

Developing and Strengthening of Safety Culture at Ukrainian NPPs. Experience of NNEGC «Energoatom».

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International Conference on Human and Organizational Aspects of
Assuring Nuclear Safety – Exploring 30 Years of Safety Culture
Vienna, Austria, 22-26 February 2016



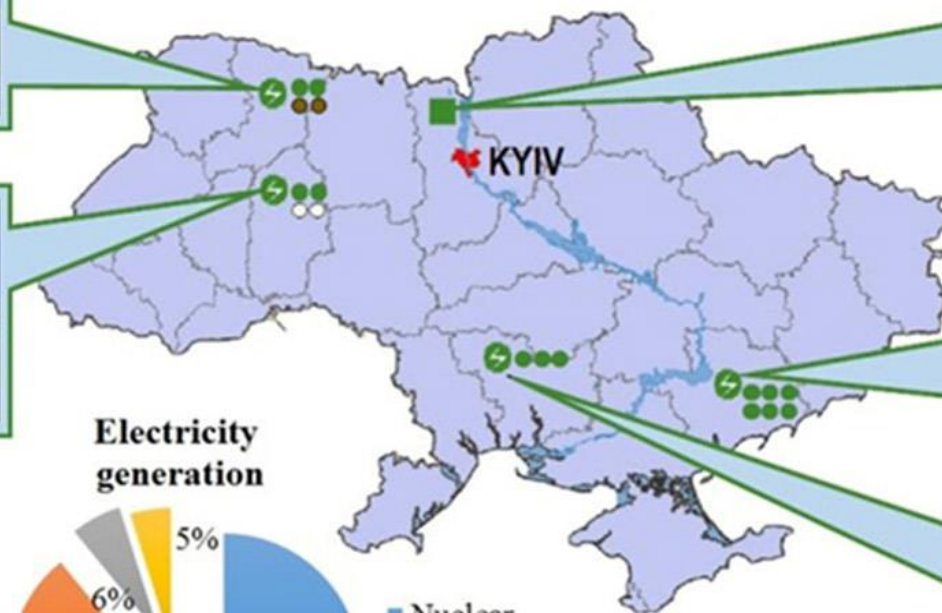
Introduction



Rivne NPP



Khmelnytsky NPP



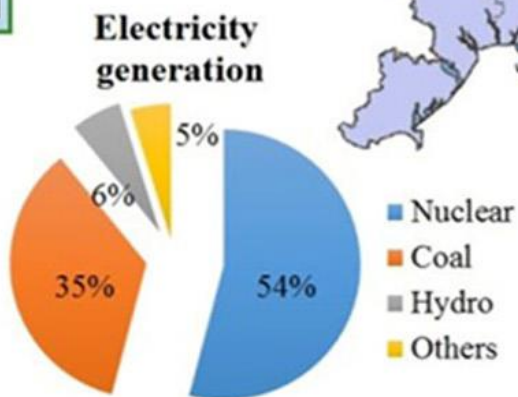
Chernobyl site



Zaporizhzhia NPP



South Ukraine NPP



Up to 60 % of the total demand for electricity in Ukraine

- WWER - 1000
- WWER - 440
- Under Construction



2. Organization for Safety Culture

There are three levels of management in these activities:

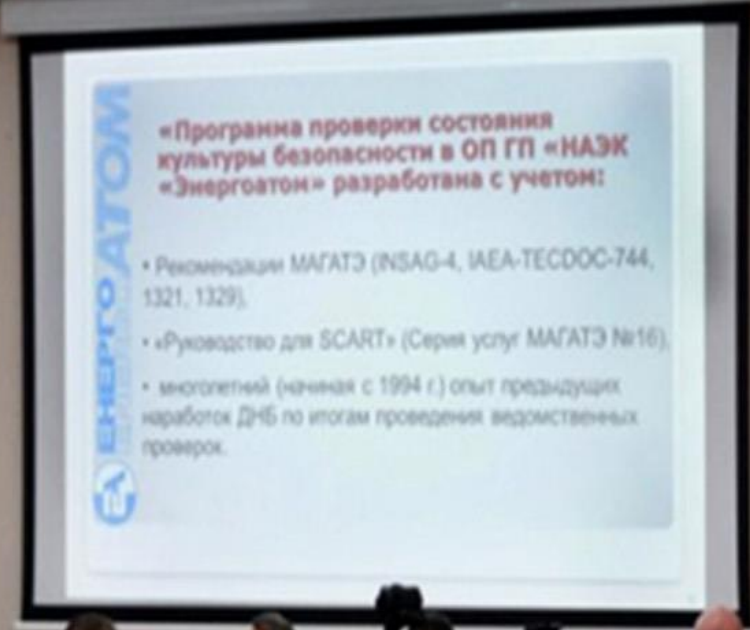
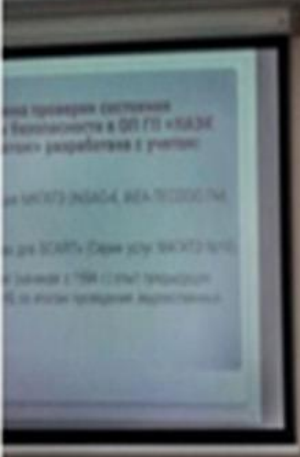
- Council on safety culture (top management);
- Working group (representatives of all divisions of NAEC);
- Committees on safety culture (all NPP sites)

The programs are developed and updated every 2 years and the implementation of measures is provided on 3 levels of responsibility:

- Technical policy for the safety;
- Responsibility and leadership obligations;
- Personal responsibility and duties of every employee

On the basis of the corporate programs the NPPs developed the programs of concrete actions aimed to establishment and development of safety culture, including:

- Self evaluation of safety culture;
- Questioning the staff;
- Independent audits of safety culture






3. International experience feedback

The projects address the solution of certain problems (for example, in the area of human factor – the task of «not punishment for error» approach establishment), as well as more common tasks of improving safety culture in overall, such as:

- Implementation of programs to inform senior staff and management, including the essential features needed to create a strong culture of safety; creating conditions for the improvement of the organizational and managerial impact on the safety of nuclear power plants and the development of a deep understanding of the importance of safety approach and the practical realization of the principles of safety culture in production activities;
- Creating an atmosphere of fruitful cooperation between management and staff, the improvement of collective action and of the behavior, developing a positive safety culture.

In this regard, it should be mentioned WANO guidance document GL 2002-02 "Principles for Excellence in Human Performance" that identifies five fundamental principles relating to human factors, and important for the development of a sustainable safety culture in the organization:



- Even the best people make mistakes.
- Error-likely situations are predictable, manageable and preventable.
- Individual behaviour is influenced by organizational processes and values.
- People achieve high levels of performance based largely on the encouragement and reinforcement received from leaders, peers and subordinates.
- Events can be avoided by understanding the reasons why mistakes occur and applying the lessons learned from past events and not from asking "who made the mistake?"

