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Assessment information

Start date:	End date:	Organization:
January 29, 2019	July 15, 2019	Fermilab

Assessment Team

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Participants

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Scope:

Fermilab has implemented Human Performance Improvement (HPI) for over ten years. All employees are trained in HPI concepts and all supervisors are provided more significant training in HPI. Also, incidents, unexpected outcomes, are reviewed through an HPI lens to fully understand the error precursors and latent organizational weaknesses present in each occurrence. The data reveal that Fermilab's top weaknesses have been consistent over the past several years which include:

- Communication
- Procedure Development or Use
- Planning and Scheduling
- Work Practices

The resounding theme among these top weaknesses is work planning and control, highlighting a major opportunity for the Laboratory to improve in this area.

The purpose of this assessment was to evaluate Fermilab departments that successfully implement HPI concepts. The scope included discussions with supervisors, managers, group leads, and liaisons identified by Division/Section Heads, to understand how they set expectations for their teams regarding work planning and controls. The groups interviewed varied greatly in the work they perform, however, the concepts of HPI apply to all work at Fermilab and help to ensure quality, reliability, and safety. This assessment was to seek out best practices from managers incorporating the HPI concepts into processes and activities to avoid mistakes and prevent critical errors.

Method:

Beginning in late January and ending in early March of this year, the assessment team met with Division/Section/Project leadership to understand how their organizations have implemented Human Performance Improvement (HPI) concepts. During these meetings, the supervisors, managers, group leads or liaisons in their respective organizations that exemplify leadership in their ability to set and communicate expectations for their teams regarding work planning and controls were identified.

This led to the second phase of this review which took place from late May to mid-July, namely, to seek out best practices from the identified supervisors, managers, group leads, and liaisons for sharing and implementation across the lab.

Report:

The Fermilab HPI training teaches several concepts and tools that managers and supervisors can utilize to prevent unwanted outcomes. Those tools[1] include:

- 3-step communication
- After action review
- Checklists
- Communication before each irreversible step
- Confirmation terminology
- Pre-job briefing
- Just culture
- Peer check
- Speak concerns out loud
- The substitution test

Several of these tools are used across the teams interviewed for this assessment, including: 3-step communication, after action review, checklists, pre-job briefing, just culture, peer check and speaking concerns out loud.

The major themes emerging from the interviews are planning, managing workload, lessons learned, and, overwhelmingly, communication. Below are summaries for each theme and how the HPI tools are successfully utilized.

Planning:

Many of the supervisors interviewed described the importance of defined roles and responsibilities. The benefit of defining roles and responsibilities is that every member of the team is fully aware of their baseline expectations. This helps teams work better by having individuals understand how they contribute to the overall goal. It also helps to understand other members' roles so teammates can identify gaps or fill in as necessary. Specifically, some teams identify stop points for checking progress, change management, and documentation.

Other planning elements that were discussed were team communications that worked to identify risks (what could go wrong and how to avoid it). These discussions often help the teams prepare for the unexpected and communicate expectations for what to do when something does go wrong. One tool that was highlighted was the creation of a weekly 'look-ahead' document that is distributed to their teams and stakeholders which also helps to enhance communication and give everyone an opportunity to plan appropriately.

[1] Tools and their descriptions are contained in the **Human Performance Improvement (HPI) Handbook for Leaders** which is provided as part of Fermilab's HPI training courses. Handbooks are also available by contacting the Fermilab Quality Assurance Section.

Managing Workload:
The interview team inquired about managing workload. It is known that many employees must prioritize their tasks to achieve expectations. Managers must help workers understand those priorities. Some managers indicated that the use of technical solutions helps them manage workload. However, most talked of simple methods such as white boards, sticky notes, forms and checklists to help people manage workloads. One manager highlighted the importance of removing (perceived) time pressure; and following up and following through with expectations.

Managers must constantly analyze and reprioritize based on their management's expectations. This point connects to the importance of communication. As a result, they have demonstrated skill with evaluating needs, back logging tasks that are not high risk, and tracking metrics to show they are meeting requirements.

A few managers pointed out that dealing with performance issues of subordinates is critical to managing workload. Although putting employees through performance improvement plans or discipline is time-consuming, the investment is worthwhile and results in better performance and improved morale.

Lessons Learned:
Lessons learned were discussed with each manager interviewed. Many had narrow insight into how laboratory lessons learned were developed or distributed. However, most had a method for understanding lessons for their given area of expertise and strive to share those with their team. Everyone understands the value of using the lessons learned from unwanted outcomes to prevent occurrence/reoccurrence in their group.

