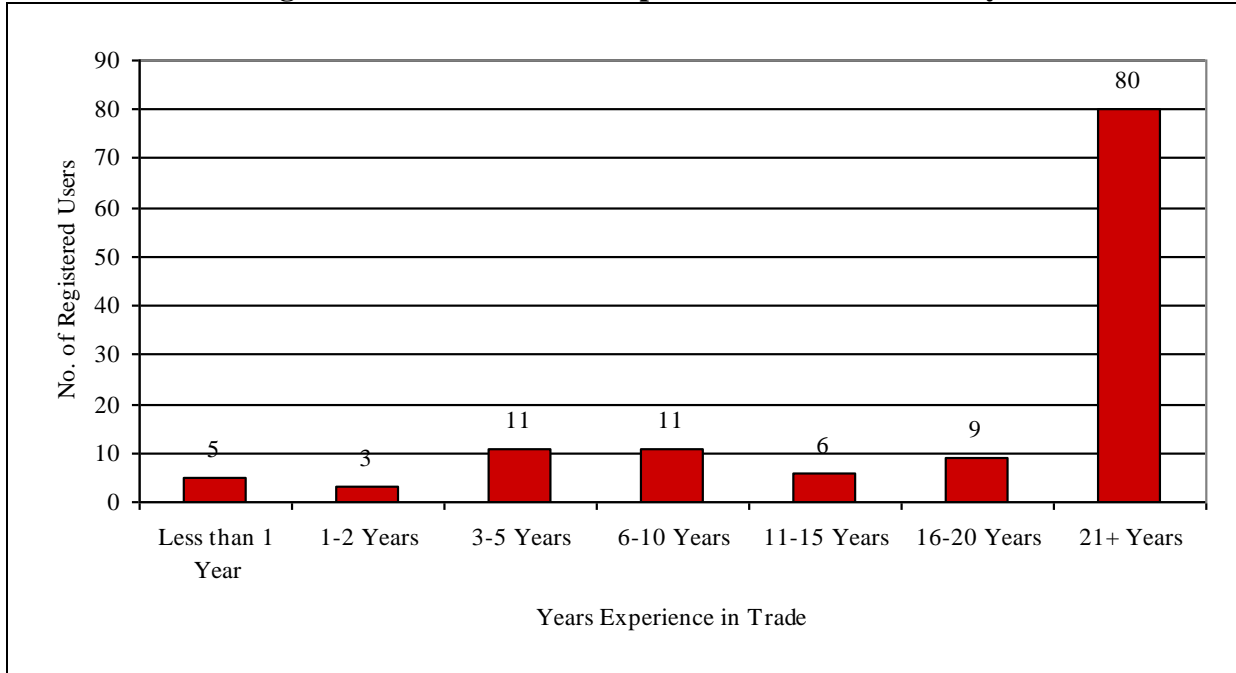
Figure 1.05
Registered Users’ Status in Trade



Years of Experience in Trade

As displayed in Figure 1.06, nearly two-thirds of registered users reported more than twenty one years of work experience in their trade. While workers with less experience did participate in the Dialogue—15 percent of users had less than six years in their trade—this disparity in experience points toward Dialogue results influenced heavily by longer-tenured workers with more experience and presumably older in age.

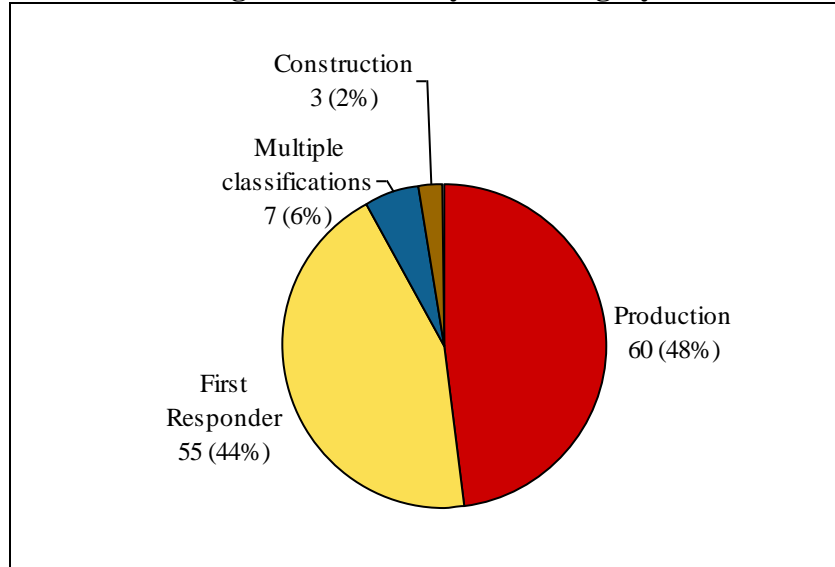
Figure 1.06
Registered Users Years of Experience at a DOE Facility



Workers' Trades and Job Categories

Registered users were asked to identify their job category, whether they worked in production, construction, were a first responder, or whether they performed multiple duties that traversed these categories. In addition, workers were asked to specify their trade (e.g., pipefitter, plumber, electrician, or fireman). This two-tiered approach at gathering this data, the complexity of which risked confusing users, allows one to analyze results either within one category or across multiple categories within the same trade.

Figure 1.07
Registered Users by Job Category



* Responses to multiple classifications included: Fissile Handler/D&D; Maintenance Mechanic working Hazardous Materials and HAZWOPER trainer; Maintenance Mechanic/HAZMAT worker/HAZWOPER Trainer; Maintenance Mechanic/safety and health; plumber/electrician/maintenance mechanic; trainer; Training Director/Electrician.

As illustrated in Figure 1.07, workers from production trades (48%) and first responders (44%) made up the overwhelming majority of registered users in the Dialogue. Participation from workers in the construction trades was surprisingly low with only three users (2%) identifying in this category. Seven users (6%) reported performing multiple duties, four of which mentioned training as one of their responsibilities, and three of which identified as maintenance mechanics.

Figure 1.08
Registered Users - Production Trades

Trade	No. of Registered Users
Radiation worker	11
Chemical worker	6
Electrician	6
Hazardous materials worker	3
Heavy equipment operator / engineer	2
Pipefitter	2
Machinist	1
Steel worker	1
Other*	27
TOTAL	59

* "Other" production trades specified included: Carpenter, Custodian, D&D skilled (2), Fuel Operator (2), Industrial hygiene and safety, Labor union representative or official (7), Maintenance mechanic (2), Management, Mechanic (sic), Operator, Power operator, Radiological Control Technician, Safety & Health Rep, Stationary engineer, Tool crib attendant

Fifty-nine users identified their trades as part of the production category, with the largest numbers identifying as radiation workers (11), chemical workers (6), and electricians (6). However, nearly half of the users in production specified a trade outside of the multiple choice list, a finding that highlights the difficulty of presenting an exhaustive and comprehensive list of trades.

One should note that this data may not reflect the true number of each trade represented in the Dialogue. As seen below Figure 1.08, seven users who specified an “other” trade not on the multiple choice list identified as labor union representatives or officials. It is possible that the number of union representatives could have been higher had the Dialogue given users this option as well.

**Figure 1.09
Registered Users - Construction Trades**

Trade	No. of Registered Users
Electrician	1
Laborer	1
Tool and die maker	1
TOTAL	3

As seen in Figure 1.09, only three users identified with a construction trade; these included an electrician, a laborer, and a tool and die maker.

**Figure 1.10
Registered Users – First Responders⁶**

Trade	No. of Registered Users
Firefighter	52
Police and security worker	3
Hazardous materials worker	1
TOTAL	56

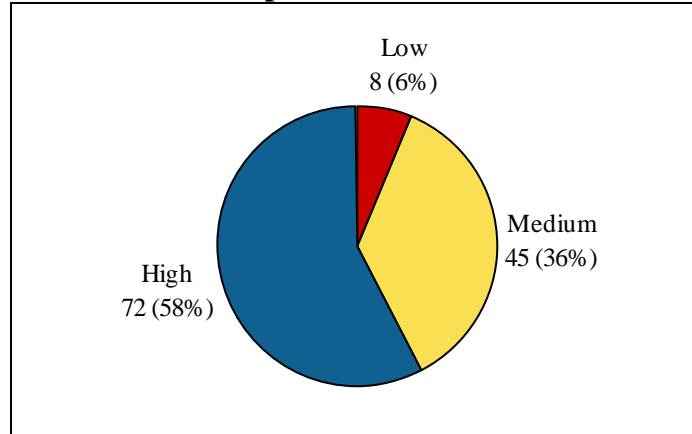
Fifty-six users identified as first responders, almost all of which were firefighters with the exception of three police officers and one hazardous materials worker.

Perceptions of Workplace Hazard Levels

Given the Dialogue’s discussion topic of improving health and safety in DOE, it was important to poll participants on their perceived level of hazard encountered at their workplace. Figure 1.11 provides a breakdown of the users’ perceptions of hazard levels at their work sites.

⁶ There is a discrepancy between the number of users who identified firefighter as their trade (52) and the number of users who identified as members of IAFF (51) in Figure 1.01. This discrepancy is likely due to self-reporting error.

Figure 1.11
Workplace Hazard Level



Not surprisingly, a majority (58%) of registered users claim to face a high level of workplace hazard at their location, while only 6% of users report experiencing a low hazard level. This high level of perceived hazard should be expected for a population of radiation workers, electricians, and heavy equipment operators. This correlation may be due to the probability that those facing serious hazards at work would tend to self-select into a discussion on improving health and safety.

Figure 1.12 divides workplace hazard perceptions by the twelve labor unions. Not surprisingly, a majority of IAFF members (i.e., firefighters) reported experiencing a high hazard level at their location. However, perceptions within the other unions are more closely divided. For example, a slight majority of USW members (56%) reported facing a low-to-moderate hazard level at their locations. However, most of the other unions had fewer than five registered users in the Dialogue, limiting the validity of any differences of viewpoint on this topic.

