

Case Study.

JSW Energy (Barmer).

India.

Visible Felt Leadership in the Safety Excellence Journey at JSW Energy (Barmer) Limited

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With a revenue of over USD 14 billion, JSW is a diversified Indian conglomerate comprising of businesses in steel, energy, infrastructure, cement, paints and other areas. The JSW Energy business, established in the early 2000s, has a presence across the value chain of power generation, transmission, trading and mining. Of the company's total installed capacity of over 4.5 GW, 1080 MW (8 Units x 135MW) is produced by their Barmer thermal power generation site..

Established in 2010 in the arid lands of the Thar desert in western India, the JSW Barmer facility uses fluidized bed technology in the boilers. This plant was one of the first in India to have a dedicated 185-km pipeline constructed to source water. Located 20 km from Barmer, Rajasthan, the plant sources lignite from nearby Barmer Lignite Mining Company Limited (BLMCL).

Embarking on a Journey Toward a Zero-Harm Workplace

As part of a corporate program aimed at achieving zero-harm workplaces across all of the group's companies, JSW leadership engaged dss+ for an 18-month project in June 2018. dss+ was asked to work with eight operating sites across five businesses, including the JSW Energy Barmer site.

Barmer site management was glad that their site was selected, as this further boosted their ongoing efforts



toward an injury-free workplace—something close to the hearts of the corporate and site management teams.

Visible Felt Leadership

Since the beginning JSW and Barmer site leadership believed that a good safety culture is one of the key enablers to achieving an injury-free workplace. Hence, the leadership worked on transforming the culture and practices throughout the engagement.

"At JSW, our vision is 'ZERO HARM'. In order to help us to reach this vision, one of my enduring priorities is continual improvement in the safety of our operations. Felt Leadership helped in steering everyone towards this vision."

MR. PRASHANT JAIN, JOINT MANAGING DIRECTOR & CEO OF JSW ENERGY

Establishing visible felt leadership was one of the key drivers identified to energize the 'WILL' of members of the organization and to demonstrate safety ownership and commitment.

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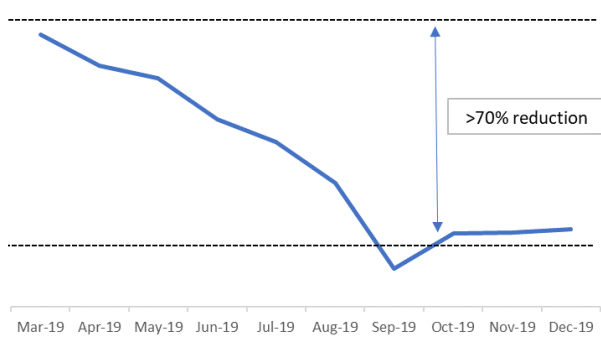
Safety Observation Program

A Safety Observation program is one of the best practices available for instilling felt leadership. It includes structured planned, proactive, two-way safety conversations with people in their own workplaces to achieve positive behaviour change.

The Barmer site leadership team did a great job of embracing the safety observation program and engaging their employees. A critical mass of 25+ site leaders were trained and supported as they conducted effective observations. Leaders began regular field visits, interacting with workers, in order to understand and address their safety issues and challenges.

This resulted in increased reporting of unsafe acts and conditions across multiple levels of the organization and gave management more opportunity to address these.

Leaders also encouraged workers to resolve safety issues through initiatives such as safety action meetings. Focusing on visible felt leadership produced increased trust and ownership within the organization. As a result, there were clear changes in workers' behaviour, leading to a 70% reduction in unsafe acts and conditions during the engagement.



Trend of monthly unsafe acts and unsafe conditions captured through safety observation.

"Coaching and hand-holding by dss+ experts helped the site team, and me, gain a new perspective. This resulted in improved ownership by department heads and an effective platform for interacting with frontline associates through the structured approach of safety observations."

MR. VEERESH DEVARAMANI, PLANT HEAD

Line Management Ownership

Site leadership also launched initiatives to enhance line management ownership and capability through a variety of programs including safety observations, incident investigations, high-risk activities, emergency drills, safety training, road safety inspections, safety marches, safety skits, and more. Line management engaged more than 200 workers in these programs every month.

Proactive Safe Practices

Realizing the importance of recognizing high-risk scenarios which could impact business continuity, site leadership also assigned a team to carry out a corporate barrier health management (BHM) program. This enabled the leadership team to recognize site-specific, high-potential-risk scenarios, understand what current barriers are in place and develop adequate barriers to fill any gaps. That way, by maintaining the health of barriers, the site can proactively prevent the identified risk scenarios.

"Barrier health management has helped us identify our top risks, create ownership and effectively address these scenarios."