4. PRACTICAL APPLICATION OF SAFETY CULTURE PRINCIPLES

Turbine Shift Supervisor



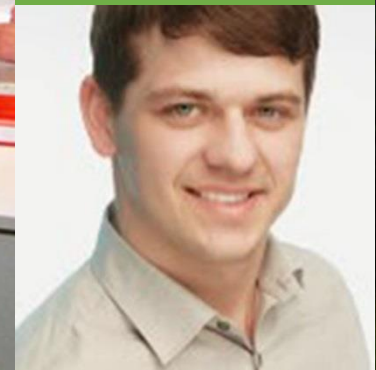
More than 15 years of experience

Unit Shift Supervisor



More than 15 years of experience

Turbine Operator



Less than 1 year of experience

A large, modern nuclear power plant control room with a curved, green, geometric ceiling and multiple computer workstations. A man is visible in the background, and another person is partially visible on the right. The room is filled with various control panels, monitors, and a large digital clock showing 10:11 on Friday, 19 May.

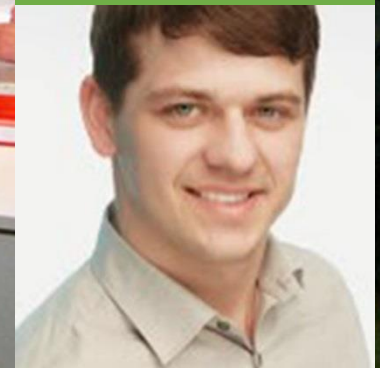
Plant Shift
Supervisor

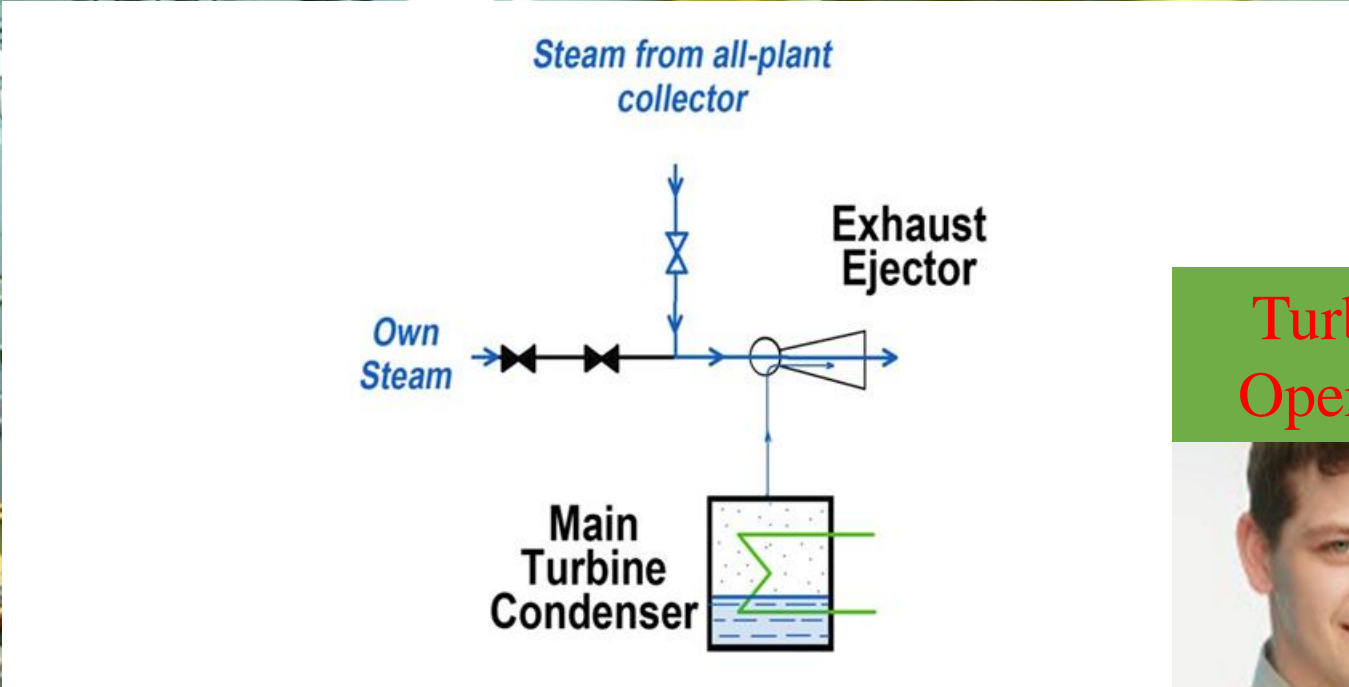
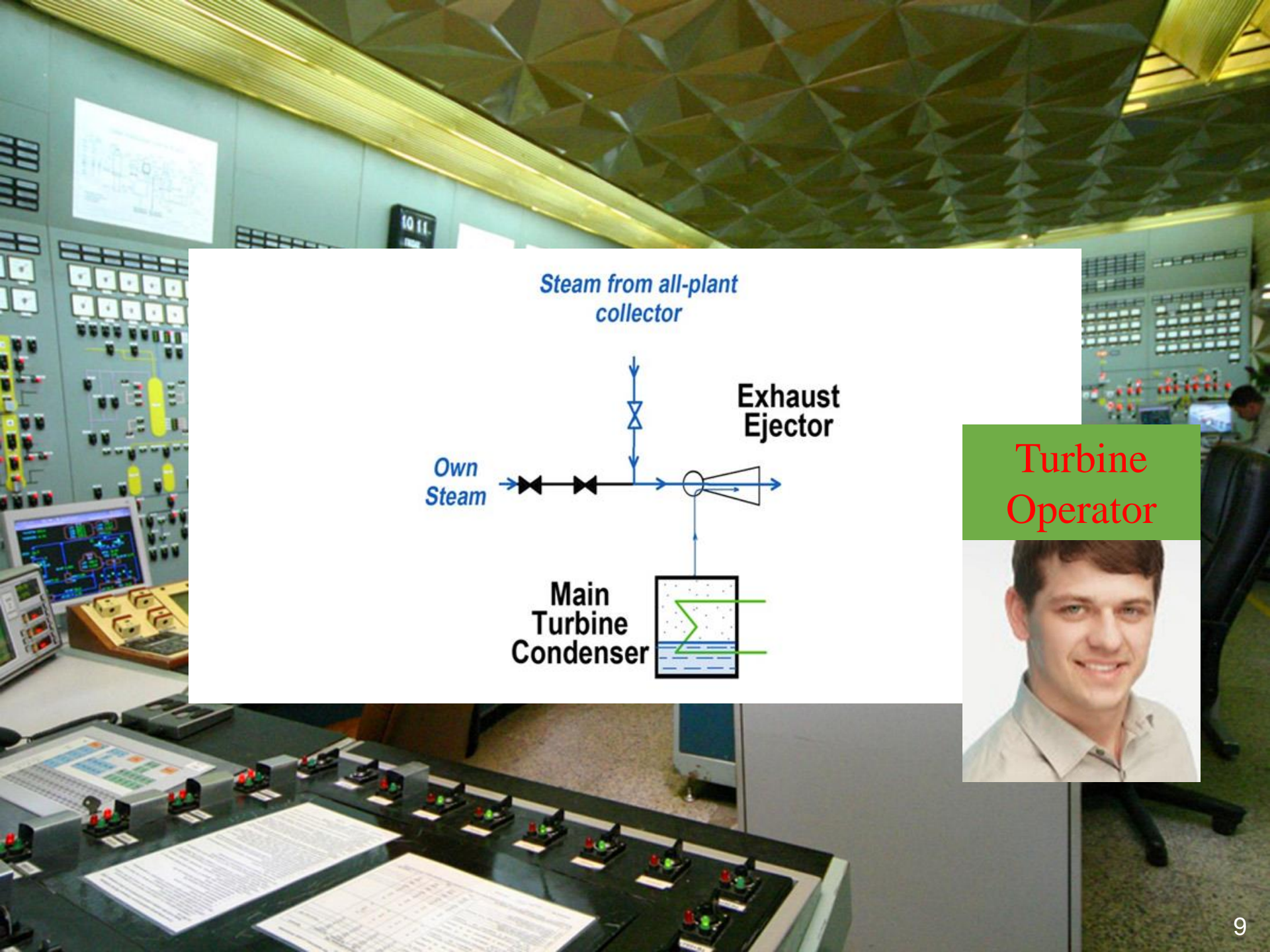