Figure 1.12
Perceptions of Workplace Hazard Level, by Union

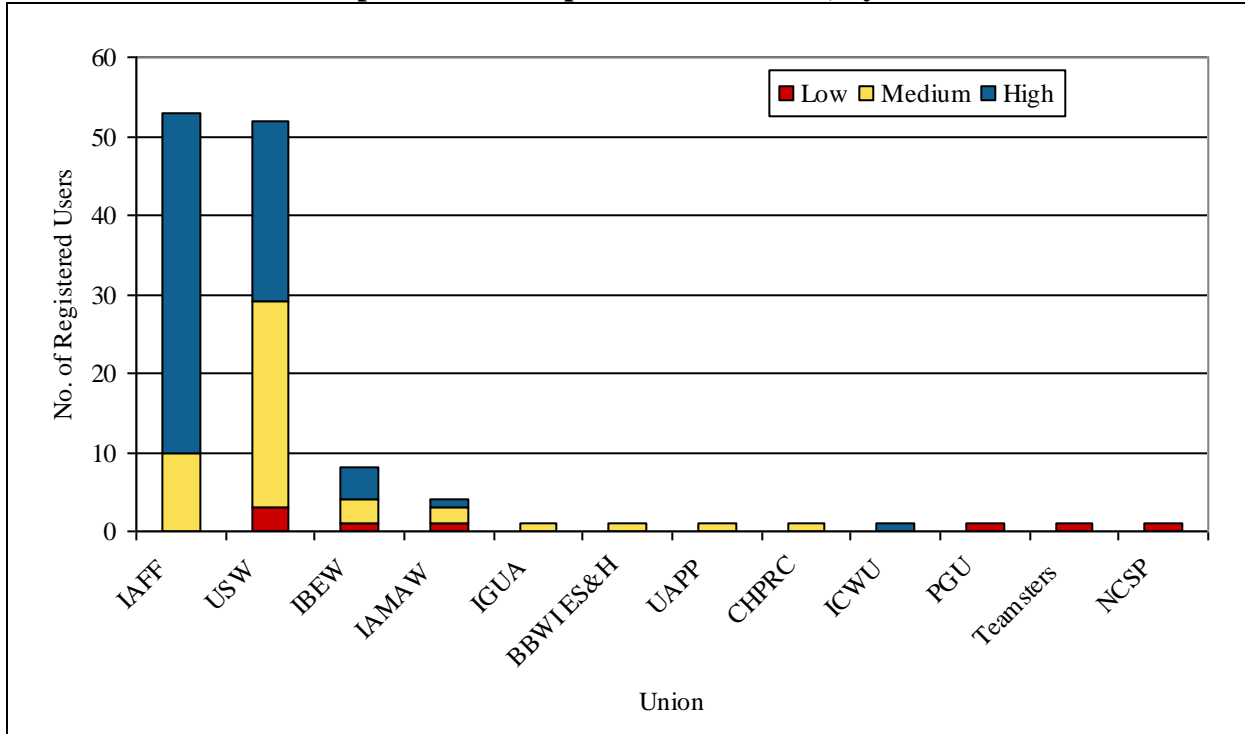
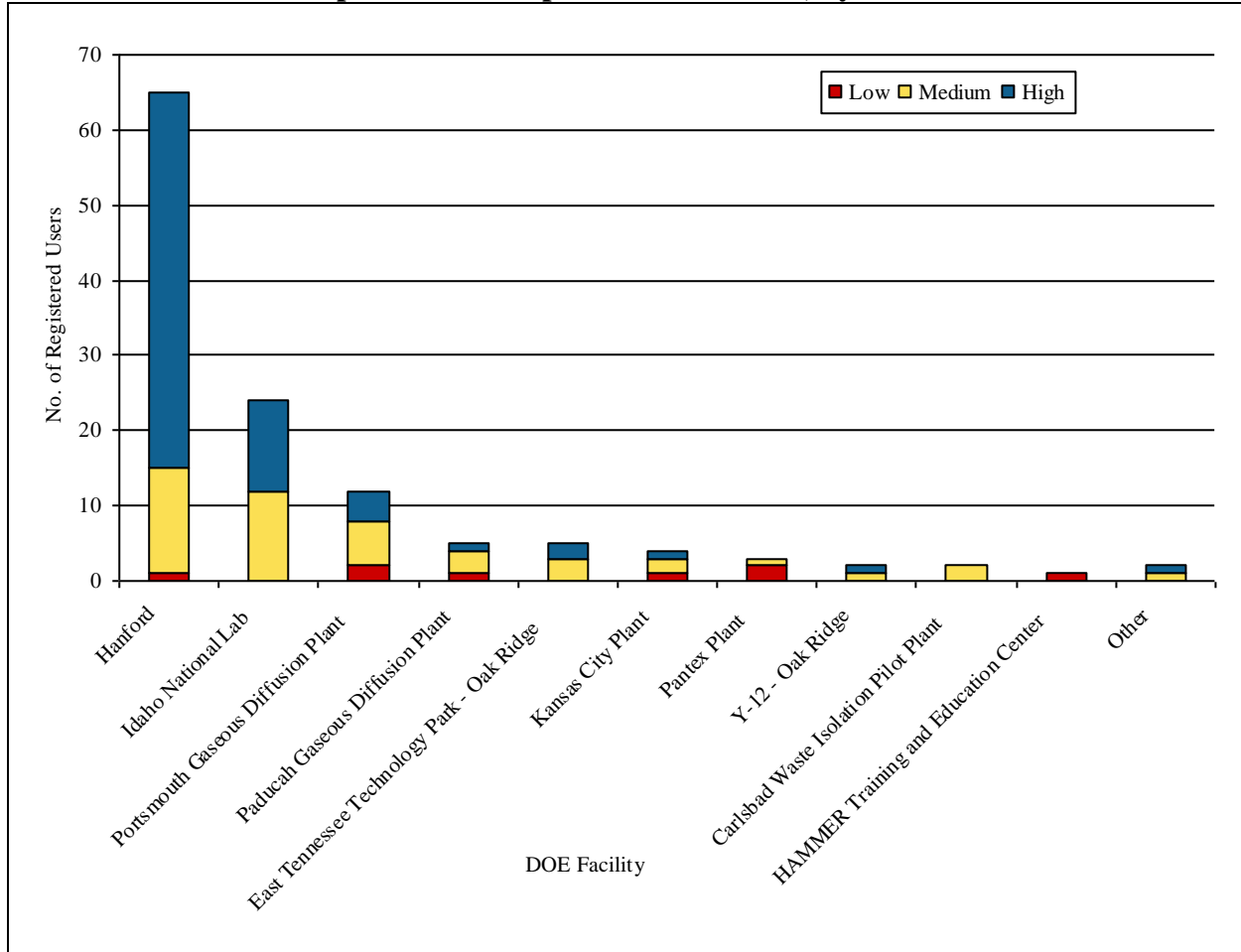


Figure 1.13
Perceptions of Workplace Hazard Level, by DOE Site



As illustrated above, most sites have a nearly even breakdown between perceptions of high and medium hazard levels. The exception, however, is Hanford, where the large numbers of firefighter participants identified facing a high hazard level.

SECTION II. ANALYSIS OF DIALOGUE RESULTS

A Worker Dialogue offered front line workers at DOE sites an opportunity to submit their ideas for improving worker safety programs and to discuss them in open conversation with other participants. Unlike a survey, this open-ended format allowed workers to drive the discussion toward ideas, topics, and questions of their collective choosing based on their day-to-day experience at DOE facilities.

The Dialogue consisted of the following five separate discussion forums, in which participants could submit ideas and rate and comment on others' ideas:

1. Improving Worker Safety Training.
2. Standardizing Worker Safety Training Requirements
3. Implementing the Worker Safety and Health Program (10CFR851 Rule)
4. Workforce Succession Planning and Knowledge Transfer
5. Your Personal Experience with Workplace Safety and Health.

This section offers an analysis of recurring themes in the Dialogue followed by recommendations by the Panel that HSS explore certain issues further. As previously mentioned the results of the Dialogue are subject to self-selection bias and should not be generalized to the population of DOE workers as a whole. While the online dialogue method allows common trends and areas of consensus to be observed, conclusions cannot be said to necessarily reflect what an entire community thinks about a specific issue. This is particularly true, given that workers from the IAFF and USW made up the vast majority of participants. More specifically, one half of the participants were first responders, 76% had worked for DOE eleven years or more and 36% work in high hazard jobs. Further, one should note that the workers who participated likely do not have a deep understanding of the contracts and relationships between DOE, site managers, and labor unions.

Analysis of Recurring Discussion Themes

Participation in the five discussion forums was very uneven. "Improving Worker Safety Training" and "Implementing the Worker Safety and Health Program" forums had the most robust discussion. At the other end, the "Standardizing Training Requirements" and "Workforce Succession Planning" forums received fewer than five ideas each. Furthermore, within each forum, the discussion often touched on topics beyond HSS's prescribed scope and instead covered a variety of other issues. While this uneven participation was most likely because these were the most popular topics, some ideas were not submitted in the optimal discussion forum, and some ideas spanned multiple forums. (See Section III for suggested reasons for this mis-categorization.)

Looking across the discussion forums, nine general themes emerged from the feedback received. Of these nine themes, the majority responded to the Dialogue's topic of improving worker safety training. These included the following:

- Participants believe in-person training is more effective for workers than computer-based training;
- Participants favor using worker-trainers to conduct training, due to their perceived credibility and first-hand experience in the areas in which they train;
- Although there was some disagreement, participants largely support joint labor-management design and participation in training programs;
- Participants favor greater centralization and standardization of worker training records as means to facilitate worker mobility between sites;
- Participants stressed the need to improve mentoring and education of new workers on safety and health issues; and
- Participants support an exchange of training ideas between sites in order to share best practices and keep curricula fresh and engaging.

The Panel recommends that HSS consider these ideas in planning any potential changes or enhancements to worker safety training at DOE sites. However, several other points surfaced in the Dialogue that merit close consideration from HSS. These include the following:

- Participants generally displayed, and sometimes openly admitted, a lack of understanding of the health and safety regulations that apply to DOE sites;
- Participants expressed the belief that regulations may be unevenly enforced and sometimes ignored; and
- Participants voiced a need for a more direct channel to DOE for reporting safety violations.

This section reports on each of the above discussion themes based on the ideas and comments submitted in the Dialogue and subsequently makes several recommendations on how HSS can follow-up on some of the issues raised.

Theme 1. Support for In-Person Training vs. Computer-Based Training

Discussion within several ideas across the Dialogue forums showed clear support among participants for in-person training as opposed to computer or web-based training. While users offered different reasons for their support of this idea, the most common rationale was that it is far too easy for workers to simply “pass” a computer-based training program without gaining any real knowledge or having the opportunity to ask questions. One example of this criticism came from the “Personal Experience” forum, titled “Worker Trainers providing classes vs. computer training”:

“It seems that workers training workers is much more effective than (sic) sitting at a computer with “do overs” until you get it right. A hands-on approach seems to be a better environment for learning hazards as well as company policy. Group sessions seem to work very well also.”⁷

-Dialogue participant

⁷ <http://workerdialogue.org/your-personal-experience-with-workplace-safety-and-health/worker-trainers-providing-classes-vs-computer-based-training>

The problem pinpointed by this author was that workers can “game” the training thus decreasing its usefulness and risking failure in its goal of educating workers. This complaint was echoed in other comments, in which participants suggest that it is too easy for workers to get through the training without learning the necessary lessons. In another example, from the “Improving Worker Safety Training” forum, one participant proposed two reasons why in-person training is more effective:

“[C]omputer based class lasts a fraction of the time and is too easy to manipulate. You should consider that not all people are comfortable on a computer. The stress of the computer combined with having to get a certain number of questions correct to pass is counter-productive. Instead of a learning experience, it becomes a stresser.”⁸

-Dialogue participant

This participant points out that, because training on a computer takes less time than in-person training, it may not be as comprehensive. Several comments within the Dialogue echoed this impression that computer-based training was an inadequate short-cut around more comprehensive, but time-consuming methods. The author also suggests that comfort with technology may present an access barrier for many workers. This and other users mentioned that computer-based training may be an intimidating or ineffective option, leading some workers to focus on the *format* of the training as opposed to its *substance*. As noted by both HSS and the Focus Group at the outset of this project, most frontline workers at DOE facilities do not regularly use computers at work. If the workers are not comfortable operating a computer, computer-based training may present challenges that hinder their ability to gain knowledge from the issues placed in front of them.

Some comments mentioned specific training programs they recommended be adopted at DOE sites, including: HAZWOPER training, application training, the small group activity method (SGAM), hazard mapping and others. One participant in the “Improving Worker Safety Training” forum recommended training in groups as opposed to on computers based on the need to be interactive in asking and answering questions:

“I also have witnessed the group activity technique used on many subjects at many DOE sites, and the IAM William Winpisinger Education and Technology Center in Maryland. It does work very well as opposed a computer based training sessions for subjects that require Q & A.”⁹

-Dialogue participant

Upon closer examination of participant feedback, it is clear that many workers at DOE sites support in-person training as opposed to computer-based programs. Though the Academy is not privy to the distribution of how trainings are conducted at DOE sites, it is generally agreed that a mix of in-person and computer-based training is most effective. A hybrid approach that is mostly online but with the introduction and/or the conclusion of the training delivered in-person with worker-instructors, could prove functional. By doing so, participants seemed to feel that a more

⁸ <http://workerdialogue.org/improving-worker-safety-training/improving-worker-safety-training>

⁹ Ibid.

coherent approach as well as a sense of organizational team would be achieved. Overall, Dialogue participants seemed to believe that too many training programs are currently computer-based, and that DOE sites could benefit from greater use of in-person programs.