MR. RAJEEV SINGH, SITE EHS HEAD



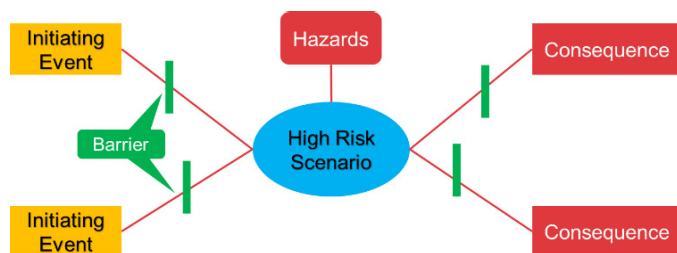
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Through BHM, Barmer leadership identified five high-risk scenarios, as well as related preventive and mitigating barriers. They also set up risk governance processes to assure accountability, so that these barriers' health would be well-maintained by barrier owners. This BHM program not only improved confidence in handling high-risk scenarios, but also enhanced leaders' capabilities in identifying additional scenarios and proactively managing them.

To communicate about risks effectively, the site team developed bowtie models for each risk scenario and converted them into visual boards. This enabled site leaders to become role models in implementing safe practices, increased worker confidence in leadership behaviour and commitment, and encouraged workers to take ownership of maintaining barrier health.



Typical barrier health management bowtie dss+

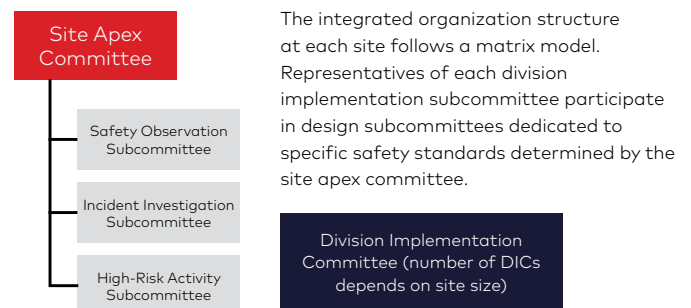
Enhanced Governance Processes

JSW Energy established integrated safety organization structures at the group, business and site level as part of the governance process.

The primary aim of this effort was to establish standards, best practices and customized site procedures, then uniformly implement them across JSW businesses. This included

Typically, such ambitious changes – changing systems, procedures, behaviours and mindsets - can take much time. However, dss+ was able to compress timelines to

regular review at group level by Group Safety Council, at business level by the Steering Committee and at the site level by the Apex Committee. By monitoring the onset of leading and lagging indicators, as well as other KPIs related to best practices, these committees were able to address the challenges faced by teams and steer the implementation of safety observations, incident investigations, high-risk activity standards, barrier health management, contractor safety management and other programs.



Contractor safety management processes are addressed in all subcommittees. dss+

During the engagement, more than 100 Barmer line managers were trained and coached to build the organization's capabilities in a variety of standards and procedures customized for the site. Internal trainers were developed on various topics to sustain learning across Barmer, allowing them to provide ongoing training to all employees, including new workers, on a regular basis. Barmer site leadership also integrated the training program as part of overall employee capability development.

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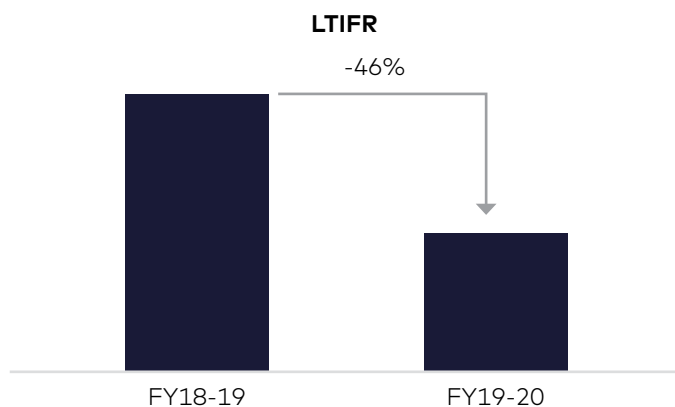
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Progress made

The JSW Energy Barmer plant has effectively realized a 70% reduction in unsafe acts and conditions and a 46% reduction in Lost Time Injury Frequently Rate (LTIFR*) through effective implementation of safety observation, incident investigation, high risk activities and other processes.

(* Number of LTIs per million hours worked)



Governance processes to monitor and maintain the health of identified barriers have been established, so high-risk scenarios can be proactively avoided.

Through an integrated safety organization structure, site leadership has been able to provide better direction to the line management and resolve their challenges on a regular basis, leading to sustainable efforts to move toward an injury-free workplace.

Leadership's involvement in these multiple initiatives made the shift in their behaviour visible, which influenced workers to take ownership of their behaviour, too. As a result, workers performed more safely in their respective areas.

JSW Energy management and the Barmer site leadership's visible commitment made a positive impact on worker behaviour, helping them perform their work more safely.

"Our leaders at all levels demonstrated felt safety leadership and it helped in influencing the positive safety behaviour of our workforce.

At JSW, we continue to seek deeper insights from the teams working on the shop-floor to make our workplace safer and get better everyday."

MR. PARESH THAKKAR, SENIOR VICE PRESIDENT, GROUP HEALTH & SAFETY HEAD

dss⁺

Protect. Transform. Sustain.

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