Unit Shift
Supervisor



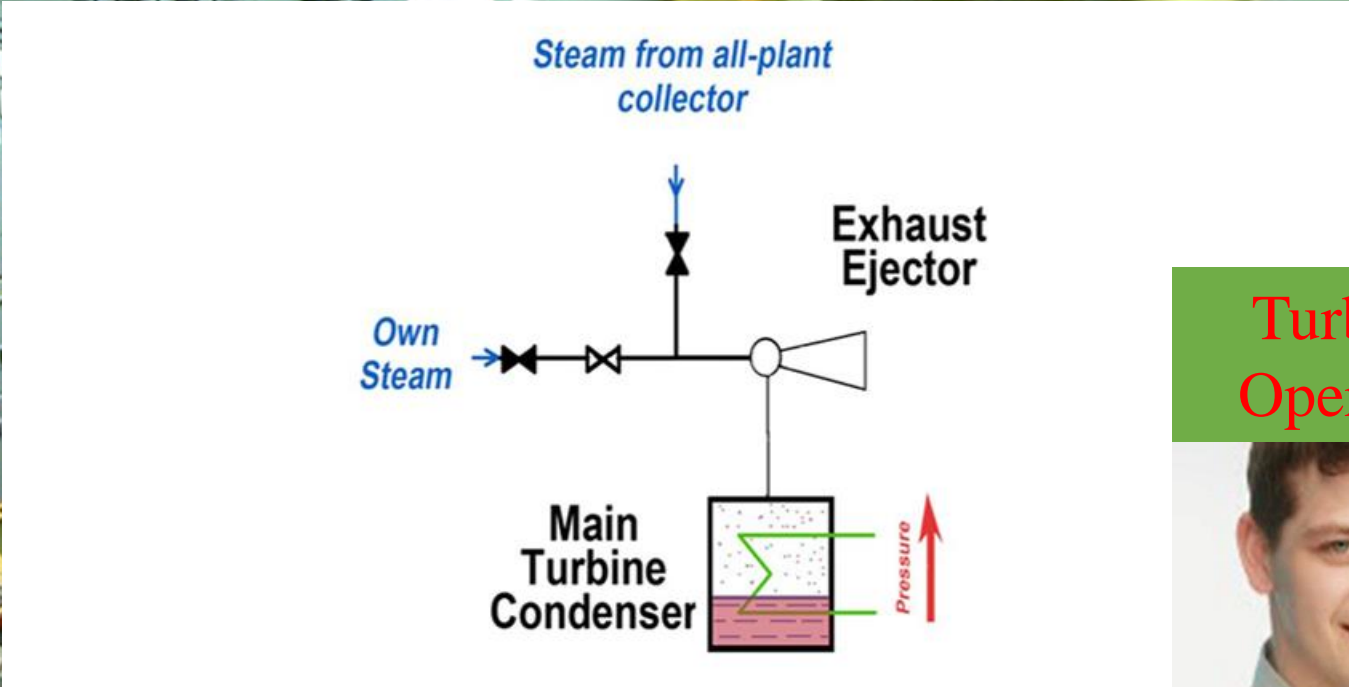
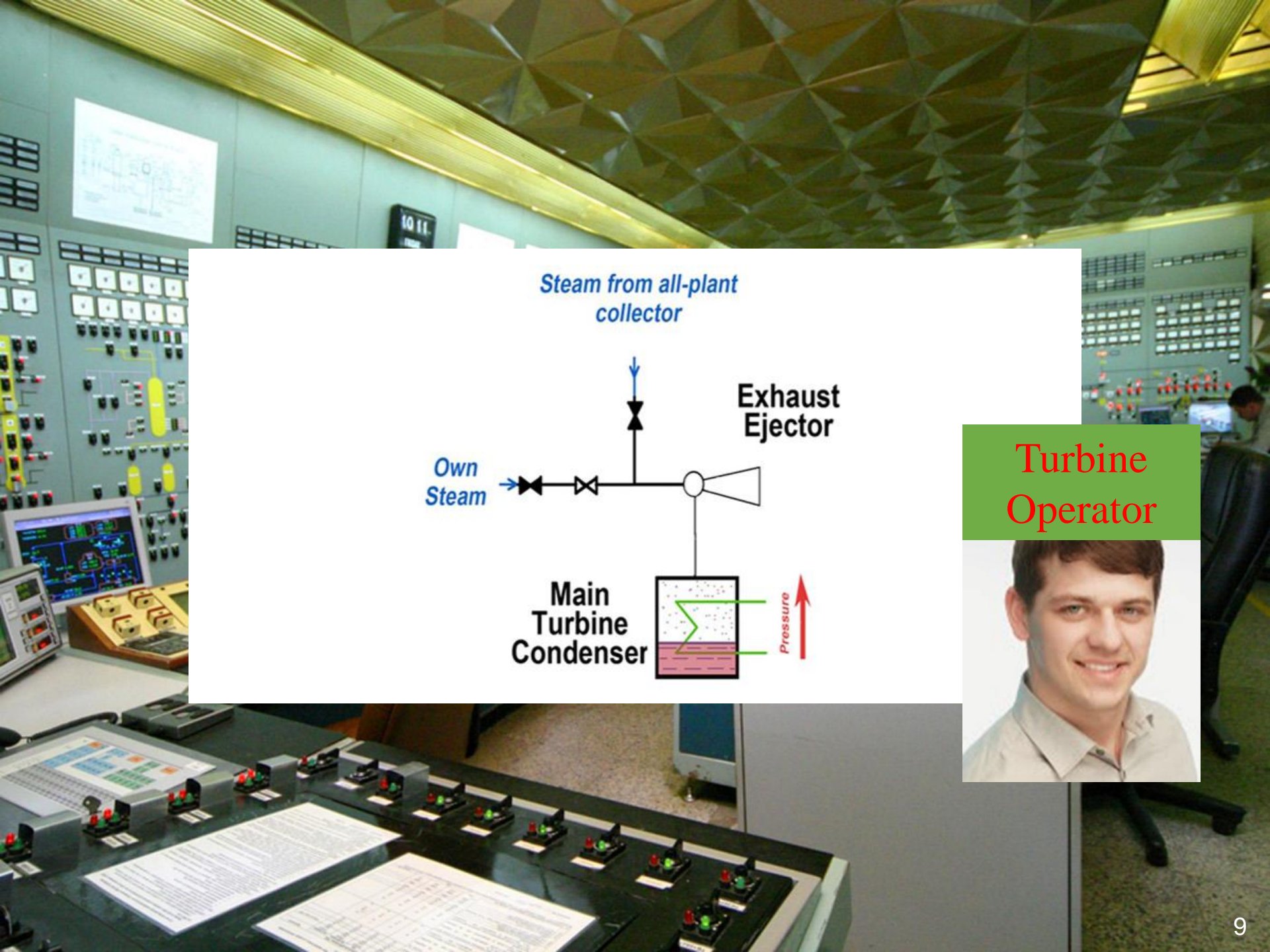
Turbine
Operator





