



**Activities of Rostekhnadzor within the functional subsystem for
control of radiation hazardous facilities of unified state system for
prevention of and response on emergencies**

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Rostechnadzor mandate under unified state system for prevention of and response on emergencies



*Government Decree 30.12.2003
№ 794 «On unified state system for prevention of and
response on emergencies»*



- ✓ control of radiation hazardous facilities
- ✓ control of chemical and fire hazardous facilities



*Government Decree 30.07.2004
№ 401 «On Federal Environmental, Industrial and Nuclear Supervision
Service»*

- ✓ manage activities of functional subsystem for control of radiation hazardous facilities (as a part of unified state system for prevention of and response on emergencies)
- ✓ enact federal rules and regulations in the field of atomic energy use

Tasks of functional subsystem for control of radiation hazardous facilities



Rostekhnadzor's decree 17.08.2015 №318 «On functional subsystem for control of radiation hazardous facilities of unified state system for prevention of and response on emergencies»

- ✓ control on preparedness of for emergencies
- ✓ detection of violations which could result in radiological emergencies (detection of their causes, enforcement for their elimination)
- ✓ provision of preparedness of Rostekhnadzor for emergencies

Organizational structure of functional subsystem for control of radiation hazardous facilities



Rostekhnadzor commission on prevention of and response on emergencies

Dpt. for safety of nuclear power plants and research reactors

Dpt. for nuclear security and accounting & control of radioactive materials

Dpt. for regulation of nuclear fuel cycle facilities and nuclear floating vessels

24/7 operational dispatch service

Technical and Emergency Center of Rostekhnadzor (Rostekhnadzor TEC)



EMERGENCY DRILLS AND EXERCISES



INSPECTIONS

Control bodies – subdivisions in regional departments

Central

Northern-europe

Ural

Volga

Siberia and Far east

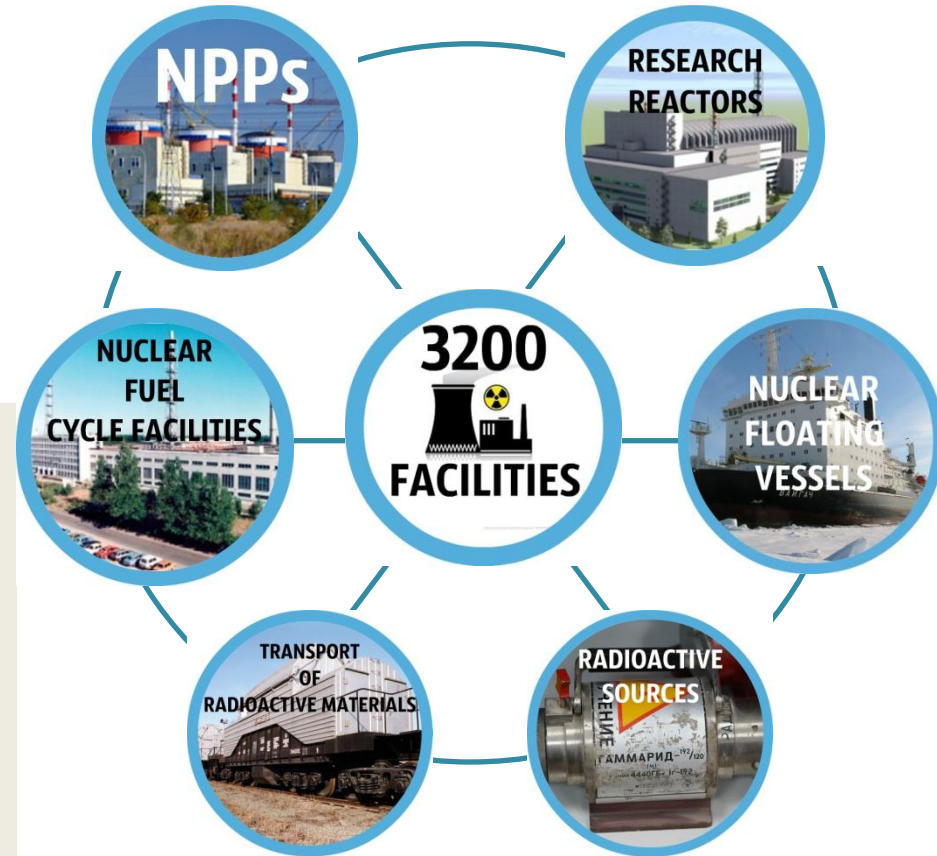
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Federal norms and rules in the field of atomic energy use as a basis for control of radiation hazardous facilities