Communication:
Communication was undoubtedly the most resounding theme by every manager interviewed. Communication is obviously a critical skill for all leaders, at any level, and the staff interviewed conveyed a deep understanding of its criticality as well as methods for sufficient communication.

Many of the managers indicated phrases like "constant communication", "talking, lots of talking", "check-ins with team" and "face to face" were important to their management style. Others emphasized written communication as important, such as email, log books, texts, goal setting, and technical documentation. However, all indicated that both written and verbal communication were key to managing successfully.

Interestingly, when asked how managers determine if their expectations were understood some indicated that 3-way communication (asking someone to repeat the expectation) was a good method, and others indicated that verbal and non-verbal cues helped them to understand if their communication was understood. All these methods are valid HPI tools for ensuring good communication.

Another key communication method used by all the managers interviewed is team meetings. Most of the managers indicated weekly meetings with their teams, and at least monthly meetings with their Division or Section Head. Team meetings are important for employees to understand their specific mission, and how they fit into the overall laboratory mission. It can be demoralizing to not understand how one helps achieve the mission, and these managers worked to help their teams understand the overall lab goals as wells as their individual and team goals. As one manager put it, "[we must] explain the preferred outcome." The point being that people will make assumptions about what's expected if it is not clearly communicated.

Best Management Practices:

Many best management practices were noted during the interviews. Those include:

- Think of yourself as training and mentoring the next generation of supervisors.
- Use FermiWorks goal setting as a tool for communication and accountability.
- 'Slack' is a commonly used Instant Messaging tool that enhances communication among teammates.
- Weekly micro-training sessions (30 min or less) can help teams develop skills quickly.
- Bad news does not age well. Communicate issues as soon as possible.
- Balanced scorecards are not only for metrics, but useful communication tools.
- Allow mangers time to manage and supervise.
- Skills assessments can be used to identify strengths and weaknesses and align employees to their strengths.
- Focus on success.
- Empower teams to communicate freely.
- Meetings and communication are critical.
- Lessons learned breakfast – invite team to discuss lessons learned over breakfast.
- Instead of saying "problem", say "opportunity".
- Make yourself available, and always respond when someone reaches out to you.
- Discuss today's work, and always include what's coming up over the next week/month.
- Weekly emails summarizing successes.
- Treat people with respect. Morale is important. Bring in coffee occasionally.
- Pair less experienced with more experienced workers, plus skills cross-training.
- "Pre-mortem" – think about what could happen and what you would do before you start.
- Communicate what outcomes you want to take place; and follow up verbal communication with written communication to confirm expectations.
- Always ask individuals what their career goals are and help them get there.
- Always address poor performance or behavior issues. Do not let them linger or they will impact the whole team.
- Take notes. Review at the end of each week and act on them.

- Lead by example. Keep your cool and be a voice of reason.
- Develop, use and maintain procedures whenever possible. Standard approaches simplify and enhance reliability.
- Have an open-door policy.
- Develop a 30-day orientation for new employees. Include introductions to various departments.
- Reverse calendars – set a deadline and work backwards to set milestones.
- Walk through new processes. Demonstrate the steps and discuss any issues that arise. Be open to questions.
- Use peer reviews for critical steps.
- Spend as much time in the field as possible, engage with the team and allow them to ask questions or provide feedback.
- Take blame out of equation!
- Have an open mind.

Summary:

The lab's latent organizational weaknesses and error precursors have been consistently identified as contributors to unexpected outcomes that jeopardize mission success. Through this assessment, the lab has an opportunity to improve management practices that result in the successful implementation of the HPI concepts. These best practices will be shared lab wide to help prevent or reduce the occurrence of critical errors that inevitably cost the lab time, money and resources. Through the prevention or reduction of critical errors, Fermilab stands to improve compliance, reliability, and quality of the work performed by lab employees. This is an imperative goal to achieve as the lab evolves.

The major themes identified during this review; planning, managing workload, lessons learned, and communication are long-standing areas within HPI, that when addressed well, exemplify good leadership. It is therefore no coincidence that many of the interviewees utilize HPI concepts as part of their managerial tools, and that these tools are provided to all supervisors through Fermilab's HPI training course.

Recommendations:

1. Distribute this report to all line managers at Fermilab by utilizing the TRAIN email utility of the 1-day HPI for Supervisor's Course.