Spanish Journal of Innovation and INTEGRITY
ISSN: 2792-8268
Volume: 40, Mar-2025
http://sjii.indexedresearch.org

Methods of using "Line Stop" To Treat Problems on Lines in Manufacturing Facilities

Alijonov Khabibullo Avazbek ugli
Assistant, Andijan State Technical Institute
habibulloalijonov39@gmail.com

Abduraximova Gulnoza Akmaljon qizi, Abduvohidova Muxlisa Umarjon qiz,
Mamarasulov Abdulloh Zokirjon o'g'li, Fazliddinov Humoyun Sirojiddin o'g'l
Students, Andijan State Technical Institute
abdurakhimovagulnoza0@gmail.com, abduvohidovam7@gmail.com,
abdulloxmamarasulov56@gmail.com, fazliddinovhumoyun02@gmail.com

Abstract: *This thesis aims to timely notify relevant specialists of problematic situations on the line at production enterprises through the "Line Stop" program. Production processes in factories are highly automated and controlled by a number of technological systems. Such systems require constant monitoring and prompt intervention. This thesis examines how to organize a system for stopping the line and sending messages to the manager via Telegram bot to quickly resolve problematic situations on the factory's production line. Identifying problematic situations and taking action.*

Keywords: *Automation, factory logistics system, external warehouse, product movement, ERP system, WMS system, RFID technology, QR code, "Line Stop" program, problematic situations in factories, sending messages via telegram bot, integrating telegram bot with factory line.*

Introduction. Problem situations can be caused by factors such as technical or technological failures at the plant, poor quality of raw materials or their insufficient supply. In these cases, it is necessary to stop the plant line and notify the manager. Stopping the line serves the following purposes:

- Prevent major failures
- Maintain production quality
- Ensure worker safety
- Reduce waste of raw materials

Advantages of sending messages via Telegram bot

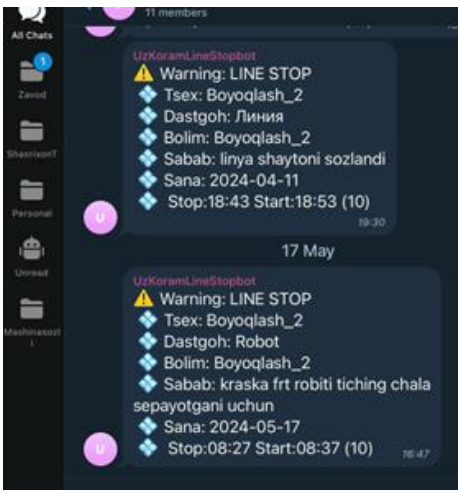

Figure 1 Telegram bot.

Telegram bot is a fast, reliable and affordable solution for modern enterprises. This system has the following advantages:

- Ensuring quick communication: When a problem occurs on the line, a message is sent to the manager via the bot, which allows the manager to take immediate action.
- Direct information delivery: The bot provides the manager with detailed information about which process on the line the problem occurred in and its causes.
- Automatic monitoring system: Telegram bot can connect to the production line and automatically send a signal about problems, which reduces errors due to the human factor.

System implementation process

To implement a messaging system via Telegram bot, several technical steps are required:

- Bot programming: The bot, which is developed using the Telegram API, is integrated with monitoring systems related to identifying problematic situations. Physical automation is a way to use technology, such as robots, to minimize employee movement and build more efficient workflows. The advantages of physical automation include increased warehouse capacity and efficiency, enhanced reliability and scalability of services, and improved performance.