Theme 2. Favoring Use of Worker-Trainers to Conduct Training

When participants argued in favor of in-person training, the most widely supported idea was for DOE to use worker-trainers. Within the Dialogue, participants named several reasons why worker-trainers are most effective, namely that their experience with workplace hazards enables them to be better trainers, they are available at many facilities already and could be used for minimal cost.

Participants argue that worker-trainers are most effective because of their on-the-job experience as illustrated in an idea from the “Improving Worker Safety Training” forum:

“The most important aspect of safety is to be able to identify the hazards present in the workplace... The people that do the job are the best people to educate on hazard awareness, identification, etc. If hazards can be identified and mitigated or eliminated before they become an incident, injury or fatality then we could create a work environment that would allow all of us to work safely.”¹⁰
-Dialogue participant

The participant who submitted this idea identified that they felt worker-trainers were more effective because they had personal experience with the hazards present and the risks they posed. Often, when this idea was discussed elsewhere, participants expressed the feeling that trainers hired from outside the ranks of workers were not as knowledgeable or interested in making sure that workers received the training they needed. On this point, some expressed frustration that management at DOE facilities had moved away from employing available worker-trainers in favor of hiring outside contractors. As one participant noted:

“[W]e have worker trainers available that are knowledgeable and have many years experience at the site to facilitate, free of charge, Hazwoper and DOE 10cfr851 training. However, the DOE contractor chooses to pay outside contractors to conduct this training.”¹¹
-Dialogue participant

On the same subject, one comment even questioned whether this training was being billed to the Department of Energy:

“[A]fter the contractor pays an outside source are the contractors billing DOE for said training that should be free?”¹²
-Dialogue participant

¹⁰ <http://workerdialogue.org/improving-worker-safety-training/mandatory-safety-training>

¹¹ <http://workerdialogue.org/improving-worker-safety-training/worker-involvement-and-education-of-worker-trainers>

¹² Ibid.

Regardless of the reality of how training programs are funded, this comment reflects confusion in the ranks of workers, which presents an opportunity for HSS to clarify with the workers how these programs operate. Before doing so, it would be beneficial to assess how training by USW workers and others is provided within DOE and how workers could best be utilized to conduct training, perhaps in partnership with traditional instructors.

However, even though the broad support for using worker-trainers suggests that this is an issue DOE may want to explore further, it should be noted that many of the participants who agreed with this position stated either in their submission or in their responses to the demographic questions that they had experience as worker trainers themselves. While this does not necessarily invalidate the support by participants for worker-trainers, it is a bias that should be kept in mind.

Theme 3. Joint Labor-Management Design and Study of Training Programs

The suggestion that labor and site management should jointly design and participate in training programs was one of the most discussed topics in the Dialogue. Participants' comments reflected a feeling that if facility management were better integrated into the training process, workers could ensure that training met their needs. Those participants who commented on these issues expressed a strong desire to see management and labor work together to make the workplace a safer environment.

This suggestion was the subject of one of the most-discussed ideas, titled, "More Efficient Training Process" from the "Improving Worker Safety Training" forum:

"The best way to make the training process more efficeint (sic) is to make it a joint process between management and labor. They should work together to put together a program that would provide each and every worker with the training they need to do their job safely. This should include input and training from the union workers and management jointly."¹³

-Dialogue participant

The primary concern of the author was that, in order to enable workers to do their jobs safely, both workers and contractors need to be involved in the training design process. By allowing frontline workers to work with management in designing training programs, both sides could help improve safety at a facility together. Further, the author argued in a later post that joint safety training is a requirement of the 851 Rule:

"Under 851, DOE contractors are required to allow the union to be a meaningful part of all aspects of the Health and Safety Plan...from the planning on down to the implementation, this includes training."¹⁴

-Dialogue participant

However, participants raised several arguments against involving site managers more in the design of training programs, mainly based on the divergent interests of labor and management.

¹³ <http://workerdialogue.org/improving-worker-safety-training/more-efficient-training-process>

¹⁴ <http://workerdialogue.org/improving-worker-safety-training/clarification-on-previous-idea-more-efficient-training-process>

One user voiced concern that a site manager’s presumed lack of understanding or concern about safety issues could dilute the quality of training programs if management had a greater role in designing them. The author responded by agreeing that bad safety practices should not be imported and that DOE should provide guidelines on the core components of training across sites, whether that be for 10CFR851 or for what rules should be followed in its nuclear weapons complex. Rather, working with management to design training programs could help contractors to better understand what type of training was needed and bring them on board with the training process so that training implementation would occur more smoothly. Another user suggested contractors have significantly different interpretations of safety regulations such that joint design of training programs would be difficult. Responses to these concerns generally ceded their validity but reemphasized the potential benefit of joint design. As one participant put it:

“Sometimes workers and managers fear each other when trying to work jointly on anything... By working on curriculum needed for a given site utilizing a joint effort, the fear of each other seems to subside.”¹⁵

-Dialogue participant

Following on this discussion theme, several participants suggested that management should also participate in regular safety training sessions in order to understand better the risks and procedures for hazards. In most comments on this topic, participants expressed the belief that, because managers are not required to participate in the training programs, they cannot fully understand the greatest hazards in the workplace. In one idea titled, “Mandatory Safety Training” from the “Improving Worker Safety Training Programs” forum, one participant wrote:

“It is important that safety is a joint effort between labor and management. Although USW training is conducted by union worker/trainers, it is something that everyone needs to be trained on. It is vital that labor and management work together to create a safe work environment for everyone. It should never be a union vs. management when it comes to SAFETY!”¹⁶

-Dialogue participant

Other participants also expressed the belief that including management in the training process would help ensure that managers and workers recognized the same potential hazards. Participants also believed that bringing managers into the process could help educate them on issues that they might have otherwise missed.

Theme 4. Centralizing Training Records

Most of the themes explored above focus on how the design and delivery of safety training could be improved; however, several themes emerged from the discussion regarding other aspects of safety training. One of these from the “Standardizing Worker Safety Training Requirements” forum argued that centralized worker safety training records would enable workers to move between sites more easily. As one participant wrote:

¹⁵ Ibid.

¹⁶ <http://workerdialogue.org/improving-worker-safety-training/mandatory-safety-training>

“Enter the documentation of sub-contractor workers training into the same system as the site contractor workers training. Maybe even have one electronic system that could be accessed by all DOE sites so that if a worker transferred from one site to another, thier (sic) training would follow... This would help when we move from site to site. Contractor employees training histories are most of the time available electronically and many sites even have qual cards for their workers but it is just for that site.”¹⁷

-Dialogue participant

Because contractors already keep electronic records of their personnel, this idea suggests, worker training records would be easy to set up and track across sites. Based on the comments submitted on this idea and other similar ideas, this seems to be a very popular idea among workers. This user’s other suggestion, that sub-contractors be included in existing record systems, was not echoed by as many participants.

In one comment listed under the “Documentation of Training”, a participant helped demonstrate how the process could be simplified by giving an example of how this had been practiced within a smaller organization:

“When the Building Trades Affiliate training courses meet the site training requirements, we grant an equivalency and the affected workers do not have to take the class at the site. This is a big time savings to the contractors and eliminates redundant training for the affected worker.”¹⁸

-Dialogue participant

By keeping track of individual members’ training records and ensuring that their training programs meet DOE requirements, the Building Trades department allows workers to avoid repeating training programs they have already completed, saving both time and money for workers and contractors. Examples of existing systems for tracking and recording worker safety training were mentioned in multiple discussions in the Dialogue. By reducing redundancy and saving time, these users argued, a centralized safety training records system could increase mobility for frontline workers and make training programs more effective.

Theme 5. Fulfilling the Need to Mentor and Educate New Workers

The expected wave of retirements in the near future requires DOE to ensure knowledge is imparted to younger workers by involving older workers in the process and keeping them current on new safety concerns, regulations and solutions. For this reason, HSS asked Dialogue participants for their ideas on how to transfer knowledge and skills to the next generation of workers. Though the forum dedicated to this topic only received a fraction of the participation seen in other forums, one clear theme emerged from discussion on this subject: the need to implement mentoring programs for new workers. In multiple ideas, participants agreed that pairing younger and older workers together would help share knowledge and improve safety at DOE facilities. Some participants even discussed ways that such a program could be implemented.

¹⁷ <http://workerdialogue.org/standardizing-worker-safety-training-requirements/documentation-of-training>

¹⁸ Ibid.

One of the most substantive ideas on this topic, titled “Shared Work Experience”, emphasized the benefit of side-by-side mentoring on the job:

“After the new worker undergoes training and standardized qualification, it is vital that he/she has the opportunity to work alongside, or on the same team with, the veteran worker. This is necessary for the newcomer to become ‘grounded’ in their new job. There is a BIG difference between being qualified to do something and doing it proficiently!

This ‘side-by-side’ arrangement also provides a chance for the old-timer to share his experience at the facility, both via oral history and while working on those ‘once every five to ten year jobs’. There is simply too much that happens over the life of a facility to capture via official documentation.”¹⁹

-Dialogue Participant

One participant commenting on this idea suggested this mentorship could also benefit older workers who might learn about new solutions or hazards from the younger workers who have undergone training more recently. Another participant noted that mentorship programs had been used at some facilities in the past, but that many had since been abolished.

Participants noted that mentorship with more experienced workers would help fill knowledge gaps in younger workers as their lack of experience is posing serious safety risks. Some comments reflected an impression that younger workers may either be ignorant of the hazards present on site or may be fearful of reporting hazards because of job security concerns. One user in particular emphasized this point:

“We need to be very careful with the stimulus workers and any new workers. They seem to have a point to prove, that they are very hard workers and in 2012 when the money is set to run out that they deserve to keep their job. Many do not think about safety and will do anything to keep this job. Many are young and I have seen many times where they do not recognize the hazard(s).”²⁰

-Dialogue Participant

The possibility that workers hired under stimulus funding may neglect safety in an effort to keep their jobs after the funds expire could be problematic for worker safety on the longer term. Partnering new workers with more experienced coworkers could help educate these workers on the dangers of leaving such instances unreported. The more a worker understands the hazards of their position, the more inclined s/he might be to report a violation when it occurs.

Theme 6. Support for an Exchange of Training Ideas

The large volume of worker-trainers that participated in the Dialogue enriched the discussion through their personal experience and constructive ideas on how to improve training programs. These ideas were found primarily in the “Improving Worker Safety Training” forum. One idea that resonated with these participants was the need for an exchange of training ideas between

¹⁹ <http://workerdialogue.org/workforce-succession-planning-and-knowledge-transfer/shared-work-experience>

²⁰ <http://workerdialogue.org/improving-worker-safety-training/training-for-stimulus-workers-and-new-workers>

worker-trainers. Users agreed that sharing training ideas and best practices among this cadre would help them improve the training they provide to DOE workers. In the idea that started this discussion, a self-described worker-trainer wrote:

“It occurred to me after reading so many great comments and ideas on this dialogue site that maybe we should bring all of the worker / trainer folks together for a week to share and update information about the types of training taking place at their sites, and maybe exchange curriculum from site to site in an attempt to keep it fresh.

Many instructors and worker trainers struggle each year to keep material fresh and interesting for the site refreshers. A mix of both classroom activity and a hands-on approach is very important.

Who knows that better than the folks presenting the training!”²¹

-Dialogue Participant

In the comments that followed, many endorsed this idea as a way to keep training material fresh so that workers remained engaged in classes. Participants acknowledged that past opportunities to exchange training materials and practices had helped them refresh and improve the teaching materials they used. One participant emphasized that building greater community among worker-trainers would allow them to identify and address barriers to effective education.

Similar to this idea, another self-identified worker-trainer suggested using temporary training assignments or details at other facilities as a way to develop trainers and share training techniques and lessons across sites. While not exactly the same as convening a large number of trainers to exchange ideas, allowing trainers to rotate through different assignments might present a worthwhile alternative that could accomplish similar goals.

