

**Intermech, Incorporated**  
*Department of Energy Voluntary Protection Program Review*

***Background***

Intermech, Incorporated (Intermech) is a subcontractor to Bechtel National Inc. (BNI), the prime contractor for the Waste Treatment Plant (WTP) construction project at the Department of Energy (DOE) Hanford Site in Richland, Washington. Intermech has already achieved Voluntary Protection Program (VPP) Star status in the Washington State VPP program for its activities not associated with DOE. Subsequent to that achievement, Intermech applied to DOE-VPP in 2006 and was awarded Star status in 2007. This review, which was conducted in conjunction with a VPP review of WTP, represents the 3-year review for recertification as a Star site. The onsite review was conducted June 14-18, 2010.

During the 2007 review, the VPP team found strong management commitment to safety and to providing leadership and resources, a very good relationship between the crafts and their managers, good worksite analysis processes and procedures, satisfactory hazard prevention and control, and good safety and health training for managers, supervisors, and the workers.

The 2007 review noted only one opportunity for improvement related to the Job Hazard Analysis utilized by Intermech and WTP. In the following years and in conjunction with the recommendations of the Office of Environment, Safety and Health Evaluations (HS-64) review and VPP review of WTP in 2008, a much stronger hazard analysis process was found to be employed at the WTP site.

The purpose of this assessment was to evaluate Intermech's actions to address the recommended improvement and to determine if Intermech continues to meet the expectations for DOE-VPP Star status. During the onsite review, the Office of Health, Safety and Security DOE-VPP Review Team (Team) interviewed 18 of its 34 workers, supervisors and managers, and observed daily plan-of-the-day and safety meetings, led by both the lead contractor (BNI) and Intermech. Work activities observed during this review included assembly, installation, and insulation of ducting primarily in the Pre-Treatment building.

***Results***

Since the previous evaluation, Intermech has maintained its Total Recordable Case (TRC) and Days Away, Restricted or Transferred (DART) case rates well below the average for its comparison industry. As of this assessment, Intermech had worked 34 months without a recordable injury. Additionally, Intermech has successfully managed a number of challenges related to significant fluctuations in work demand and its workforce, and has continued to maintain a well-established, strong safety culture at the site.

Intermech managers have remained committed to providing the leadership, direction, training, and resources for employees to perform their duties in a safe manner. Due to a reduction in workload, Intermech was forced to reduce its workforce from 33 employees to only 9 in 2009. A significant number of employees involved in the 2007 Star review were impacted by the reduction in force. At the beginning of 2010, the workload increased and Intermech's staffing level rose to 34 employees. Managers recognized that the resulting increase to 34 represented a

potential vulnerability to the culture they had demonstrated so well in their VPP review 3 years ago. Consequently, managers established a mentoring program requiring all new employees to be teamed with seasoned workers to ensure new employees understood the work process and the company's cultural expectations regarding safety.

Managers' support of the workforce was evident throughout the review. That support was particularly evident in the financial support to the worker recognition programs and the safety group's recommendations for specific Personal Protective Equipment that enhanced worker comfort while providing the protection levels required. Intermech expanded its On-The-Spot Recognition Rewards Program to include Quality Assurance. The recognition program continues to operate in its usual manner; however, it has now been improved to allow employees' contributions regarding quality, as well as safety suggestions in their work. In 2009, 32 \$10 awards were given for Safety, and 3 for Quality.

Intermech has also continued its Safety Suggestion Program, which provides a vehicle for its employees to submit safety suggestions to improve the safety culture and encourage worker input towards safer work. The awards for accepted suggestions are \$10 and a \$50 gift card for suggestions that are implemented. All suggestions are screened by the Safety Committee and its recommendations are reviewed by managers. Annual awards of \$500, \$300, and \$200 are also granted for the top three safety suggestions.

Interviews with managers and crafts demonstrated the managers' commitment to fully support the workers in performing their work safely. Managers maintained a strong presence in morning plan-of-the-day and safety meetings. While the managers' presence in the field was strong, it could be further improved. Specifically, managers' involvement in the field typically involves walkdowns to verify progress of installation and review new phases of installation. Managers should also use their presence in the field to observe work practices and to reward the crafts through the established recognition programs when appropriate. Expanding their focus to include the work practices of their employees and recommending recognition for best practices by their employees should help to maintain and even improve the exceptional relationship already established at Intermech.

<p><b>Opportunity for Improvement:</b> Intermech managers should expand their onsite visits to include evaluation of the crafts work practices and rewarding good work practices demonstrated by their workforce.</p>
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Employee involvement in the safety and health program continues to be an integral part of the success of Intermech. Interviewed employees were candid and willing to talk openly with Team members. All employees were knowledgeable of their rights and responsibilities regarding safety and health. Employees openly stated that they not only felt responsible for their own safety, but also for the safety of their coworkers. Employees also indicated that their personal safety depended upon the safety of other employees working on the WTP project.

Additionally, employees expressed their belief that managers genuinely care for their safety, and they are comfortable raising issues and concerns to managers. Moreover, employees stated that managers remain responsive to their needs and concerns and continue to encourage open

communication and feedback on all safety and health concerns. The communication observed at all levels, both during work activities and meetings, was free flowing and very effective. Although Intermech implements an exemplary safety program, it continues to make improvements to processes, procedures, and activities that enhance employee involvement and ownership of safety among the workforce. As confirmation of this commitment, a number of workers interviewed stated that Intermech is the safest place they have ever worked.