**Turbine
Operator**





**Turbine
Operator**



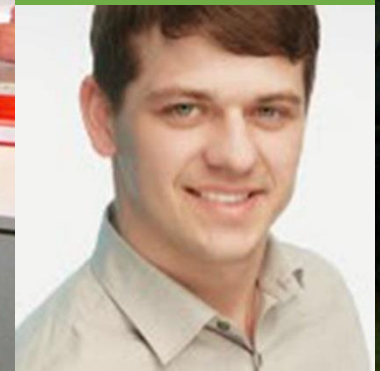
Turbine Shift
Supervisor

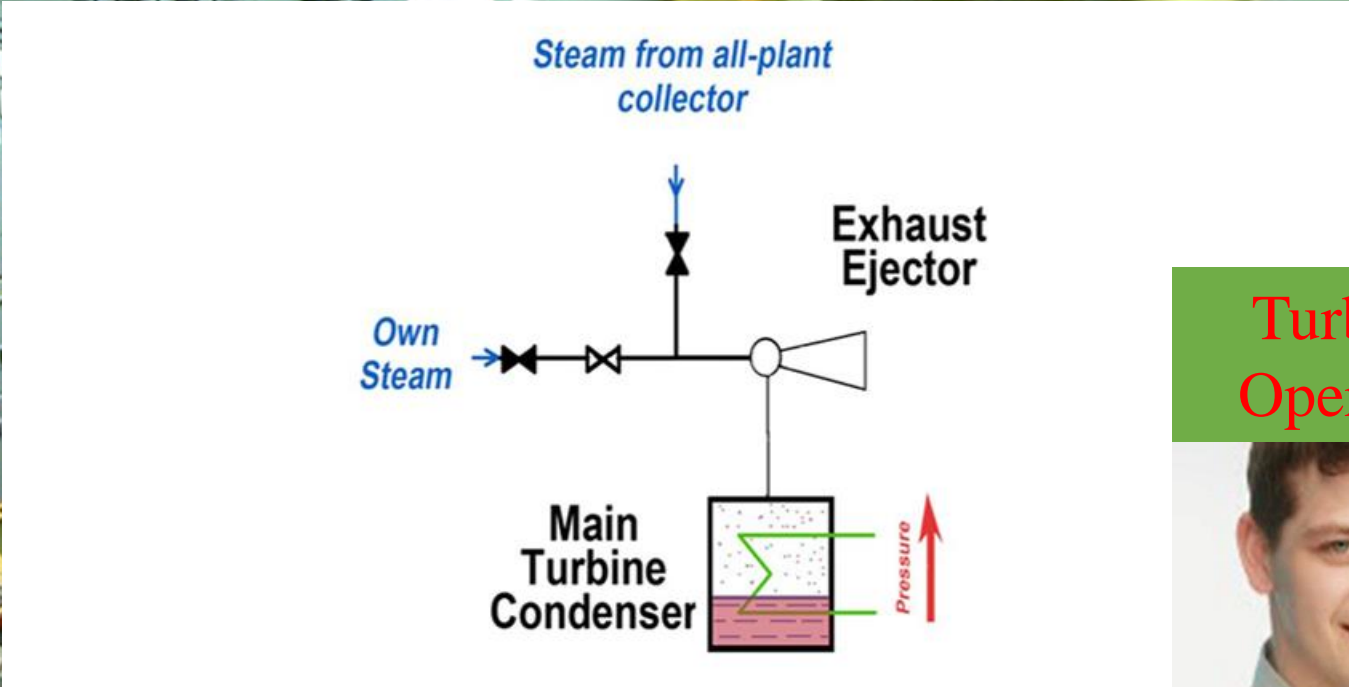
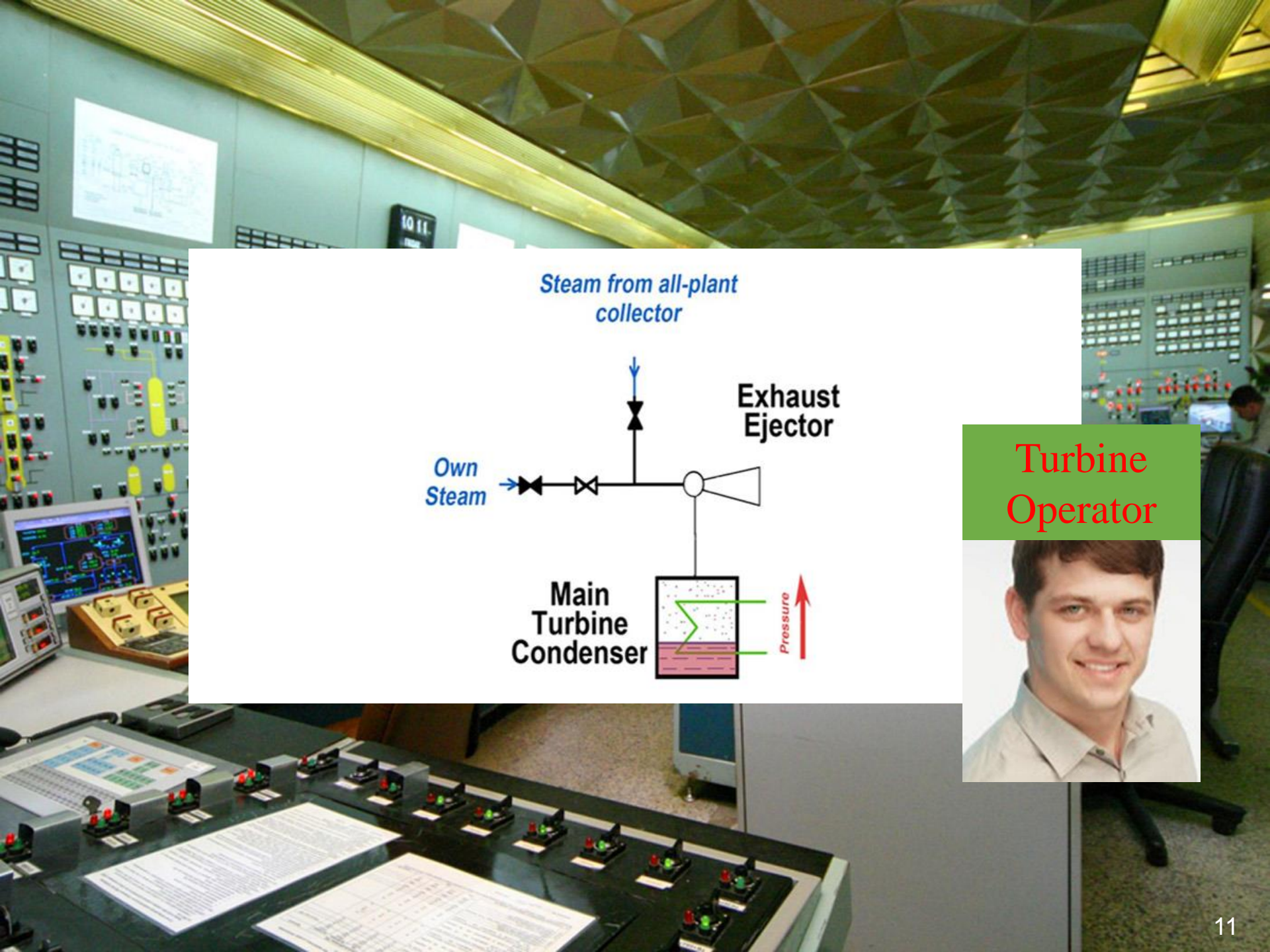