Theme 7. Lack of Understanding of Existing Health and Safety Regulations

While participants offered many perspectives on how safety training could be improved, their ideas and comments reflected a lack of understanding of the safety regulations under which they were supposed to operate. While some users—mostly self-identified as trainers or workers who recently took a safety training class—claimed to understand the safety regulations, many users openly discussed their confusion or ignorance of the regulations in force at DOE facilities.

One area of confusion appeared to come from workers’ lack of understanding of the 851 Rule and its distinction from OSHA regulations. In an idea titled, “Training for 10CFR851”, one participant stated:

“So far the only training on 10 CFR 851 I’ve seen is an introductory class last year. 851 covers worker health and safety. Someone needs to sit down and break it down into more than ISMS. If I understand 851 right this should be DOE’s OSHA regulations to regulate contractors working at DOE sites. Why are the workers still using OSHA regs to correct problems.”²²

-Dialogue Participant

²¹ <http://www.workerdialogue.org/improving-worker-safety-training/national-doe-worker-trainer-exchange-annually>

²² <http://www.workerdialogue.org/implementing-the-worker-safety-and-health-program-10cfr851-rule/training-for-10-cfr-851>

While this user was knowledgeable about the 851 Rule, s/he suggests that most of his/her colleagues are unfamiliar with it and instead attempt to follow OSHA regulations in regard to workplace safety. In response to this idea, several people submitted comments that discussed classes which augment the standard training, many of which were organized by their individual unions, albeit inconsistently across the DOE complex. In one comment, a participant who identified themselves as a firefighter stated that they had not heard of 851 before, but that they would like to know how it affects their department.

A second pattern that emerged was that participants found the 851 Rule difficult to understand. As with many such regulations, the 851 Rule is written (and possibly explained in trainings) using legalistic language that is not widely accessible. Some participants suggested that the complexity of 851 Rule's language presented a significant barrier to having workers understand it. Because workers found the 851 Rule so difficult to understand, participants felt it was incredibly important that effective training be offered to help workers overcome those barriers.

These exchanges suggest that participants felt that the education they have received to date on the 851 rule is insufficient, and that programming to educate workers on the rule is inconsistent across the different sites. While this is understandable given that different management and conditions exist at each site, workers emphasized the importance for all workers to be equally and adequately informed about 851 regulations.

Theme 8. Perceptions of Uneven Regulation Enforcement

Across several forums, one theme that emerged among participants was the perception that regulations are not uniformly enforced at all DOE facilities and that workers are not encouraged to report safety violations. This perception coincided with the belief that contractors frequently ignored aspects of the 851 Rule that require them to include unions in the development of their Worker Safety and Health Plans. DOE was encouraged to provide a way for workers to confidentially provide information about safety concerns with a stated commitment to listen and address the issues in a timely fashion.

Several comments expressed frustration that contractors disregard the 851 Rule's requirement that they bargain its implementation with unions upon request. In an idea from the "Implementing the Worker Safety and Health Program" forum, titled "10CFR851 Rule, It Is Necessary to Bargain the Impact," one participant wrote:

“The 10CFR851 Rule demands that the impact of those changes be bargained with affected bargaining units, (ie: Firefighters). The 10CFR851 Rule also demands that Bargaining Unit personnel be involved in the development of implementation plans resulting from 10CFR851.

I have personally seen the willing participation and input solicited from Bargaining Unit Personnel construed by management and DOE as "Having Bargained The Impact", when in fact, no such bargaining sessions have taken place.

DOE and Hanford Fire department management have abused this process of "Worker Involvement" by not following up with meaningful bargaining sessions to Bargain the impacts of all aspects of 10CFR851 implementation.”²³

-Dialogue Participant

While the National Academy cannot verify the user’s claim that management failed to bargain with the union on the 851 Rule’s implementation and DOE failed to intercede, the perception among some workers that aspects of the 851 Rule are not being enforced bears investigation and could yield negative results should it be overlooked.

In other discussion threads, participants expressed their belief that weak enforcement of safety regulations was due to management’s incentive to err toward production at the expense of worker safety. In the idea, “Barriers of Implementation of 851”, one participant wrote:

“[F]or the 851 standard to be successful, you must first have full buy in from the doe contractor. the workers must perceive the company to follow the rules instead of taking credit for a program on paper to receive contracts and bonus money...incentives only create an atmosphere of production over safety, sanitizing problems and retaliation against workers who are perceived to be slowing down the job for bringing up safety issues.

Implementation of the 851 standard will not be successful until these problems are dealt with, i (sic) have experienced firsthand all of the above and i dont (sic) believe doe environmental mgt or the contractor feel there is any real consequence to their action due to the lack of oversight from the doe enforcement group.”²⁴

-Dialogue Participant

This participant expressed that, because contractors were incentivized to prioritize productivity over safety, workers are encouraged not to report safety concerns. Furthermore, the management structures at the sites, which are entirely outsourced to private companies, complicate DOE’s ability vigilantly in enforce safety regulations. These concerns were echoed in another idea from the “Implementing the Worker Safety and Health Program” forum titled, “Site Enforcement Officer” in which the participant also suggested a possible solution:

“[E]stablish a knowledgeable site enforcement officer that can be contacted that is not influenced by the mission of production bonuses over safety.

²³ <http://workerdialogue.org/implementing-the-worker-safety-and-health-program-10cfr851-rule/10cfr851-rule-it-is-necessary-to-bargain-the-impact>

²⁴ <http://workerdialogue.org/implementing-the-worker-safety-and-health-program-10cfr851-rule/barriers-of-implementation-of-851>

doe needs to be the regulator in some instances. DOE EM has a conflict in mission. production over safety.”²⁵

-Dialogue Participant

Users also discussed another possible solution: to create a position within DOE responsible for enforcing safety regulations. While the National Academy cannot verify the accuracy of claims that contractors are incentivized to place production over safety, one can easily see from the Dialogue results that this perception is widespread among workers.

Theme 9. The Need for a More Direct Channel to DOE for Reporting Violations

Workers participating in the Dialogue expressed concern with the integrity of the reporting process for safety violations at DOE facilities. Participants expressed the need for a more direct line of communication between themselves and DOE to alleviate their current frustrations with the attention facility management gives to these issues (?). Although DOE facilities have hazard reporting systems in place, some participants suggested that workers did not believe these systems were effective in resolving safety violations. DOE should delve into these issues to determine whether or not these beliefs are valid or whether its communication strategy with its frontline workforce needs to be improved.

This need for better reporting channels was typically expressed in conjunction with users’ dissatisfaction with the follow-up that occurs in response to safety violations and incidents. In the idea, “More Efficient Training Process” from the “Improving Worker Safety Training” forum, two of the participants, from different sites and different unions, called for improved feedback to workers as well as clearer reporting and record-keeping of safety violations and actions in response:

Participant 1: “While training and re-training are very important, without action after the training is over to identify and report incidents and near misses, making recommendation for proper fixes to the identified hazards and then follow up to make sure the fixes are being addressed, safer workplaces will not occur.”

Participant 2: “You are right on the money when speaking on ‘Follow-up’. The entire process should have a starting point that identifies the incident or occurrence, then a point of conclusion explaining the action taken, any fixes instituted, and where we are today after all is said and done. All to (sic) often worker report and never hear another word about what action was taken.”²⁶

The other comments in the Dialogue were of a similar nature. Participants did not necessarily call for a direct line of communication with DOE explicitly, but their desire for the intervention of a third party implied that DOE should be more involved or at least investigate the validity of their claim.

²⁵ <http://workerdialogue.org/implementing-the-worker-safety-and-health-program-10cfr851-rule/site-enforcement-officer>

²⁶ <http://workerdialogue.org/improving-worker-safety-training/more-efficient-training-process>

In another discussion thread, one user suggests workers not necessarily trust the existing hazard reporting systems provided by contractors:

“Make sure every worker knows how to tell HSS and their contractor that 851 has been violated... have HS-10 establish a presence that is undeniable in the workplace, independent of contractor hotlines, contractor safety reps, etc. A direct route to the top of the food chain. Too many issues die on their way through the immediate review process.”²⁷

-Dialogue Participant

If workplace hazards are not being addressed, this author argues, workers should be directed to contact HSS directly. Regardless of the empirical reality behind this impression, workers’ clear desire for a more direct communication chain to DOE/HSS is a significant factor in considering changes to reporting systems.

Recommendations for HSS Follow-Up

Dialogue participants used this opportunity to offer many constructive ideas for ways to improve worker safety training at DOE. However, one cannot ignore the frustration these workers expressed with the way safety regulations are being implemented, with the current system for reporting violations, and with the lack of follow-through in addressing worksite problems. While the Dialogue’s results generally reflect a negative bias by those who chose to participate, these viewpoints should be issues of concern to HSS.

As the DOE office mandated to ensure the health and safety of workers at DOE sites, HSS has a responsibility to investigate further many of the claims and perceptions voiced in this *A Worker Dialogue*. A number of the issues raised by participants are essentially questions of empirical *fact* that can be researched and either substantiated or disproven. For example, some users referenced failures in site managers’ follow up on rule violations. From this feedback, HSS can investigate in a systematic, reliable way the reality behind these claims to determine in what areas, if any, safety is not being ensured at DOE facilities.

The issues raised by members of the IAFF, who came wholly from the Hanford Site, illustrate this need for follow-up investigation. Firefighters, which constituted one of the largest groups in the Dialogue with 51 registered users, expressed a common concern that their aging workforce may be subject to age-based discrimination. These users also mentioned being understaffed in properly serving the Hanford Site. These are both questions that empirical data and key metrics can support or refute. For example, HSS could gather data to determine if DOE sites are in fact increasing physical fitness standards that older firefighter cannot pass, and could investigate whether incident response times have been flagging as a sign of an under-resourced fire service. Discovering what can be known about the reality behind these issues is the logical next step with this feedback.

²⁷ <http://workerdialogue.org/implementing-the-worker-safety-and-health-program-10cfr851-rule/we-need-to-enforce-all-aspects-of-851>

Recommendation: HSS should further investigate statements made in the Dialogue regarding health, safety and security violations to determine whether there is factual basis for these claims.

While HSS may find that many of these issues are questions of policy enforcement, some may call for solutions focused on improving processes and communicating more effectively with workers about the requirements for reporting safety violations. Many of the recurring themes deal with what means workers have to enhance communication with one another and with DOE. Addressing these issues will require HSS to examine what processes are in place, which are working, where gaps exist, and how to bridge these gaps. For example, on the question of violation reporting systems, HSS could examine what processes currently exist at different sites for reporting safety violations to management, which of these are most effective and efficient, and where there may be a need for more direct reporting between workers and DOE. However, HSS should take care not simply to build a new process or communication channel in response to each need, as doing so could foster disenchantment and workers and union representatives. What the Dialogue seems to call for is a more coherent approach across DOE sites to reporting, communicating and addressing safety violations in a timely fashion.

Recommendation: Based on the numerous comments calling for improved safety violation reporting processes at DOE sites, HSS should assess the current state of reporting systems at different sites and determine if improvements should be made.

Many of the comments in the Dialogue revealed widespread knowledge gaps among workers in regard to the safety regulations governing their work and HSS's role in enforcing them. Two salient examples from the Dialogue stand out as areas requiring HSS's attention. First, participants were clearly confused about the distinction between the 851 Rule and OSHA regulations and where each apply. Second, participants called out for a more direct way to contact DOE about safety issues; however, HSS's website and other resources displayed at DOE facilities clearly state that workers can contact HSS directly.²⁸ That these knowledge gaps exist means that past and current attempts to educate workers on these issues may not have been successful. HSS should re-evaluate how workers are being educated on these issues, with attention to ensure the information is clear and easy-to-understand and that it is conveyed via channels that will reach workers effectively.