Managers and employees share the responsibility for carrying out their duties safely and are enthusiastic about them. Managers have instilled as a core value that the safety of their employees has a higher priority than production. This theme was echoed across the spectrum of employees from new hires to experienced workers. Employees were unequivocal in their confidence that their managers will continue to lead by example and to provide them whatever they needed to make the workplace safer. Accompanying the strong safety culture that exists at the worksite was a universal desire by all employees to make safety an integral part of their personal lives.

Interviews with the employees demonstrated strong participation in the safety programs. Several examples were discussed regarding employee safety suggestions. One safety suggestion submitted by an employee resulted in the creation of the Safety Trivia Reward Program that is held at the weekly Safety Meetings. A trivia question was sent out by the Project Safety Manager to all Intermech employees believing that it was a good safety topic and something for all staff to think about. Another Intermech employee saw the question and suggested that this type of question become a regular part of Intermech's Safety Program and be presented every week during the Weekly Safety Meetings. Managers agreed and as a result, a safety question is issued each week at the safety meeting. The employees then provide their answers and the winner is drawn from a hat and awarded a \$10 gift card for the correct answer. Observations at the safety meeting demonstrated tremendous employee support for the program, and the resulting competition to successfully win the contest only increased the already excellent safety culture and knowledge of safety topics. More importantly, the enthusiasm and friendly competition to win the award helped increase the workforce focus on safety in the workplace.

As a subcontractor to BNI, Intermech is required to use BNI work control and hazard analysis processes. Since the 2007 review, Intermech has continued to use those processes effectively. Intermech has also benefited from improvements made by BNI to the WTP processes since 2008. BNI's improvements have provided opportunities for Intermech employees and safety staff to work in conjunction with BNI safety group to further improve their hazard analysis and control processes. All Intermech work control packages on the WTP site are now reviewed by a committee of Intermech employees prior to being finalized and submitted to BNI. All work packages are now being reviewed and revised as necessary on an annual basis. The Team review of the duct installation work package noted the marked improvements achieved by Intermech and WTP in the past 18 months. Specifically, the Intermech safety group performed extensive personal sampling of its workers involved in grinding and welding of stainless steel components during duct work installation activities. As a result, Intermech established a set of controls that allows employees to perform these operations without the need for respiratory protection, further enhancing worker comfort and safety for these activities.

Intermech created a new Material Safety Data Sheet (MSDS) database, which included a cover sheet for each product giving a brief description of each product and its potential hazards. The cover sheet requires that each MSDS be put into one of three selected categories where the reader could readily determine the hazards of the product to humans and the environment. Workers contacted by the Team believed this approach was effective in providing them the information they needed to perform work safely.

WTP construction site has experienced a significant increase in eye incidents in the past year, mostly attributable to environmental conditions (duststorms) and the presence of sandblasting media throughout the site, for which typical eye protection glasses have proven ineffective. Intermech safety group recognized this condition and proactively rolled out two initiatives. First, they instructed employees to recognize and respond appropriately to the existence of the threats that duststorms and windy conditions associated with the sandblasting media present. In one case, Intermech employees recognized a “brown cloud” on the horizon (duststorm) and called the information in to the main office. All Intermech employees were alerted to the situation and instructed to don safety goggles. As a result, by the time WTP identified the threat and made a “goggles required” announcement to all site employees, Intermech employees had already been wearing the goggles for 30 minutes.

In addition, Intermech safety group worked with vendors and its workforce to identify and select eye protection that provided protection from projectiles, floating particles, and duststorms all in one. The employees were allowed to evaluate the various options and select the one that best suited their needs.

In certain conditions, grinding and welding of the ventilation components still requires the use of respiratory protection. Based on worker input, the Intermech safety group informed managers that the use of Powered Air Purifying Respirators (PAPR) provided several benefits over the typical respirator protection. As a result, Intermech procured 12 PAPR systems to ensure worker comfort and safety during respirator required activities.

All Intermech employees are required to participate in BNI site-mandatory training programs. As discussed in the previous evaluation of the BNI training program by the Team, the training program was determined to be meeting the expectations of VPP tenets. In addition, all new Intermech employees participate in the mentoring program requirements established by managers to ensure the Intermech culture is instilled at all levels.

## **Conclusions**

Intermech has maintained effective safety programs and continues to pursue improvements identified through trending and self-assessments. Intermech has taken a very strong proactive strategy to address its growth in the area of safety and health training, as well as preserving its strong safety culture. Managers and employees continue to demonstrate an exemplary degree of teamwork that establishes safe production as a value. A culture of safety excellence and continuous improvement has been institutionalized by Intermech. Consequently, the Team is recommending that Intermech continue in DOE-VPP at the Star level.

## INJURY INCIDENCE CASE RATES

<b>Injury Incidence Case Rates (Intermech, Inc.)</b>					
Calendar Year	Hours Worked	Total Recordable Cases (TRC)	TRC Incidence Rate	DART* Cases	DART* Case Rate
2007	107,385	2	2.7	0	0
2008	111,227	0	0	0	0
2009	68,523	0	0	0	0
Three Years	287,135	2	1.4	0	0
Bureau of Labor Statistics (BLS-2008) average for NAICS** 238220 Plumbing, Heating, and Air Conditioning Contractors			5.7		2.7

\* Days Away, Restricted or Transferred

\*\* North American Industry Classification System