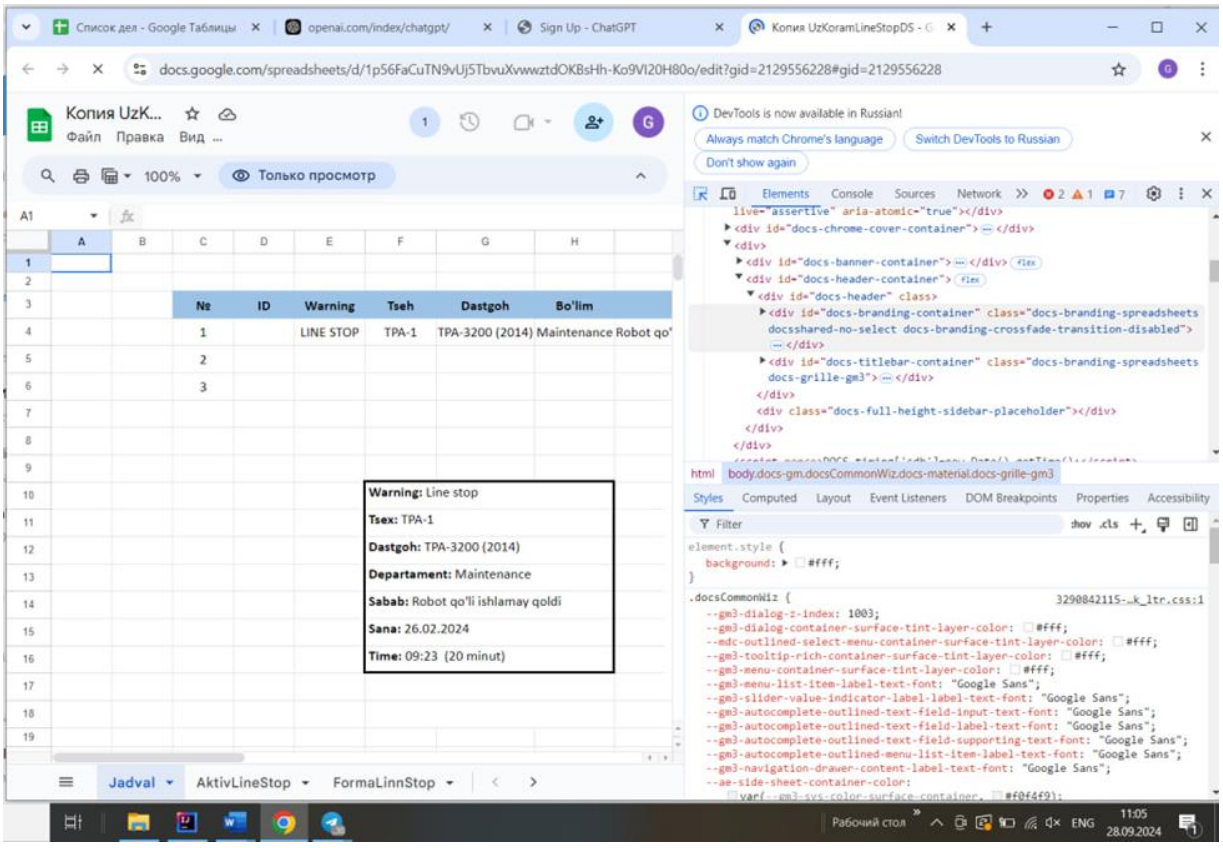

Figure 2. The bot analyzes data from the production line and sends a message to the manager when necessary.

Integration with the line: It is necessary to configure a tool that sends data from sensors or control systems on the production line to the Telegram bot.

- Configuring the manager's Telegram bot: Special functions are implemented so that the Telegram bot can manage the list of users, that is, send messages to the manager or responsible persons. Problems that arise and their solutions

Benefits of Line Stopping

Line stopping is used for many reasons, and is a preferred method to shutting down any modern pipeline system. It's cost-effective since it avoids expensive shutdowns of your pipelines and the professional planning that comes with it.

Below are some of the benefits of utilizing line stopping services from Tap Master Inc:

No disruption: Services can be done without interrupting service to the rest of the pipeline system, ensuring the water supply is not compromised.

Liquid and gas containment: There's little to no release of liquids and gasses into the environment.

Time-saving: The process is quick and efficient, saving time compared to traditional methods of repair or modifications.