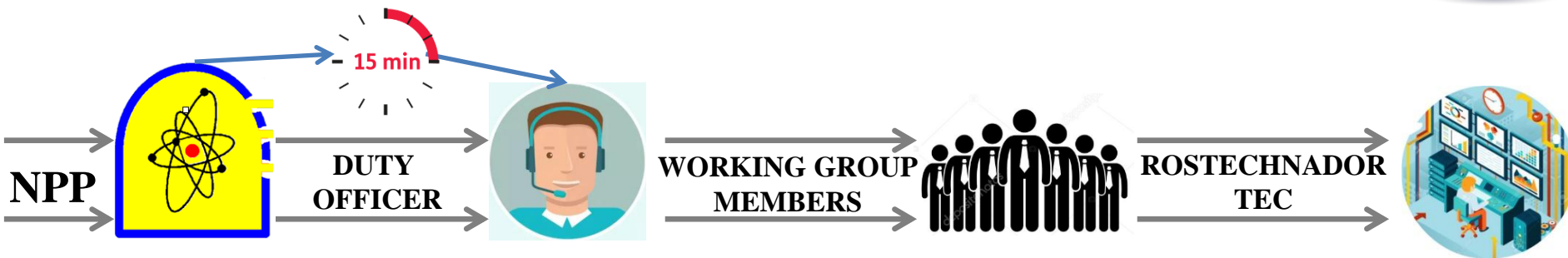


19 regulatory documents

- ✓ *emergency planning zones*
- ✓ *classification and notification of an emergency*
- ✓ *initiation of emergency response*
- ✓ *investigation of the causes of the accident*
- ✓ *requirements for emergency plans, instructions and guides content*



Rostechnadzor TEC. Tasks and activation



Routine activity

24/7 preparedness for reception of information on emergencies

Preparedness to inform Rostechnadzor TEC working group members

Maintenance of operability of evaluation codes and up-to-dateness of documents

Developing of emergency assessment tools

Emergency (exercises and real emergencies)

Experts-members of working groups arrive to Rostechnadzor TEC upon calling over

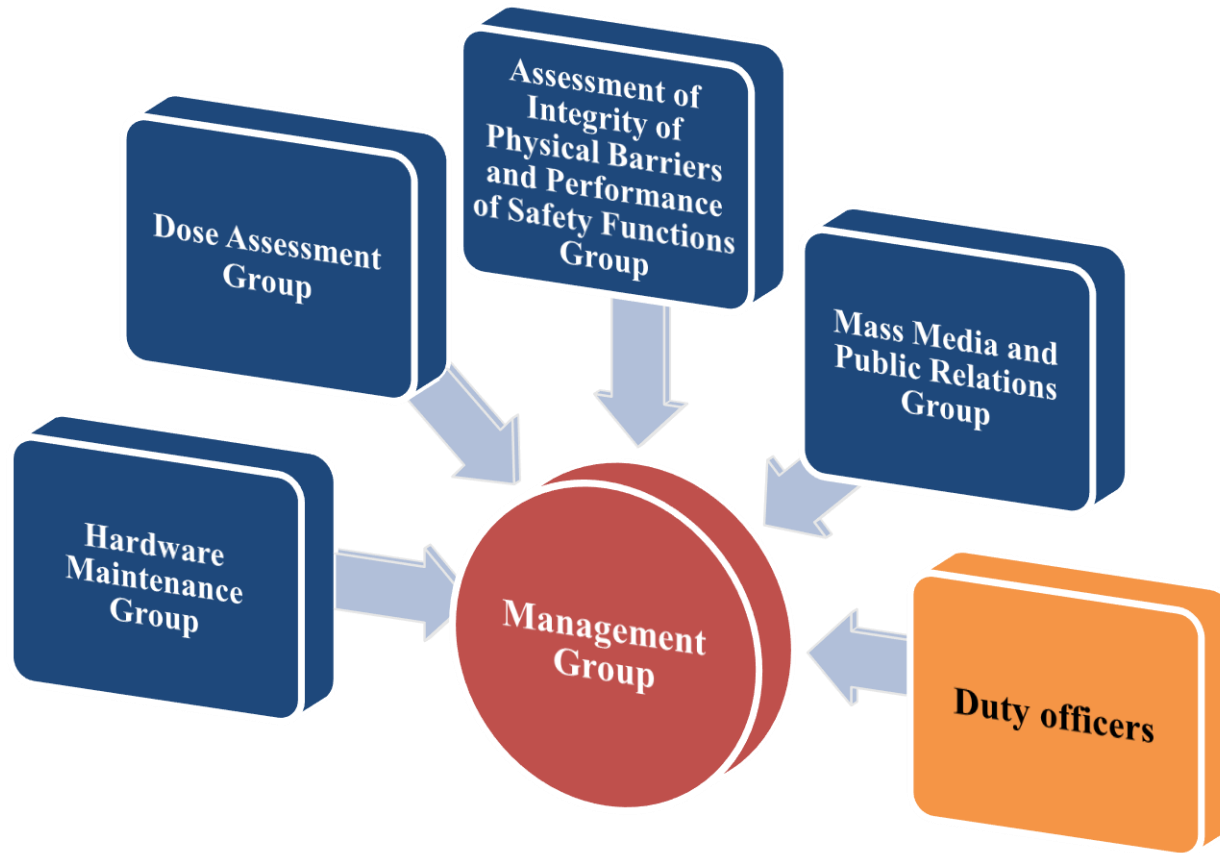
Collection and processing of information on accident

