

## Award for TPM Excellence Category B

Sichuan New Huaxi Dairy Co., Ltd.

### 1. Organization Overview

Founded in 1982, New Hope Group has a history of 41 years and have been one of the largest private enterprises in China. Conducting business in dairy, finance, chemical, real estate, agriculture and animal husbandry, medical, etc., New Hope Group has more than 600 subsidiaries in more than 30 countries and regions around the world, with around 135,000 employees. In 2022, the whole group's revenue exceeded 270 billion yuan. We also ranked 363rd in the "Fortune Global 500" list 2023, officially released by Fortune Magazine on August 2, 2023.

The Dairy Division was established in 2001, with 16 subsidiaries. In 2022, the production yield was 1 million tonnes, with the production value exceeding 10 billion yuan. Sichuan New Huaxi Dairy Co., Ltd is one of those subsidiaries.

Located in Xiandu District, Chengdu City, the plant was relocated and put into operation in 2015, covering an area of 117,300 square meters, with an investment of 620 million yuan. Its design production capacity is 600 tonnes/day. We have two production workshops: one for low temperature and another for room temperature production. Workshops consist of 5 different sections of milk collection, pretreatment, filling, packaging and warehouse respectively, with a total of 29 filling production lines.

**The plant's organizational structure are as follows:** the Plant Director, Safety Department, Production Department, Equipment Department, Quality & Technology Department, Finance Department, Administrative & HR Department, Procurement Department, PMC production planning, material control and TPM offices. The total number of employees is 438.

In order to meet market demands, we adopt a diversified production scheme, involving 145 SKUs.

Our products are sold to more than 6,000 locations in Sichuan, Tibet and Chongqing etc.,

through refrigerated transport. Our main customers include supermarkets and distributors such as Ito, Hema, Hongqi chain, and Yonghui.

**The company's operating status are as follows.** Since 2020, our output has been increasing year by year, reaching 111,400 tonnes in 2023, realizing a profit of 120 million yuan.

## **2. Milestone on the Journey of Manufacturing Excellence**

Sichuan New Huaxi Dairy Co., Ltd.'s journey of development is illustrated as follows. The plant was relocated and put into operation in 2015. We have acquired certifications such as HACCP, GMP and ISO9000/14000/22000, etc. In 2017, we successfully passed the assessment for the National Quality Engineering award, becoming the first dairy plant in Sichuan Province that produces high-quality milk. We introduced TPM in 2020 and improved our production site management standards by implementing 5S and DMS; We launched AM pillar and AM pilot team in 2021, and E&T, FI, QM, PM, SH and ENV pillars in May 2021. In June 2023, we passed the first stage assessment for the Award for TPM Excellence. In December 2023, the second stage assessment was conducted.

Through the introduction of TPM pillars, we have formed the cross-management of pillars and departments. In our daily reviews and monthly steering committee meetings, we review, analyze, and resolve by looking into our KMIs and KPIs. In order to achieve the goal of zero accidents, zero defects, zero short stops, zero failures and zero losses across the whole plant, by implementing review on all levels, problems are solved layer by layer, and improvements are continuously carried out using the method of overlapping small group activities.

For the TPM's main activities and the management of pillar activities: We have formed a pillar management process, and each pillar carries out distinctive pillar activities tied to our plant strategies. Through Pillar Meetings, we manage our activity processes and develop Pillar Advancement Plans. And we inspect activity outcomes using Pillar Kanbans.

Since the launch of TPM, we have won the following awards: the second prize of the Sichuan Provincial Patent Award, the Chengdu Smart Factory, the Top 100 Manufacturing Industries, the Top 100 Private Enterprises, the Meritorious Enterprise Award of the National Nutrition

Program for High-quality Dairy Project, and the National Green and Low-carbon Factory certification.

### 3. Benefits Achieved

Through in-depth TPM activities and the use of professional tools during problem analyses, employees' personal ability has been greatly improved; the sense of collaboration between positions has changed for the better, and work efficiency improved consequently; employees' awareness for quality has been improved by continuing to carry out adverse activities; and our work environment has been improved continuously, which has been highly appreciated by employees. Our participation rate has reached 100%, and the company's external image has also improved. TPM activities are unanimously praised throughout the plant. Since 2021, production volume and profits have been increasing.

Category	Index (Calculation Formula)	Unit	Kick off/TPM Started (or last time awarded) (2020-12)	Actual Status (2023-12)
S	Safety index	Accidents per 1,000,000 operator hours	0	0
S	Number of work-related accidents requiring days off work	Cases/ year	0	0
S	Number of work-related accidents not requiring days off work	Cases/ year	0	0
P	OEE (or Overall Plant Efficiency)	%	41.83	73.14
P	Number of breakdowns	Breakdowns/ year	72	39
Q	Number of customer complaints	Number/year	762	363
Q	In-line defect rate, scrap	‰	1.9	0.87
C	Milk waste rate	%	2.61	2.38
C	Labour productivity per capita	Tonne/month  /person	29.66	34.6

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C	Maintenance cost	Yuan/Tonne	111.3	83.47
D	Delivery performance	%	99.61	99.86
M	Autonomous Maintenance Technician	Persons	0	25
M	Planned Maintenance Technician	Persons	0	10
M	Number of multi-skilled workers	Persons	10	30
M	Number of Employee Suggestions	Number/year	176	440
E	Environmental/safety incidents and accidents	Cases/ year	0	0

#### 4. Key of our Manufacturing Excellence

Expand the company's goals using a top-down approach and thoroughly implement the plan; combine the activity objectives with our business objectives; strong support and participation of the company's leaders; advance according to the steps and structure of TPM; have an agency responsible for promoting TPM; carry out a variety of activation activities; training, guidance; full participation in continuous improvement activities and regular result review to meet the plant strategy.

**Future plans:** Continuous equipment efficiency improvement, focusing on reducing minor stoppages and recurrent failure losses, and realizing 0-failure machines; launch OM and EM pillars in 2024 to meet requirements for the Award for Excellence in Consistent TPM Commitment.