However, there is an important distinction to be made between issues that require more effective communication, and those that present more acute risks to worker safety. While it is important for a worker to be knowledgeable about the regulatory regime under which he/she works, it is even more critical for him/her to know the actual, on-the-job rules at that site (e.g., what type of protective equipment should be used under which circumstances). Participants' discussion on the Dialogue did not conclusively answer the question of whether there is a real lack of understanding in regard to the practical application of safety rules at DOE sites. Therefore, while HSS should embrace the opportunity to educate workers about the 851 rule and its requirements, HSS should also recognize the need to verify workers' practical knowledge of safety rules at different DOE sites.

²⁸ <http://www.hss.doe.gov/HealthSafety/WSHP/rule851/safeworkplace6-07-final.pdf>

Recommendation: HSS should explore ways to educate and more effectively communicate with workers about the safety regulations governing their work and about HSS’s role in enforcing them. Moreover, HSS should use this as an opportunity assess the degree to which workers lack understanding of how these rules are applied at DOE sites, identify critical gaps, and undertake training and education as appropriate.

Each of these issues identified by the National Academy—enforcement of safety regulations, effective reporting processes, and worker education—affect the trust built between HSS and workers at DOE sites. Following up in these areas will enable HSS to benefit from more fruitful engagement in the future

SECTION III. DIALOGUE METHODOLOGY AND PROCESS ANALYSIS

In addition to the ideas offered by DOE workers, *A Worker Dialogue* offered numerous valuable findings and lessons about the process of stakeholder consultation that will be useful to HSS as it continues to build capacity for this type of engagement. This section provides important lessons learned from the planning and execution of the Dialogue along with analysis on web traffic and participation from key metrics.

Planning and Executing the Dialogue

In the weeks before the Dialogue's June launch, the National Academy worked with HSS to translate their goals and objectives for *A Worker Dialogue* into meaningful content for the website. Equally as important and done simultaneously was to develop an outreach strategy to reach a broad population of the targeted participants and communicate a value proposition that enticed the workers in the DOE system to participate in the Dialogue when it opened. There are several important lessons learned from this process that will enable HSS to build capacity for stakeholder consultation in the future.

Content Development and Technology Customization

In the early stages of the project, the National Academy worked with HSS to brainstorm the critical issues on which HSS needed worker input, synthesize the issues to clear and concise topics which ultimately became the discussion themes for the online dialogue. Each theme was given a discussion forum on the Dialogue site where workers would give their ideas. The forums were:

1. Improving Worker Safety Training
2. Standardizing Worker Safety Training Requirements
3. Implementing the Worker Safety and Health Program (10CFR851 Rule)
4. Workforce Succession Planning and Knowledge Transfer
5. Your Personal Experience with Workplace Safety and Health

These categories ultimately proved confusing to some users because of the overlapping nature of several of the forums. For example, the difference between "Improving Worker Safety Training" and "Standardizing Worker Safety Training Requirements" is not clear, and so some users may have been confused about where to submit their idea. Because each forum was separate from one another, similar ideas in different forums were kept apart, and good ideas might not have received the discussion they would have otherwise.

Future consultation initiatives would benefit from one single discussion topic, even if it needs to be broad (e.g., "improving worker safety and health at DOE"). In this approach, input received can be analyzed and categorized on the "back end" of the dialogue or after it has concluded, rather than structuring the conversation in separate forums that silo ideas and may confuse users.

Recommendation: In future online stakeholder consultation, HSS should develop one central, compelling discussion question and avoid separated discussion forums in order to spur discussion on interrelated topics.

The Dialogue was hosted on a web-based discussion platform created by Delib, a leading e-democracy technology and consulting firm. The Dialogue, online at www.WorkerDialogue.org, allowed participants to submit their own ideas to open-ended questions, to comment on others' ideas, and to vote the best submissions to the top. To ensure only DOE workers were able to participate in the Dialogue, HSS and the National Academy originally made a decision to require all visitors to enter a uniform password in order to access the website. While the password was circulated along with outreach materials to union workers, when the Dialogue opened the National Academy received feedback from several users who confused the password for the site with their individual password for their user account. As this was a barrier to participation, the National Academy removed the access password after the first week.

The Dialogue platform also enabled the HSS and the National Academy to gather demographic information on registered users when they created a user account. *A Worker Dialogue* required users to set up an account in order to submit ideas, comments, or rate postings. During this set up step, they were asked to respond to eight questions²⁹, in addition to providing an email address and creating a username and password. These questions were intended to provide information on the user's level of experience, job category and DOE worksite which would allow for more complex analysis at the conclusion of the Dialogue. In fact, the ability to collect this data was the main reason the Delib dialogue platform was selected for this project as opposed to other commonly available dialogue tools.

While data from these questions was valuable, future Dialogues should lessen the number of demographic questions posed to the user for several reasons. First, as a general rule, the barriers to entry of an online activity should be as low as possible to encourage participation. According to the site's analytics, visitors spent an average of about two minutes on these questions. While two minutes may not seem like a long time to some, it took valuable time away from users' offering comments and ideas in the Dialogue and may have been long enough to dissuade some participants from registering in the first place. Second, as discussed in Section 2 of this report, the value gained from this data is limited because a dialogue is not intended to yield representative results that can be analyzed for statistical significance. While HSS has an understandable desire for survey-like data, a better solution is to consider complementing the dialogue with an actual survey.

Recommendation: In future online dialogues with stakeholders, HSS should limit the number of required demographic questions and consider complementing the dialogue with a traditional survey. This would help ensure a smoother experience for users of the dialogue, while enabling HSS to gather richer and more useful information.

Conducting Outreach

²⁹ See Appendix B for the questions asked in each forum.

From the initial planning stages, HSS and the National Academy worked closely with union representatives to gain their buy-in for the Dialogue and to enlist their resources in reaching workers across the spectrum of DOE sites. Outreach consisted of in-person and teleconference meetings with union representatives, emails passed through the unions' networks, a formal written invitation from Glenn Podonsky, DOE's Chief Health, Safety and Security Officer. The union representatives were asked to reach out to their members in meetings, emails, flyers at work sites and union halls, and by word-of-mouth using materials developed by the National Academy. Once the Dialogue began, the National Academy maintained email contact with registered users to enlist them in spreading the word.

With an estimated population of 50,000 union workers in the DOE system, the Dialogue aimed to see participation from 2-3 percent, or around 1,000, workers, a statistic in line with past Dialogues conducted by the National Academy. Though participation fell short of this goal, the outreach process resulted in two lessons learned for HSS's capacity building:

- **Knowing how communications operate within the worker community is critical to effective outreach.** At the outset of the project, HSS directed that all outreach go through the union representatives, since the contractors and site managers who employ the union workers would not be involved in the Dialogue. As a general rule in outreach efforts, direct contact with the audience is the most effective method for spreading a message and stirring interest, but there is no guarantee that an audience will respond. It was only when the project was well underway that HSS and the National Academy learned that few of the unions had contact lists for their membership that worked at DOE sites. Therefore, the National Academy's outreach strategy had to rely on reaching workers through the unions' communication chains. As emails and other means of contact needed to be passed down several steps to reach front-line workers, the number of workers who heard about the Dialogue was likely very limited. Further, the National Academy had no way benchmark the effectiveness of outreach beyond end turnout on the Dialogue. In the future, the exact nature of the communications channels that exist with the targeted stakeholder community should be clearly scoped at the start of the project. Outreach efforts can then be tailored for the circumstances.
- **Learning how workers want to engage with HSS will build toward successful consultation efforts in the future.** Both before and during the Dialogue, a lack of knowledge about the target audience of front-line workers may have limited the effectiveness of outreach. Email was the primary media for communicating with workers; however, many workers may not have regular access to email or computers while at work, which complicates efforts to bring them to an online event like *A Worker Dialogue*. HSS's future grassroots efforts would be well served by learning more about front-line workers, including their level of access to and comfort with computers, and how they would like to engage with HSS.

Recommendation: To maximize participation in future consultation efforts, HSS should consider alternate channels that acknowledge the environments in which front-line employees work, including their level of access to and comfort level with computers and email. This would allow HSS to tailor

content more effectively to meet workers' needs and would both improve the quality of the interaction among participations, and the usefulness of the results for HSS.

Analysis of Dialogue Feedback

The Dialogue platform included several analytical tools that allowed one to cross-reference and sort ideas and comments submitted by workers in response to the discussion questions. While the ideas with the highest ratings and most comments “float to the top”, the National Academy looked beyond these metrics in analyzing the discussion. Participants were able to “tag” ideas with the topics and/or phrases with which these ideas dealt, which offered a valuable way to categorize similar ideas. The National Academy used these tools to identify recurring themes and ideas that generated the most discussion in the Dialogue.

Measuring Traffic and Participation

Two broad categories of data about workers' involvement in *A Worker Dialogue* were captured: traffic and participation.

- **Traffic metrics** generally measure the amount of overall traffic to and activity on the site, including metrics such as Unique Visitors, Total Visits, and Page Views. The National Academy used a free Google Analytics tool to capture this information. All traffic information was collected and reported in the aggregate. Also captured are measures of visitor engagement with the site, including “bounce rate”—a measure indicating the “percentage of single-page visits or visits in which the person left [the] site from the entrance (landing) page.”³⁰
- **Participation metrics** measure active involvement in the Dialogue. Participation metrics collected for this dialogue include registered users,³¹ ideas, comments, ratings, and tags.

In an effort to provide context for the data presented on the Dialogue, this report compares *A Worker Dialogue* to other dialogues the National Academy has conducted. These other reports are:

- **DCIPS Dialogue**—Hosted in Spring 2010 to solicit feedback from Department of Defense employees on the Defense Civilian Intelligence Personnel System (DCIPS). The DCIPS Dialogue provides a valuable reference point because it engaged internal employees within the Department of Defense and dealt with similar circumstances as *A Worker Dialogue*, including a decentralized employee population and the need for privacy and anonymity. Due to the sensitive nature of this dialogue, the site is not publicly accessible.

³⁰ “What does Bounce Rate mean?” Google Analytics.

<<http://www.google.com/support/analytics/bin/answer.py?hl=en&answer=81986>> November 19, 2008.

³¹ A registered user is any individual who creates an account on the dialogue site; registration is necessary in order to submit, rate, or comment on any ideas on the site.

- **Dialogue on a NOAA Climate Service**—Conducted in June 2010 to engage stakeholders of the National Oceanographic and Atmospheric Administration (NOAA) in the establishment of a new climate service bureau. The NOAA Dialogue was launched the same day as *A Worker Dialogue* (June 14, 2010) and on the same technology platform, and solicited ideas from stakeholders both inside and outside of NOAA. The site remains online at <http://www.NAPAClimatedialogue.org>.
- **Recovery Dialogue on IT Solutions**—Conducted in Spring 2009 in partnership with the Office of Management and Budget and the Recovery Accountability and Transparency Board to engage vendors, thought leaders, informed consumers, and citizens in finding solutions and priorities for Recovery.gov. The site, built on a closely similar technology platform as *A Worker Dialogue*, is archived at <http://www.thenationaldialogue.org>.

Site Traffic

Over the twenty-eight days it was live, the Dialogue website received over 1,000 visits from 429 unique visitors. As shown in Figure 1, visits to the site peaked in the middle of each week while the Dialogue was live, while weekends saw drop-offs in site traffic. Both of these patterns are consistent with past National Academy efforts.