Eliminates drain down or backfilling time: Since the services are done without interrupting the pipeline system, there's no need for draining or backfilling.

Avoids ingress of contamination: Contamination is drastically reduced as the pipeline system remains intact throughout the process.

Its irrefutable benefits make it an ideal solution for numerous pipeline problems. Regardless of the issue, we can guarantee your operations and workflow continue to run smoothly while any repairs are being completed.

When is Line Stopping Used?

Shutting off the system completely can produce numerous problems, such as shutting off the water supply to an entire municipality.

Outdated and aging infrastructures sometimes cannot handle major replacements or repairs while the water system is in service.

Specialized pipeline services, such as our line stop services, are required for the water main to be temporarily turned off when needed.

Bypass capabilities can be utilized to keep the main in service while the line is isolated for repairs.

Shut off the water supply to an entire municipality

Benefits of Line Stopping

Line stopping is used for many reasons, and is a preferred method to shutting down any modern pipeline system. It's cost-effective since it avoids expensive shutdowns of your pipelines and the professional planning that comes with it.

Below are some of the benefits of utilizing line stopping services from Tap Master Inc:

No disruption: Services can be done without interrupting service to the rest of the pipeline system, ensuring the water supply is not compromised.

Liquid and gas containment: There's little to no release of liquids and gasses into the environment.

Time-saving: The process is quick and efficient, saving time compared to traditional methods of repair or modifications.

Eliminates drain down or backfilling time: Since the services are done without interrupting the pipeline system, there's no need for draining or backfilling.

Avoids ingress of contamination: Contamination is drastically reduced as the pipeline system remains intact throughout the process.

Its irrefutable benefits make it an ideal solution for numerous pipeline problems. Regardless of the issue, we can guarantee your operations and workflow continue to run smoothly while any repairs are being completed.

What to Expect During the Line Stopping Procedure?

Line stop on a water main begins by attaching a temporary line stop valve and fitting to create a diversion line around the pipeline section needing repair. Your projects won't be affected, and your facility can function as usual during the procedure since line stopping can be performed on almost any pipes under pressure.

You can also expect a safe and efficient process, as our experts are highly trained and experienced in performing line stopping services. Our advanced equipment and technology allow us to execute the procedure accurately with minimal disruption to your operations.

Revolutionizing Manufacturing: The Hidden Power of "Line Stop"

In the fast-paced world of manufacturing, efficiency and productivity are paramount. Yet, few truly understand the strategic depth behind a seemingly simple concept: "Line Stop." While most recognize it as an emergency halt to production, its full potential as a problem-solving tool remains largely undiscovered.

Little-Known Methods of Using Line Stop

Predictive Quality Control

By integrating sensor-driven analytics with Line Stop protocols, manufacturers can proactively halt production before defects occur. Instead of waiting for visual confirmation, systems can identify slight deviations in machine behavior and preemptively stop to adjust parameters.

Worker-Driven Innovation

Encouraging employees to use Line Stop not just for emergencies, but for process improvement, fosters a culture of continuous development. If a worker notices inefficiencies, they can halt production, suggest adjustments, and test improved workflows without compromising quality.

Automated Root Cause Analysis

Advanced Line Stop systems can be connected to AI-driven diagnostics. When a stop is triggered, data from all connected machines is analyzed to determine the underlying cause. This reduces downtime by streamlining troubleshooting processes.

Supply Chain Synchronization

A strategically implemented Line Stop system can synchronize with inventory management. If materials are running low or are of subpar quality, production halts automatically, preventing unnecessary waste and ensuring optimal resource utilization.

Ergonomic Safety Optimization

Fatigue and repetitive motion injuries are significant concerns in manufacturing. Line Stop can be programmed to pause operations at scheduled intervals, ensuring workers take breaks, rotate tasks, or adjust ergonomics before fatigue-related errors occur.