Unit Shift
Supervisor



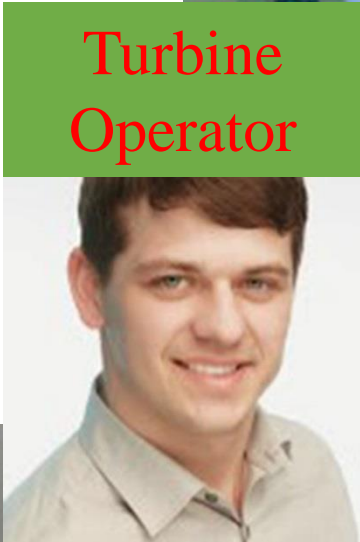
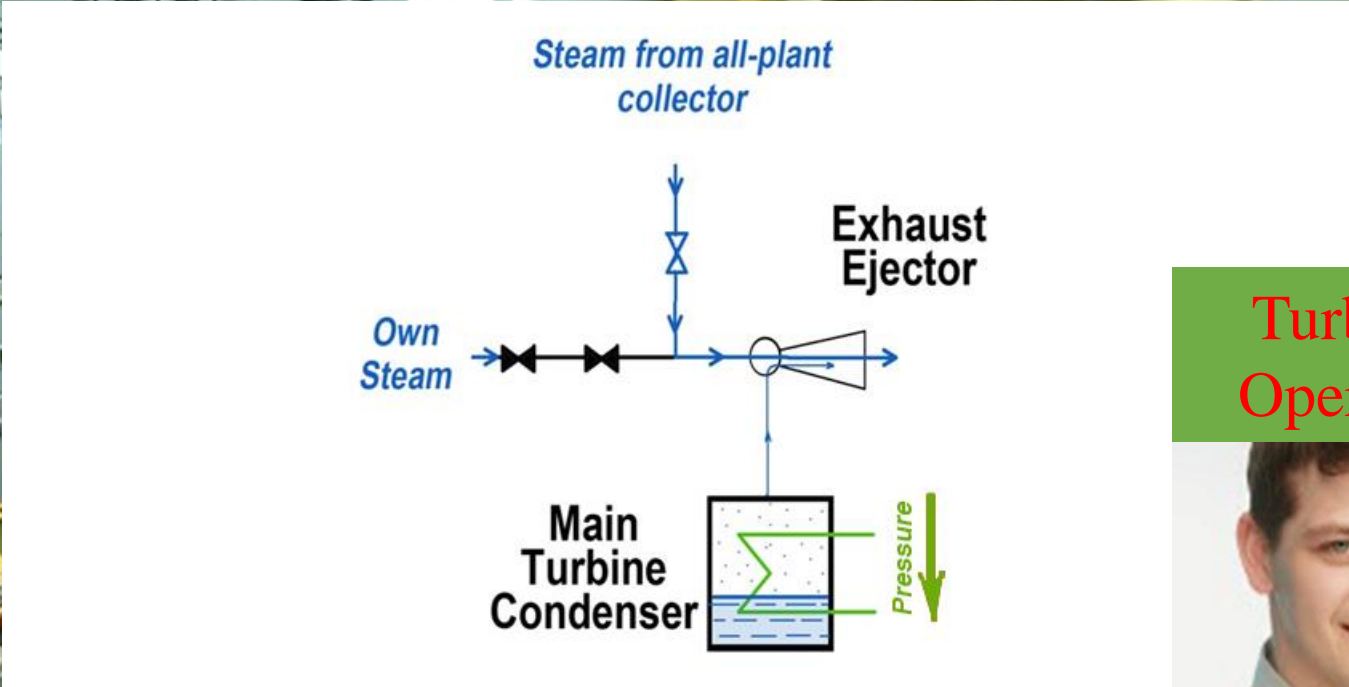
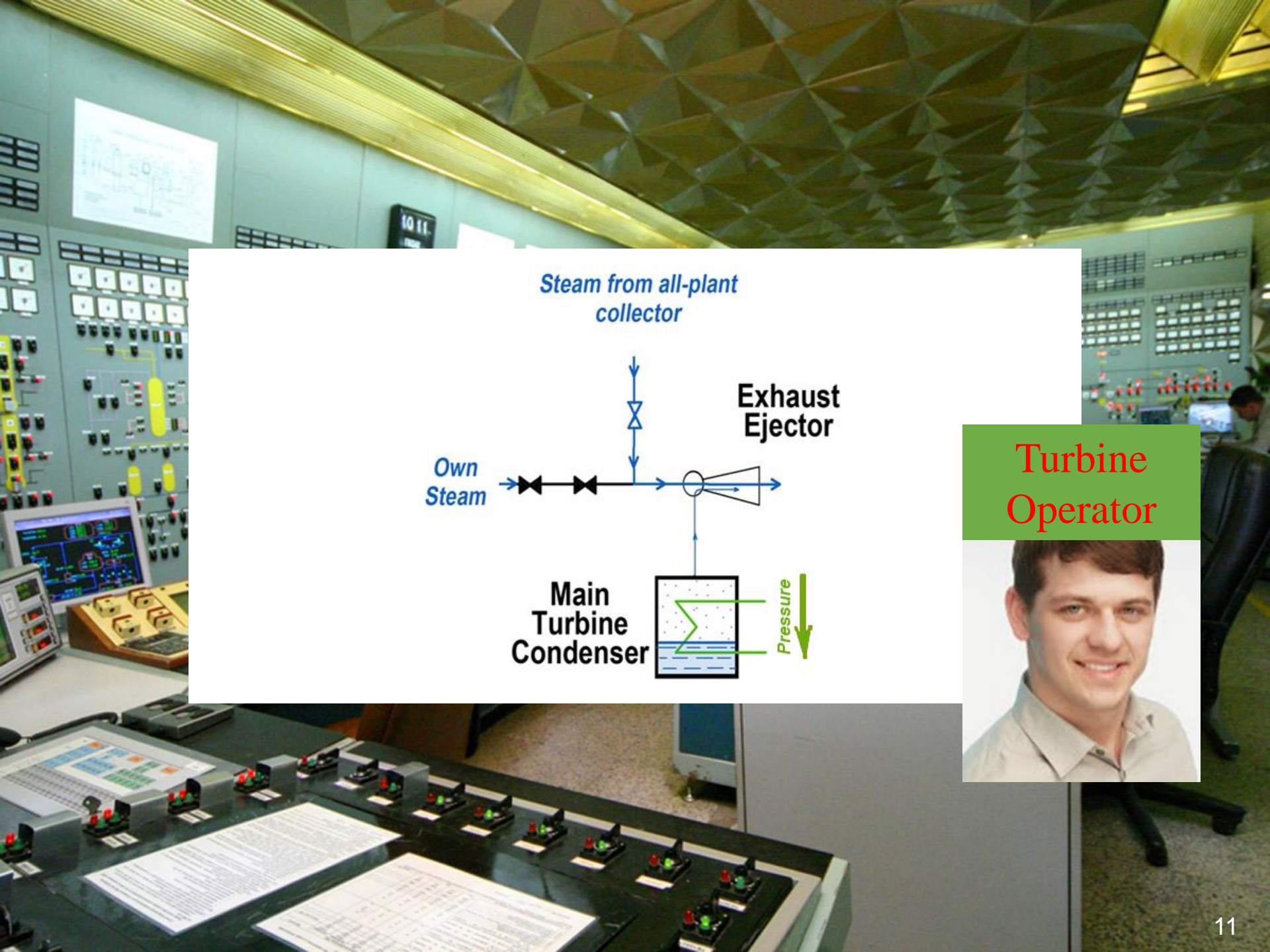
Turbine
Operator