Figure 3.01.
Visits to the Dialogue Site by Day

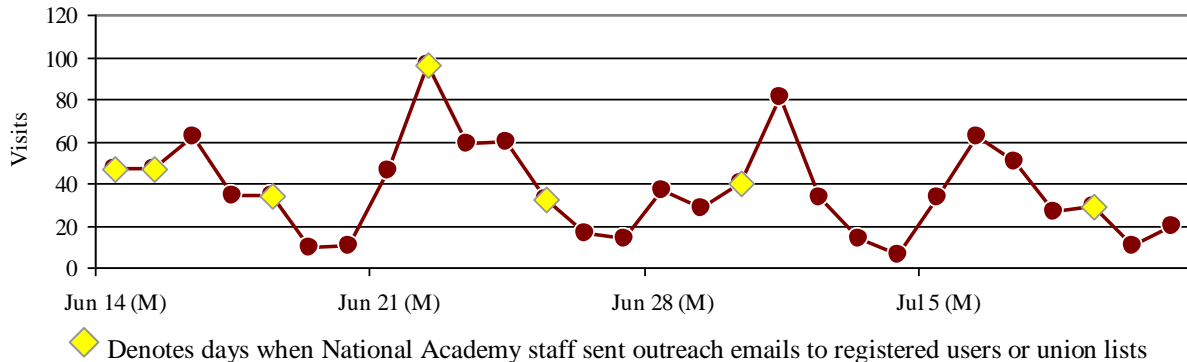
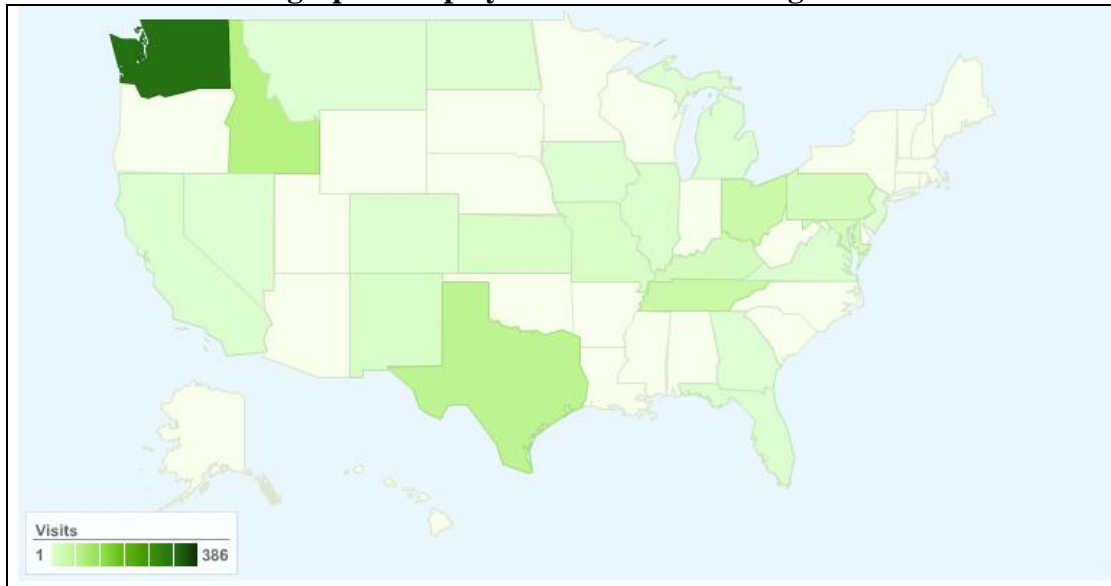


Figure 2 displays key traffic metrics for the Dialogue over the 28 days the site was live.

Figure 3.02.
Comparison of Site Traffic Metrics across Dialogues

	Worker Dialogue	DCIPS Dialogue	NOAA Dialogue	Recovery Dialogue
Live Dates (days live)	6/14-7/11/10 (28)	3/1-4/9/10 (40)	6/14-6/27/10 (15)	4/27-5/4/09 (8)
Visits (visits/day)	1,035 (37)	8,993 (225)	2,368 (158)	21,000 (2,625)
Unique Visitors³² (unique visitors/day)	429 (15)	3,790 (95)	1,304 (87)	13,222 (1,653)
Avg. Page Views per Visit	11.49	10.17	5.84	7.18
Bounce Rate³³	19.71%	18.91%	35.64%	40.39%
Avg. Time on Site	9:21	12:07	5:38	7:19
Direct Traffic³⁴	90.34%	88.9%	83.78%	34.43%

Figure 3.03.
Geographic Display of Visits to the Dialogue Site



Source: Google Analytics

³² Unique visitors (or absolute unique visitors) represent the number of unduplicated (counted only once) visitors to the website over the course of a specified time period. Although each visitor is identified as unique, it constitutes a unique visit from an IP address. Thus, an individual could have visited the dialogue site from three separate computers or IP addresses. In this case, Google would count each visit as a unique visitor.

³³ The bounce rate is the percentage of visits that entailed only visiting the first page of the site. This metric provides an indication of how much users felt enticed to view other pages and engage with the site.

³⁴ Direct traffic measures the percentage of visits to the site that came from users clicking an email link or directly typing the URL into their web browser.

As seen in Figure 4.03, the Dialogue received nearly all its visits from the U.S., including 23 states and the District of Columbia. States sending the most visits included Washington State, the District of Columbia, Idaho, and Texas. These traffic sources correspond to DOE facilities and offices, such as Hanford, DOE and the National Academy offices in DC, and Idaho National Laboratory.

Dialogue Participation

During the Dialogue’s four weeks online, 125 workers registered to participate, submitting 38 unique ideas across the five discussion topics, as well as nearly 200 comments further fleshing out these ideas. Figure 2 shows the breakdown of participation by topic forum.

**Figure 3.04.
Participation Metrics by Topic Forum**

Forum	Ideas	Comments	Comments/ Idea	Ratings Submitted
Improving Worker Safety Training	13	63	4.85	21
Standardizing Worker Safety Training Requirements	3	11	3.67	2
Implementing the Worker Safety and Health Program (10CFR851 Rule)	11	64	5.82	74
Workforce Succession Planning and Knowledge Transfer	4	11	2.75	4
Your Personal Experience with Workplace Safety and Health	7	33	4.71	21
TOTAL	38	182	4.79	122

As seen in Figure 4.04, two forums saw the most activity: “Improving Worker Safety Training” and “Implementing the Worker Safety and Health Program,” suggesting that these were the two topics that resonated most with participants. However, there is a possibility that the forum titled “Improving Worker Safety Training” received this degree of participation because it was the first discussion forum listed and therefore first to catch a user’s eye. In addition, the National Academy’s analysis showed that several users had posted ideas in one forum that would be more relevant to another. This mis-categorization may have been due to user confusion over the categories, as the subject matter of the forums did overlap with one another.³⁵

Comparing *A Worker Dialogue* with past National Academy dialogues reinforces the finding that workers, while a more circumscribed audience than the National Academy has seen in the past, were eager to get involved in the discussion.

³⁵ See sub-section titled “Planning and Executing the Dialogue” for details and recommendations on structuring future dialogues.

Figure 3.05.
Comparison of Participation Metrics across Dialogues³⁶

	Worker Dialogue	NOAA Dialogue	Recovery Dialogue
Live Dates (days)	6/14-7/11/10 (28)	6/14-6/28/10 (15)	4/27-5/4/09 (8)
Registered Users (per day)	125 (4)	134 (9)	1,806 (226)
Registered Users as % of Unique Visitors	29.14%	10.28%	13.66%
Unique Ideas (per day, per user)	38 (1, 0.30)	52 (3, 0.39)	542 (68, 0.30)
Comments (per day, per user)	182 (7, 1.46)	72 (5, 0.54)	1,330 (166, 0.74)
Ratings (per day, per user)	122 (4, 0.98)	117 (8, 0.87)	2,220 (278, 1.23)
Avg. Comments/Idea	4.79	1.38	2.45
Avg. Ratings/Idea	3.21	2.25	4.10

As Figure 4.05 illustrates, *A Worker Dialogue* did not reach the volume of participation of the other more high-profile dialogues, but the users who did register participated at a comparable level with past National Academy dialogues. While the Dialogue had a lower volume of registered users, ideas, and comments than the other initiatives, participation was even with the other dialogues when averaging these metrics per registered user. For example, in Figure 4.05, the Dialogue’s unique ideas submitted per user (0.30) is comparable to that of the NOAA Dialogue (0.39) and Recovery Dialogue (0.30). This suggests that though *A Worker Dialogue’s* participation numbers were relatively low, those who participated at the same level seen in other projects.

Based on this traffic and participation information, a few broad conclusions can be drawn about the character of this Dialogue in regards to public engagement:

- **A small but active community of workers participated in the Dialogue.** While the Dialogue’s overall level of traffic was lower than expected, those who visited did intently engage with the content on the site. The Dialogue saw fewer visits and unique visitors than past National Academy initiatives, a result likely attributable to a smaller, more targeted audience than other public dialogues and the challenges with the outreach strategy. This trend is also mirrored in the demographic data gathered, which showed that, with a few exceptions of robust participation, registrants came from only a small number of unions and DOE facilities. However, the level of engagement was quite high among these workers. Almost 30% of visitors to the site ended up registering for the Dialogue, in effect going from “browsers to buyers.” The website site also saw a bounce rate of less than 20%, meaning that four of every five visitors saw enough value in the

³⁶ The DCIPS Dialogue is excluded in the comparison of participation metrics because it was hosted on a different technology platform that enabled substantially different user activities that are not comparable with these metrics.

site to click beyond the site’s home page—an exceptional rate in comparison with past public dialogues.

- **Participants valued the opportunity to contribute.** Participation at a per-user level was comparable with much higher-profile dialogues. The average participant spent over 9 minutes on the site viewing 11 pages per visit, both strong indicators of interest. And though *A Worker Dialogue* had fewer unique ideas per day (1) than the other dialogues compared, the volume of ideas per user (0.30) was the same as the other two projects. This suggests that while the community may have been smaller, workers were just as interested—if not more so—in contributing to the discussion.
- **Workers from several key DOE facilities engaged.** While the bulk of participation came from sites such as Hanford, Idaho National Laboratory, and Portsmouth, participants from seven other DOE sites registered for the Dialogue. In addition, the Dialogue received visits from 23 states and the District of Columbia, the majority of which came from states with large DOE facilities.
- **Visitors repeatedly took advantage of interaction opportunities.** Over 60% of all visits were from returning visitors, and members of this group spent an average of one minute more on the site as compared to new visitors. This indicates that many users’ engagement with the Dialogue *increased* as they returned to the site.

Continuing Engagement

Central to planning this Dialogue was crafting a clear vision of the initiative’s purpose and “value exchange,” or what the Dialogue offered users in exchange for their time and participation. For HSS, worker input would inform and help enhance HSS’s policies and programs, such as safety training, and would provide grassroots-level backing for any potential policy changes HSS would spearhead within DOE. From the workers’ perspective, their time and input would help improve the programs and policies that impact their day-to-day jobs. Articulating these mutual benefits was a key component of gaining the buy-in of union representatives.

However, the quality of future outreach efforts will depend on HSS’s reporting out on the results of this process. Having taken the first step in an engagement process with front-line workers, HSS can build trust by following up with participants on this Dialogue and communicating the next steps—whether DOE is able to take any concrete actions with the Dialogue’s results or not. Given the workers’ vocal uneasiness with DOE and the management at its sites, this is a particularly important point. Failing to continue this engagement may risk further disenchantment among a population that can offer valuable front-line support, input and ideas to DOE.

Recommendation: HSS should view the Dialogue as a starting point for continued engagement with union workers rather than as a single event. HSS could undertake several actions that would serve to enhance communication and build trust:

- **Acknowledge workers' contributions in the Dialogue;**
- **Communicate to participants and union partners the outcomes of the Dialogue; and**
- **Articulate and undertake concrete next steps as a direct result of input received.**

CONCLUSION

The Worker Dialogue was a significant and successful first step in reaching out to the front-line workforce as a means to improve health and safety at DOE facilities. In the one month the Dialogue was live, more than 100 workers registered to participate in the Dialogue—a small but active group that provided concrete ideas and broad perspectives that will be valuable to HSS decision makers going forth. Moreover, workers voiced clear support for continuing this type of engagement with DOE and HSS—an important, positive outcome that came as a result of HSS's willingness to experiment with this pilot Dialogue.