Why This Matters

These lesser-known applications of Line Stop can dramatically improve efficiency, reduce waste, and enhance product quality. While the concept may seem simple, its strategic deployment can transform manufacturing processes, ensuring greater reliability and cost savings.

Manufacturers who rethink the role of Line Stop move beyond basic troubleshooting and unlock a powerful tool for innovation, predictive maintenance, and operational excellence.

REFERENCES USED

1. Alijonov Xabibullo Avazbek o‘g‘li, Termoplast avtomat moshinalarni tayyor maxsulotni olish jarayonini avtomatlashtirish, INNOVATIONS IN TECHNOLOGY AND SCIENCE EDUCATION, ISSN 2171-381X.
2. Alijonov Xabibullo AUTOMATIC IRRIGATION SYSTEM WITH TEMPERATURE MONITORING USING ARDUINO. UNIVERSAL JOURNAL OF TECHNOLOGY VOLUME 1ISSUE1. 2023
3. Intelligent Mechatronic Systems Library of Congress Control Number: 2012950394Springer-Verlag London 2013
4. Alijonov Xabibullo Avazbek o‘g‘li, Termoplast avtomat moshinalarni tayyor maxsulotni olish jarayonini avtomatlashtirish, INNOVATIONS IN TECHNOLOGY AND SCIENCE EDUCATION, ISSN 2171-381X.
5. Alijonov Xabibullo Avazbek O’g’li, . (2023). USING MODELS OF ELECTRIC ACTUATORS IN THE FACTORY. The American Journal of Engineering and Technology, 5(11), 15–24. https://doi.org/10.37547/tajet/Volume05Issue11-04
6. Alijonov Xabibullo, & Xoshimov Dilmuhammad. (2023). SUYUQLIKLARDA SATH O'LCHASH USULLARINI AVTOMATLASHTIRISH. https://doi.org/10.5281/zenodo.8144466
7. Xabibullo Alijonov, Azamov Bahromjon, & Abzalov Kamoliddinxo'ja. (2023). AUTOMATIC IRRIGATION SYSTEM WITH TEMPERATURE MONITORING USING ARDUINO. https://doi.org/10.5281/zenodo.8144461
8. Xabibullo Alijonov. (2023). INTELLIGENT ELEVATOR CONTROL AND SAFETY MONITORING SYSTEM. https://doi.org/10.5281/zenodo.8144452
9. Alijonov Xabibullo, Xoshimov Dilmuxammad, & Muxammad Aminov. (2023). AUTOMATIC IRRIGATION SYSTEM WITH TEMPERATURE MONITORING USING ARDUINO. https://doi.org/10.5281/zenodo.8018631.
10. Termoplast avtomat moshinalarni tayyor maxsulotni olish jarayonini avtomatlashtirish. AX Avazbek o'g'li, IM Zoxidjon o'g'li, IM Kozimjon o'g'li… - Innovations in Technology and Science Education, 2023
11. AVTOBUS TRANSPORTINI BOZOR SHAROITIGA RIVOJLANTIRISH STRATEGIYASINI ISHLAB CHIQISH
12. Alijonov Xabibullo Avazbek o’g’li, Fayzullayev Zafarbek Farxod o’g’li, Muxammad Aminov Abrorbek Dilshodbek ,GREENHOUSE HEATING SYSTEMS BASED ON GEOTHERMAL ENERGYVol. 2 No. 4 (2024): EJMTD.
13. Mukhitdinov J, Safarov E, Olimov B “Research of a combined energy-saving drum dryer for drying sunflower seeds” Harvard Educational and Scientific Review Vol. 2 No. 1 (2022).
14. URL: https://journals.company/index.php/hesr/article/view/25.
15. https://sjii.es/index.php/journal/article/view/305
16. https://sjii.es/index.php/journal/article/view/310
17. https://sjii.es/index.php/journal/article/view/309
18. https://sjii.es/index.php/journal/article/view/286
19. https://sjii.es/index.php/journal/article/view/285