**Turbine
Operator**



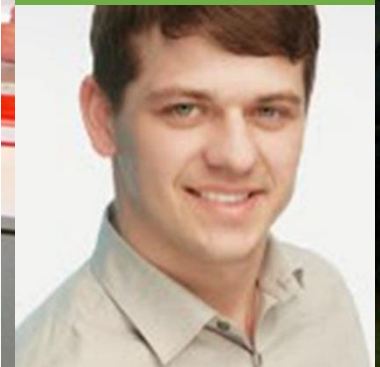


USS: “What a good professional you are! Have you not come on time and not performed your actions we would loose vacuum and get a scram!”

TSS: “Still, the experience – is a great thing!”



**Turbine
Operator**



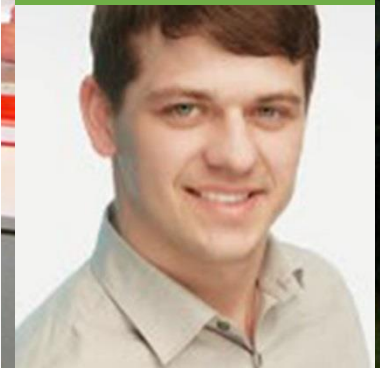
Plant Shift
Supervisor

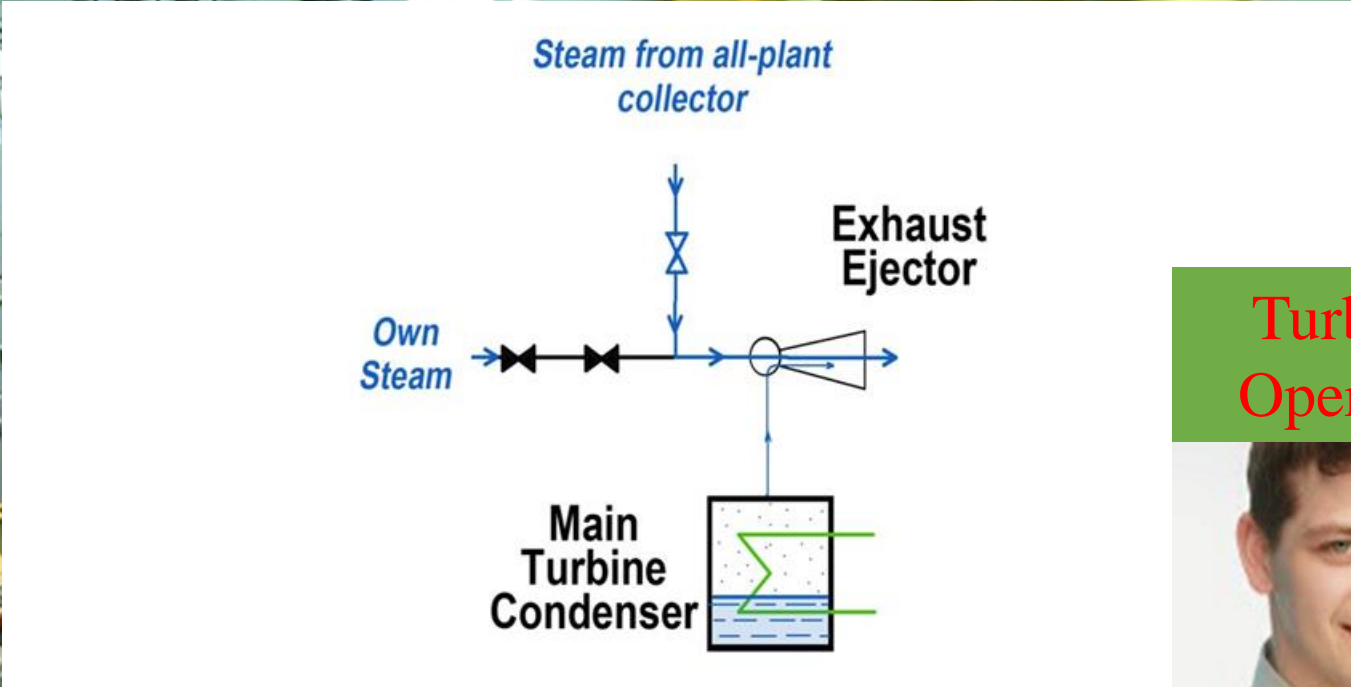
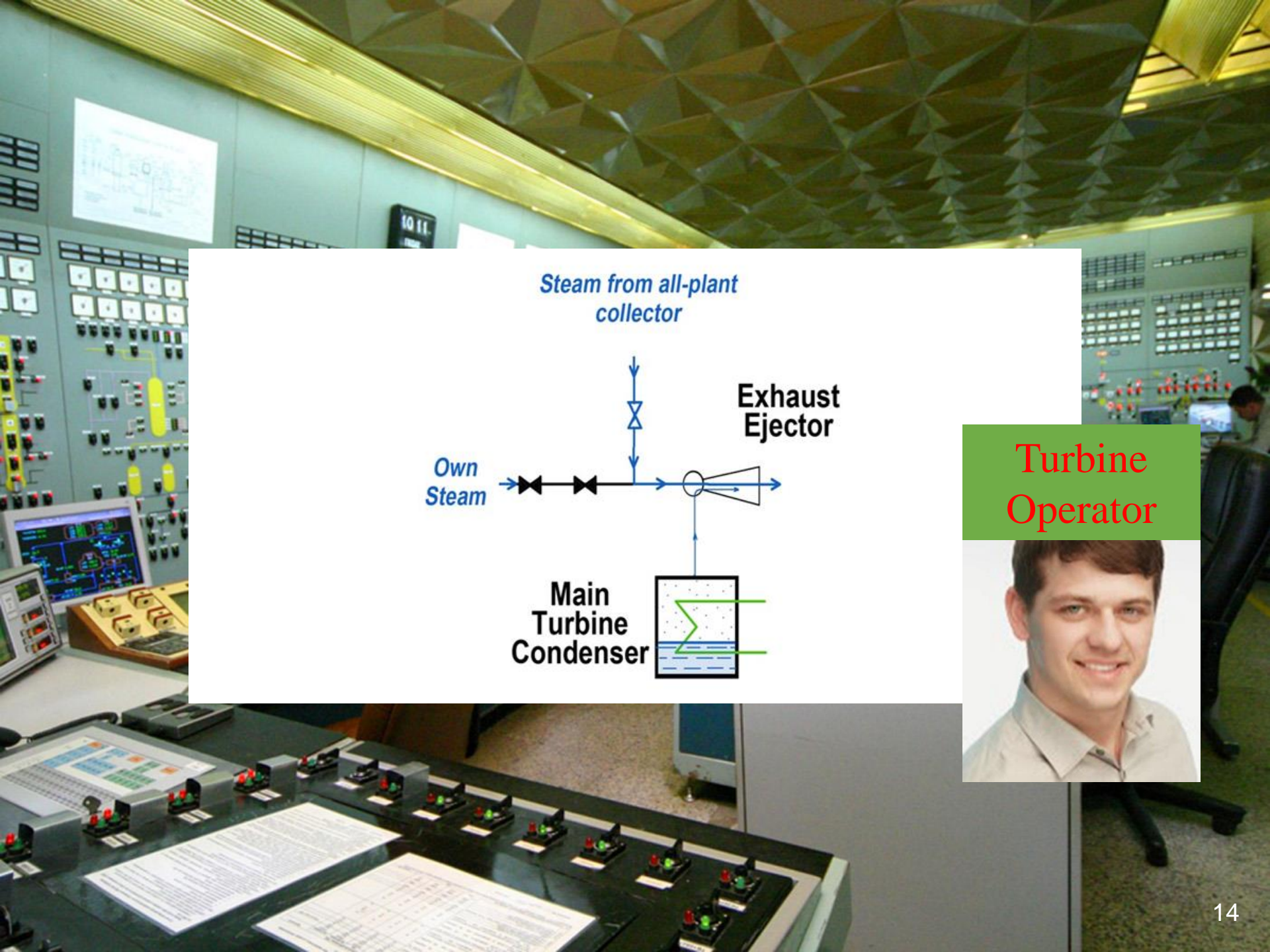