The Dialogue also offered several lessons that will be critical in building HSS's capacity for consultation and collaboration with union workers and partners. In the long term, HSS must learn more about the workers in DOE and the unions representing them if future grassroots outreach efforts are to see greater participation. However, in the short term, HSS must show responsiveness and report out to participants on what is being done with their input—even if HSS cannot take any significant action based on the results. A collaborative dialogue like the one executed here is part of a larger process of engagement, and the success of future outreach efforts will rely on the trust built between parties now.

Aside from learnings on the process of engagement, the Dialogue raised several health and safety issues that should prompt HSS for follow-up research. It was not surprising that workers raised examples of non-compliance with regulations—this is to be expected. However, HSS should view the results of the Dialogue in comparison with its own empirical data to determine what the *realities* are at its facilities. Any gaps that exist between health and safety data collected (e.g., incident reports) and the perceptions expressed in the Dialogue should be identified and actions taken to determine why. Much of the outcome from this Dialogue will understandably focus on ensuring reliable means for workers to engage with DOE. However, HSS should not limit its conclusions only to process-related changes, but rather should use the Dialogue results as an opportunity to review the effectiveness of health and safety programs in DOE.

Overall, this presents an opportunity to look at where health and safety practices stand at DOE 70 years after the Manhattan Project that eventually spawned the creation of the Department. The Department's workforce is changing as national energy priorities are shifting. Looking forward, HSS should determine what needs its health and safety programs must meet in the future to support the Department's mission critical goals.

APPENDICES

APPENDIX A: PANEL AND STAFF BIOGRAPHIES

Panel Biographies

Daniel Guttman*—Fellow, Johns Hopkins University Center for Study of American Government; Visiting Professor, Peking University School of Law; Fellow, University of California Santa Barbara Bren School of Environmental Science and Management Program on Governance for Sustainable Development; Visiting Senior Fellow, Tsinghua University US/China Center; Attorney, Washington, DC; Former Commissioner, U.S. Occupational Safety and Health Review Commission; Executive Director, Presidential Advisory Committee on Human Radiation Experiments; Special Counsel to Senator David Pryor, Subcommittee on Federal Services, U.S. Senate.

Christine Gibbs Springer*—Executive Director, Masters of Science Program in Crisis and Emergency Management (ECEM), Greenspun College of Urban Affairs, School of Environmental and Public Affairs (SEPA), University of Nevada Las Vegas; CEO, Red Tape Limited; Former Manager, State-Local Government and Community Relations, Salt River Project; Manager, Economic Development Planning, Office of the Governor, State of Arizona; Treasurer, Investors United Life Insurance Company.

Staff Biographies

Lena E. Trudeau, *Vice President*— Ms. Trudeau leads the National Academy’s service delivery organization, supervises the conception and execution of strategic initiatives, opens new lines of business and drives organizational change. Ms. Trudeau is a founder of the Collaboration Project, an independent forum of leaders committed to leveraging web 2.0 and the benefits of collaborative technology to solve government’s complex problems. Ms. Trudeau’s previous roles include: Program Area Director, National Academy of Public Administration, Vice President, The Ambit Group; Marketing Manager, Nokia Enterprise Solutions; Principal Consultant, Touchstone Consulting Group; Consultant, Adventis Inc.; and Associate, Mitchell Madison Group. Ms. Trudeau received a Masters of Business Administration from the Richard Ivey School of Business at the University of Western Ontario and a Bachelor of Social Science in Political Science and Philosophy from the University of Ottawa.

Danielle M. Germain, *Project Director*—Danielle Germain is the Director of the National Academy’s Collaboration Project, an independent forum of leaders committed to leveraging web 2.0 and the benefits of collaborative technology to solve government’s complex problems. She led the National Academy’s successful White House Recovery dialogue on IT solutions; and the first of its kind national pilot project on citizen engagement sponsored by the Federal CIO Council, Office of Management and Budget and the U.S. General Services Administration, titled “A National Dialogue on Health IT and Privacy.” Ms. Germain’s previous roles include: Chief of Staff, U.S. General Services Administration; various management positions at the American Council for Technology/Industry Advisory Council, the Council for Excellence in Government; the Information Technology Association of America (now TechAmerica), and IBM’s Office of

* National Academy Fellow

Governmental Programs; congressional aide to the late Senator Edward M. Kennedy. Ms. Germain earned her master's degree in International Relations and International Economics from the Johns Hopkins University School of Advanced International Studies and a bachelor of arts degree from Mount Holyoke College.

Daniel R. Honker, *Analyst*— Daniel Honker is an Analyst with the National Academy of Public Administration. Mr. Honker possesses a thorough knowledge of government and management practices gained from a broad array of experiences inside and outside the public sector. Mr. Honker has played an integral role in the National Academy's Collaboration Project and in various online collaborative initiatives for Federal clients, including the White House, Department of Homeland Security, and Department of Housing and Urban Development. Previous positions include: Summer Associate, Federal Strategy and Operations, Deloitte Consulting, LLP; Graduate Research Assistant, George Washington University; and Planner, City of Austin Water Utility. Mr. Honker holds a B.A. in Government from the University of Texas at Austin and an M.P.A. from the George Washington University Trachtenberg School of Public Policy and Public Administration.

Matthew Thomas, *Research Associate*—Matthew Thomas is a Research Associate at the National Academy of Public Administration where he works with National Academy staff to assist Federal agencies with online stakeholder engagement and collaboration. Mr. Thomas's duties at the National Academy include engaging with clients, monitoring online civic engagement and composing after-action reports. In the past, Mr. Thomas has worked on projects for the U.S. Departments of Homeland Security and Energy, as well as for the U.S. General Services Administration. Prior to joining the National Academy, Mr. Thomas worked as an administrative staff assistant with LogiCom Project Management, an event planning firm, and at the American Association of Naturopathic Physicians, where he coordinated meetings between approximately 150 naturopathic physicians and over 50 Congressional offices for a one-day Federal Legislative Initiative. Mr. Thomas graduated with a Bachelor of Arts in Political Science from Tulane University in 2007.

Mary Krulia, *Graduate Associate*—Mary Krulia is a Graduate Associate at the National Academy of Public Administration working primarily with the National Academy's Collaboration Project to assist government with online stakeholder engagement and collaboration initiatives. Prior to joining the National Academy, Ms. Krulia worked for two years as a legal administrative assistant at Steptoe & Johnson LLP. She has also held various internships in the public and nonprofit sectors, most recently with Street Sense, where she gained nonprofit management experience at the organization that produces DC's street newspaper and raises awareness about homelessness. Ms. Krulia graduated with a Bachelor of Arts in Political Science and Broadcasting from Otterbein College in 2007. She expects to complete a master's degree in Communication, Culture & Technology from Georgetown University in 2011.

APPENDIX B. FORUM DISCUSSION QUESTIONS

Forum 1. Improving Worker Safety Training.

The Department of Energy recognizes that worker health and safety programs are most effective when they reflect the knowledge and experience of the Department's frontline workers. It is deeply important to DOE that it does all that it can to keep its frontline workers safe.

- How can DOE improve worker safety training at its facilities to ensure the training is relevant and thorough?
- In your view, what safety training programs should be made mandatory for workers at all DOE sites?
- How can we make the training process more efficient?

Forum 2. Standardizing Worker Safety Training Requirements

Different DOE facilities may have different training requirements for performing identical tasks. In addition, there are different procedures among DOE sites for verifying workers' training certifications.

- How can DOE ensure that safety training programs across DOE facilities are consistent?
- What ideas do you have for keeping workers current on safety refresher training?
- How can DOE ensure that workers' training certifications can easily move with them from one DOE site to another?

Forum 3. Implementing the Worker Safety and Health Program (10CFR851 Rule)

To reduce or prevent occupational injuries, illnesses, and accidents, the 10CFR851 rule establishes the framework for a worker protection program by requiring DOE contractors to provide their employees with safe and healthful workplaces. The 851 Rule also establishes procedures for investigating whether a requirement has been violated, for determining the nature and extent of violations, and for imposing an appropriate remedy and/or violation penalty. For more information on what activities and processes are required by the 851 rule, visit our About the Dialogue page.

- What ideas do you have for improving how the 10CFR851 Rule is implemented?
- Since the implementation of the 10CFR851 Rule, what impact has it had on safety at your site?
- What aspects of the Rule have proven most effective and necessary, and what can be improved?

Forum 4. Workforce Succession Planning and Knowledge Transfer

Seventy-six million baby boomers will leave the workforce over the next 10-20 years. This is an unprecedented change in the nation's workforce. Studies project that younger generations will be

more mobile throughout their careers (moving more frequently between employers and work locations) compared to previous generations.

- In your view, what steps should DOE take to ensure that knowledge and skills are transferred to the next generation of workers?

Forum 5. Your Personal Experience with Workplace Safety and Health.

Your personal experience with safety issues can provide valuable insight into how programs should be improved or maintained. Please share any personal experiences you have had that would demonstrate the strengths and weaknesses of existing programs.

- What worker training programs have you found to be especially worthwhile? If possible, please provide course name(s), training location and training provider.
- What specific hazards have you encountered at a DOE facility that require better training, analysis, identification, etc.?
- What other personal experiences you have had related to worker safety that could help DOE better understand the strengths and weaknesses of the current safety programs?

APPENDIX C. DEMOGRAPHIC QUESTIONS ASKED OF REGISTERED USERS

1. Username

2. Password

3. Email address

4. Union/Organization Name (e.g., USW, Electrical Workers or IBEW, etc.)

5. Are you currently working at a DOE site? If not, when were you last working at a DOE site? (Drop-down list – select one)*

- I currently work at a DOE site
- I last worked at a DOE site within the past year
- I last worked at a DOE site between 1-3 years ago
- I last worked at a DOE site between 4-8 years ago
- I last worked at a DOE site more than 9 years ago

6. Current DOE site (or most recent DOE site, if not currently working at one) (drop-down list – select one)*

- Acid/Pueblo Canyon Site, Los Alamos, NM
- Amchitka Site, Amchitka, AK
- Ames Laboratory, Ames, IA
- Argonne National Lab - East, Argonne, IL
- Argonne National Laboratory – West, Idaho Falls, ID
- Battelle King Avenue, Columbus, OH
- Battelle West Jefferson, Columbus, OH
- Bayo Canyon Site, Los Alamos, NM
- Brookhaven National Laboratory, Upton, NY
- Brush LuckeyPlant, Luckey, OH
- Carlsbad Waste Isolation Pilot Plant, Carlsbad, NM
- DOE Headquarters (Washington DC region)
- East Tennessee Technology Park, Oak Ridge, TN
- Energy Technology Engineering Center, Ventura County, CA
- Fermi National Accelerator Laboratory, Batavia, IL
- Fernald, Hamilton, OH
- G.E. Evendale, Evendale, OH
- G.E. Vallecitos Nuclear Center, Livermore, CA
- HAMMER Training and Education Center, Hanford, WA
- Hanford Site, Hanford, WS
- Huntington Pilot Plant, Huntington, WV
- Idaho National Laboratory, Idaho Falls, ID
- Inhalation Toxicology Research Institute, Albuquerque, NM
- Kansas City Plant, Kansas City, MO
- Lawrence Berkeley Laboratory, Berkeley, CA
- Lawrence Livermore National Laboratory, Berkeley, CA
- Los Alamos National Laboratory, Los Alamos, NM
- Moab (UMTRA Project), Moab, UT
- Mound, OH
- National Energy Technology Laboratory, Albany, OR
- National Energy Technology Laboratory, Fairbanks, AK
- National Energy Technology Laboratory, Morgantown, WV

- National Energy Technology Laboratory, Pittsburgh, PA
- National Energy Technology Laboratory, Tulsa, OK
- National Renewable Energy Laboratory, Golden, CO
- Nevada Test Site, Las Vegas, NV
- NNSA Service Center, Albuquerque, NM
- Oak Ridge National Lab, Oak Ridge, TN
- Pacific Northwest National Laboratory, Richland, WA
- Paducah Gaseous Diffusion Plant, Paducah, KY
- Pantex Plant, Amarillo, TX
- Portsmouth Gaseous Diffusion Plant, Portsmouth, OH
- Princeton Plasma Physics Laboratory, Princeton, NJ
- Rocky Flats, Denver, CO
- Sandia National Laboratory, Albuquerque, NM
- Savannah River Site, Aiken, SC
- SLAC National Accelerator Laboratory, Palo Alto, CA
- South Valley Superfund Site, Albuquerque, NM
- Southwest Experimental Fast Oxide Reactor, Strickler, AR
- Southwestern Power Administration, Tulsa, OK
- (Same as SLAC) Strategic Petroleum Reserve, (Bryan Mound, TX; Big Hill, TX; West Hackberry, LA; Bayou Choctaw, LA; Richton, MS)
- Thomas Jefferson National Accelerator Facility, Newport News, VA
- Tonopah Test Range, Tonopah, NV
- Weldon Springs, Weldon Springs, MO
- West Valley Demonstration Project, West Valley, NY
- Western Area Power Administration, Lakewood, CO
- Y-12, Oak Ridge, TN
- Yucca Mountain, Nye County, NV
- Other (please specify)

7. Are you currently assigned to work at this particular DOE site for at least 50 percent of your time, or do you move between multiple sites, whether within the DOE system or outside of it? (select one)

- I am currently assigned to work at this particular DOE site for at least 50 percent of my time.
- I move between multiple DOE sites
- I move between DOE and non-DOE sites
- I am not currently working at a DOE site

8. Trades and Job Categories – Select a trade from one of the following categories that best fit your duties and job functions. If you perform multiple trades, use the “Multiple Classification” category below. Please note that certain trades (e.g., electrician, machinists, pipefitters, demolition, etc.) are listed under both “Production” and “Construction” categories.

Production Trades (Select one)

- chemical worker
- electrician
- hazardous materials worker
- HAZMAT trainer
- heavy equipment operator / engineer

- machinist
- pipefitter
- plumber
- radiation worker

- steel worker
- welder
- other (please specify):

Construction Trades (Select one)

- bricklayer
- carpenter
- ceiling /partition fixer
- cladder
- demolitions worker
- electrician
- forklift operator
- foundry worker
- gas approved plumber
- heavy equipment operator /
engineer
- HVAC installer, servicer
- iron worker
- joiner
- laborer
- machinist

- cement mason
- painter
- pipefitter
- plasterer
- plumber
- power float / concrete finisher
- riveter
- roofer
- sheet metal worker
- steel worker
- teamster/ truck driver
- tool and die maker
- welder
- other (please specify) :

First Responders (Select one)

- police and security worker
- firefighter
- medical worker
- hazardous materials worker
- other (please specify) : _____

Multiple Classification (You perform multiple tasks/trades and do not fit in one category above. For example you are a chemical specialist working on demolition, decommission, and decontamination projects)

Brief Description (text entry): _____

9. Are you a journeyman or apprentice (check box, select one)*

- Apprentice
- Journeyman
- Does not apply

10. Years experience in this trade (drop-down list, select one)*

- Less than 1 year
- 1-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 21+ years

11. What level of workplace hazard do you face while performing your job?* (either drop-down list or checkboxes, whichever is easier for developers – select one)

- low hazard level
- medium hazard level
- high hazard level

APPENDIX D. SCREENSHOTS OF THE DIALOGUE WEBSITE

Appendix Figure 1. Screenshot of Dialogue Homepage

Hosted by: NATIONAL ACADEMY OF PUBLIC ADMINISTRATION® In partnership with: DEPARTMENT OF ENERGY UNITED STATES OF AMERICA

Log in Register About the dialogue

Home Search Ideas Search

A Worker Dialogue

Improving Health, Safety and Security at the U.S. Department of Energy

We want your ideas on how to enhance and shape DOE's future worker safety initiatives.

Worker health and safety programs at the Department of Energy are most effective when they reflect the knowledge and experience of the Department's front-line workers. Through this Worker Dialogue, we are posing questions for discussion on the five topics below. We want you to offer your ideas, experiences, and feedback about how DOE worker safety programs should work. In addition to offering your own input, you can discuss and rate others' ideas so that the best ideas "rise to the top." Since this Dialogue is hosted by the independent National Academy of Public Administration, you can be assured this is a safe, neutral space to discuss perspectives and ideas.

The input received from workers in this Dialogue will inform recommendations by DOE's Office of Health, Safety, and Security to the Deputy Secretary for Energy for safety reform efforts in DOE.

****Please note - the Worker Dialogue is NOT a safety reporting system. Safety issues and occurrences must be reported through designated DOE systems. Because this Dialogue is open to a broad community, secret or classified information should not be discussed.**

For more information on this dialogue, visit our ["About this Dialogue"](#) page or our ["How to Use this Site"](#) page. Thank you for your participation!

To get started, click into any of the five discussion forums below:

Tags

[View all tags](#)

- abusive interpretation
- bargaining
- bigdaddy
- disgruntled
- eightfiftyone rule
- fire fighters
- fitness standard
- gmalone
- hazard awareness
- injury rates
- inperson training
- joint training
- lberroteran
- mandatory training
- miketheman
- retirement

Appendix Figure 2. List of Submitted Ideas within Discussion Forum

Latest ideas | Highest rated ideas | Ideas with most comments

Clarification on previous idea "More efficient training process"

by [CEDINGTON](#) on June 21, 2010 at 02:26PM 12 comments so far
5 tags so far

[Read & Rate](#) **Votes so far** ★★★★★ 5.0 (3 votes - averaged)

More efficient training process

by [CEDINGTON](#) on June 18, 2010 at 09:31AM 8 comments so far
4 tags so far

[Read & Rate](#) **Votes so far** ☆☆☆☆☆ 0.0 (0 votes - averaged)

Mandatory safety training

by [CEDINGTON](#) on June 18, 2010 at 09:21AM 8 comments so far
3 tags so far

[Read & Rate](#) **Votes so far** ★★★★★ 5.0 (3 votes - averaged)

Stop the short cuts

by [sfowee](#) on June 14, 2010 at 04:02PM 1 tag so far 7 comments so far

[Read & Rate](#) **Votes so far** ★★★★★☆ 4.5 (2 votes - averaged)

Self-regulation and No Singular Ownership.

by [cptaylor](#) on June 21, 2010 at 11:53AM 4 tags so far 6 comments so far

[Read & Rate](#) **Votes so far** ★★★★★☆ 4.0 (1 vote - averaged)

[See all ideas](#)

Appendix Figure 3. Idea Submission and Comment Thread

Worker involvement and education of worker trainers

by [mbpotter](#) on July 09, 2010 at 12:48PM


1. At the Piketon, Oh site, we have worker trainers available that are knowledgeable and have many years experience at the site to facilitate, free of charge, Hazwoper and DOE 10cfr851 training. However, the DOE contractor chooses to pay outside contractors to conduct this training. The training department also appointed a training manager that is very anti-labor, which makes no sense to me since most of the workers are USW.
2. The worker-trainers should attend annual update meetings and be provided technical training through the grant program.


Why the contribution is important

1. This is an opportunity for workers to be actively involved in their safety and health as per the ISMS. Also, there is many years experience at our site that an outside contractors cannot provide.
2. The worker trainers need to be able to communicate the applications of health and safety principles and standards and be updated on new techniques and issues.

Current rating

★★★★★
Average score : 5.0
Based on : 2 votes





Tags View all tags

abusive interpretation

bargaining

bigdaddy

disgruntled

eightfiftyone rule

fire fighters

fitness standard

gmalone

hazard awareness

injury rates

inperson training

joint training

lberroteran

mandatory training

miketheman

retirement

sfowee

standardization


stimulus money

tfrazee

Posted by canaas July 09, 2010 at 01:43PM


On the same note of the contractors not taking advantage of the grant training; after the contractor pays an outside source are the contractors billing DOE for said training that should be free?

The USW have knowledgeable trainers they should be utilized.



Posted by tworkman July 11, 2010 at 12:40AM

I agree! I think that when available worker trainers should be utalized. This should be mandatory. Worker trainers should be included in more safety related issues. The company or contractor should be inviting and work with the worker trainers instead of pushing them out every chance they get. Everything is better when everyone works together.



APPENDIX E. LEXICON OF DIALOGUE TERMINOLOGY

Average Comments/Idea: The ratio of the total number of comments to the total number of ideas within a dialogue.

Average Page Views/Unique Visitor: This is the ratio of the total number of page views to the total number of unique visitors to a dialogue.

Average Ratings/Idea: This is the ratio of total number of ratings to the total number of ideas within a dialogue.

Average Time on Site/Unique Visitor: This is the ratio of the total time spent to the total number of unique visitors to a dialogue.

Bounce Rate: Bounce rate is the percentage of single-page visits or visits in which the person left the site from the first page.

Comments: Comments are short-form, user-generated feedback attached to previously posted ideas. They are intended to continue the discussion begun within an idea and cannot be rated. The number of comments counted is the total number of comments posted by all users during the given date range.

Conversion Rate: The conversion rate is the ratio of registered users to unique visitors, and is expressed as a percentage. This metric indicates the number of visitors that came to the site and found it valuable enough to register and join the conversation.

Direct Traffic: This is the number of visits that came from people typing a web address (e.g., www.workerdialogue.org) directly into their browser, rather than clicking a link from elsewhere.

Engagement Metrics: These are measurements of how visitors interacted with the site. The National Dialogue measured: site traffic; time spent on the site; which pages attracted the most visitors; and other indicators of visitor behavior. Measuring engagement is distinct from measuring *participation* in the Dialogue, which deals more with how users contribute to the conversation.

Ideas: Ideas are long-form, user-generated feedback. They can be up to 10,000 characters in length and are typically in response to the overall prompt question or material. The number of ideas counted is the total number of ideas submitted by all users over the given date range. Unique ideas can have their own tags, comments, and ratings associated with them.

Page Views: This is the number of times pages are viewed over a given date range. A visitor can see multiple pages on a single visit. Each page they view in the site is counted separately.

Participation Metrics: Participation metrics measure how users contributed to the conversation. These include ideas and comments submitted, the number and types of tags created, the average

number of votes per idea, and other indicators of visitors' participation. One key metric of participation is the *conversion rate*.

Ratings: This is the total number of ratings submitted across all ideas in the dialogue. The platform used in this dialogue allowed each user to rate each idea once on a 5-star scale. Half-ratings cannot be assigned. Users can rate as many ideas as they want, and can revise ratings of an idea, but cannot rate any idea twice and no user can rate his/her own idea. For each idea, an average of all ratings, as well as the overall number of ratings, is reported on the site.

Registered Users: The number of registered users denotes the number of users who came to the site and created an account. Registration was required for most forms of participation (i.e., idea submission, comment submission, rating, tagging) on this platform.

Tags: The Dialogue allows users to apply topic tags to their own submissions and the submissions of others. Tags are usually one- or two-word phrases describing the themes of an idea. Tags are generally displayed in a "tag cloud," which allows users to more easily navigate user-generated activity.

Unique Visitors: (or Absolute Unique Visitors): The number of unduplicated visitors to the site over a given timeframe. This is measured by Google Analytics using both persistent and session cookies, which track visitors by computer or workstation. For example, if one visitor comes to the site on five separate occasions but from only one computer, this would count for five visits but only one unique visitor.

Visits: Number of times the site was visited, including multiple visits by the same *unique visitor*.