“Are you still on the plant steam?!
Immediately transfer!”



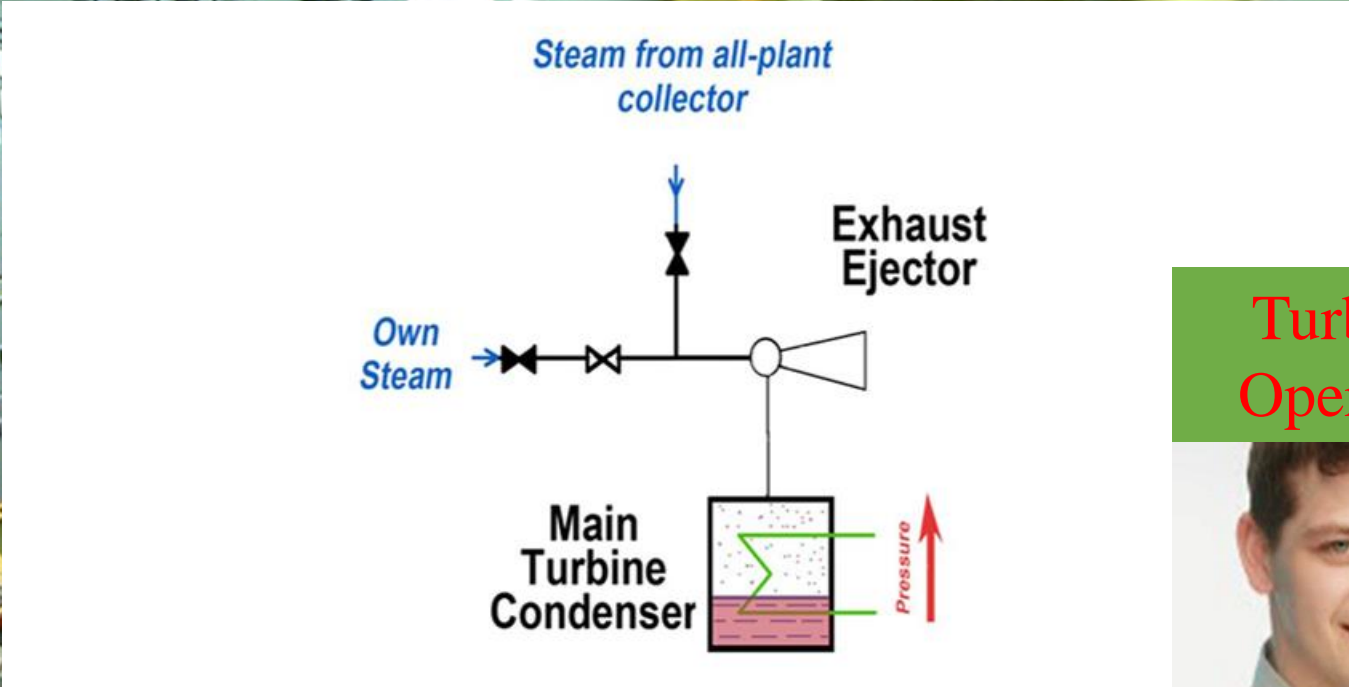
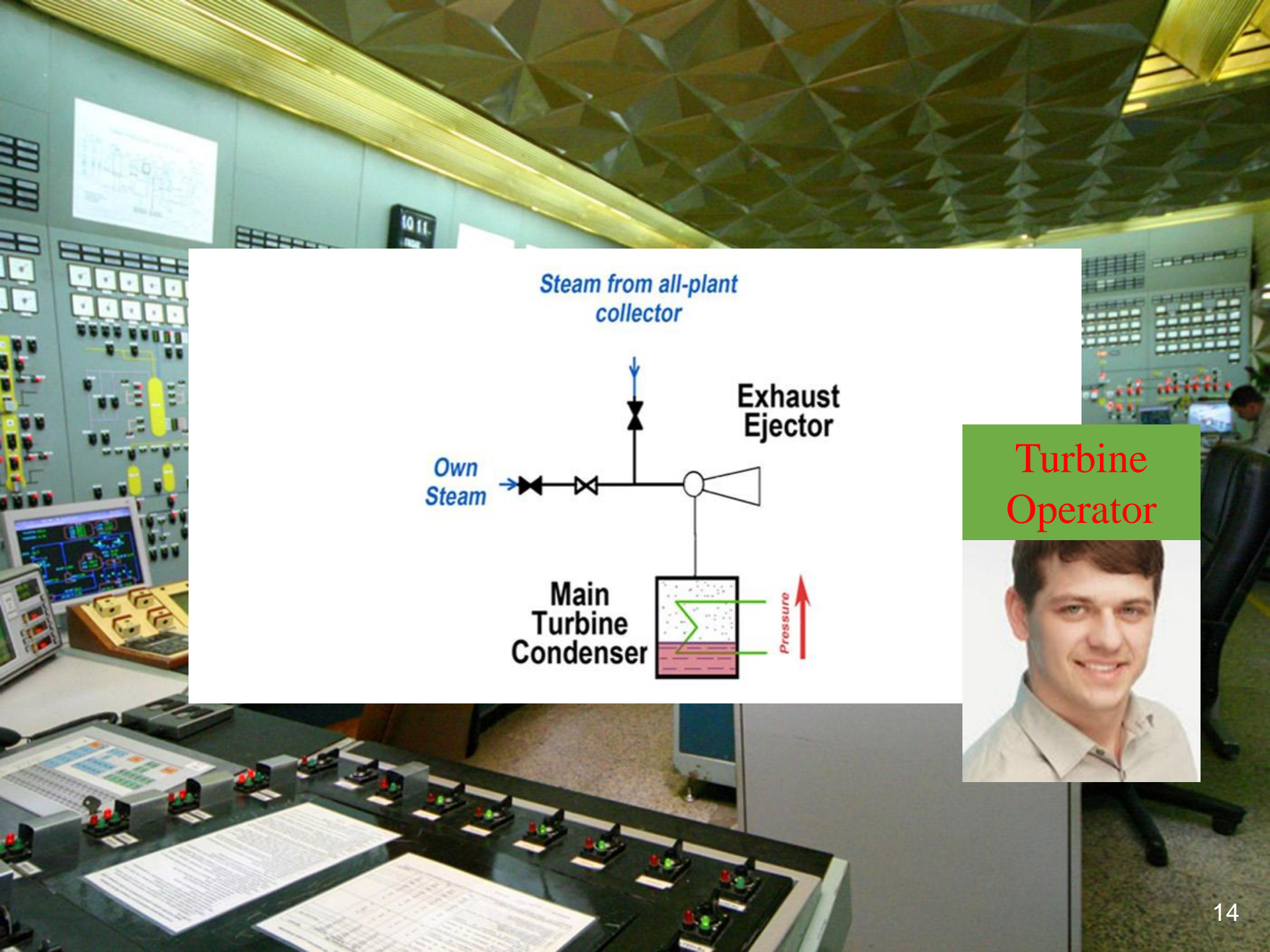
Turbine
Operator





**Turbine
Operator**





**Turbine
Operator**



SCRAM!

Plant Shift Supervisor



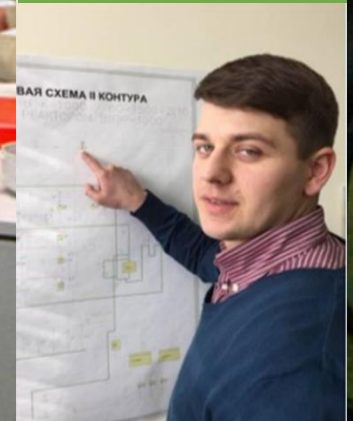
Turbine Shift Supervisor

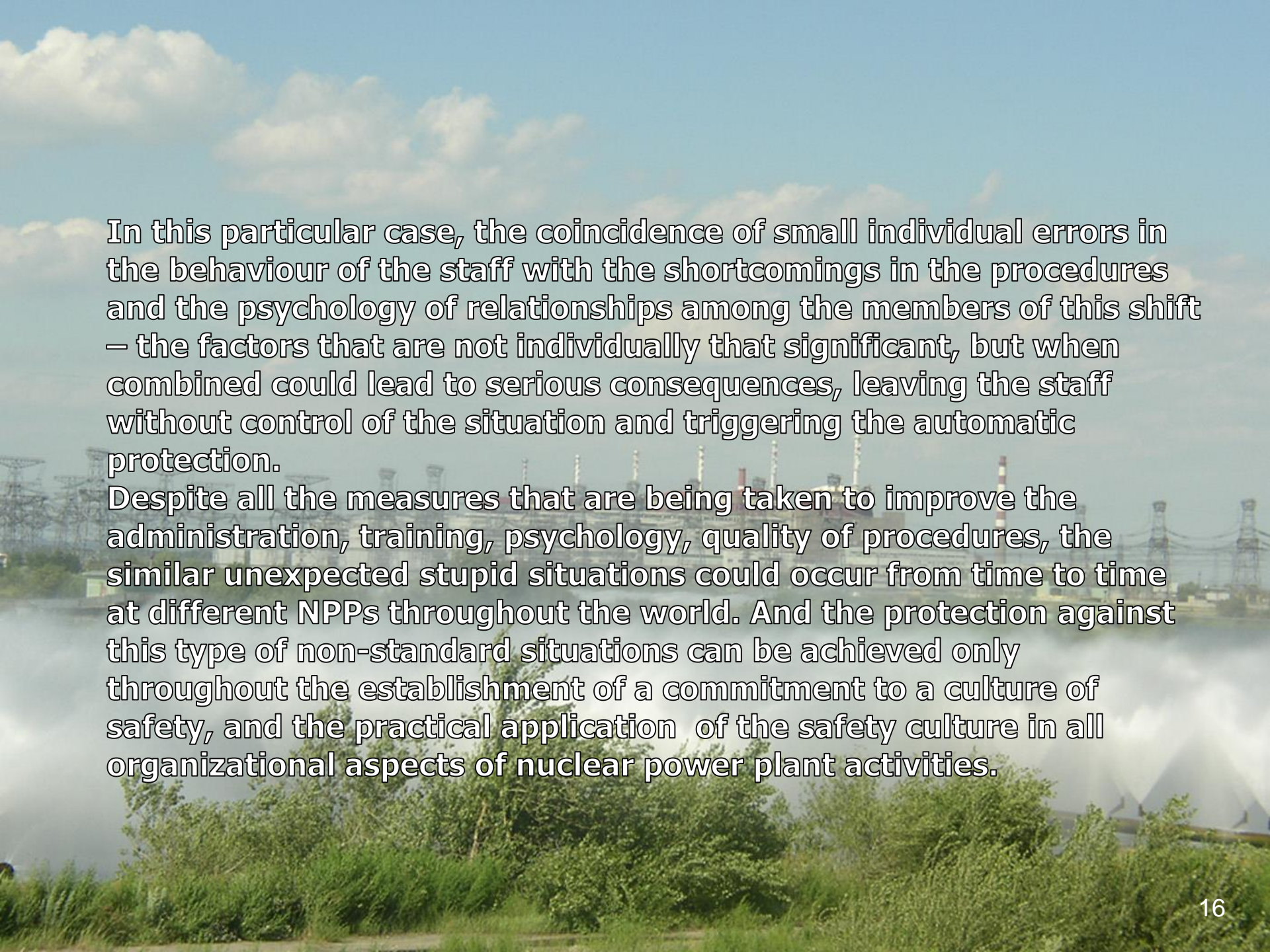


Unit Shift Supervisor



Turbine Operator





In this particular case, the coincidence of small individual errors in the behaviour of the staff with the shortcomings in the procedures and the psychology of relationships among the members of this shift – the factors that are not individually that significant, but when combined could lead to serious consequences, leaving the staff without control of the situation and triggering the automatic protection.

Despite all the measures that are being taken to improve the administration, training, psychology, quality of procedures, the similar unexpected stupid situations could occur from time to time at different NPPs throughout the world. And the protection against this type of non-standard situations can be achieved only throughout the establishment of a commitment to a culture of safety, and the practical application of the safety culture in all organizational aspects of nuclear power plant activities.

The SAFETY CULTURE
is the main important step
dividing us
from the edificatory Past



THE FUTURE CHOICE
IS YOURS

THANK YOU FOR ATTENTION!

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