Carrying out dose assessment and prognosis

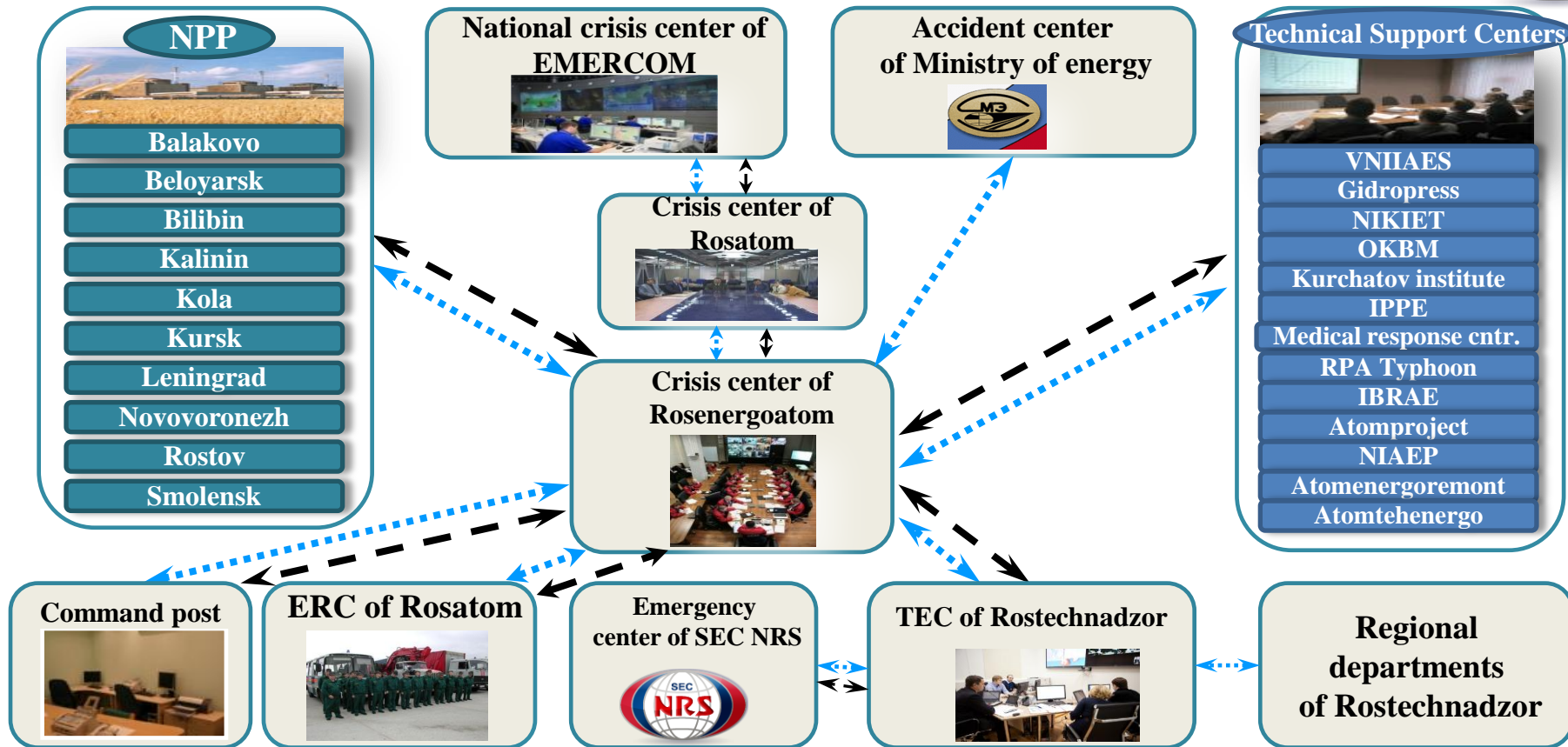
Carrying out assessment and prognosis of integrity of physical barriers and performance of safety functions

Informing authorities, media, public

Rostechnadzor TEC working groups organizational structure

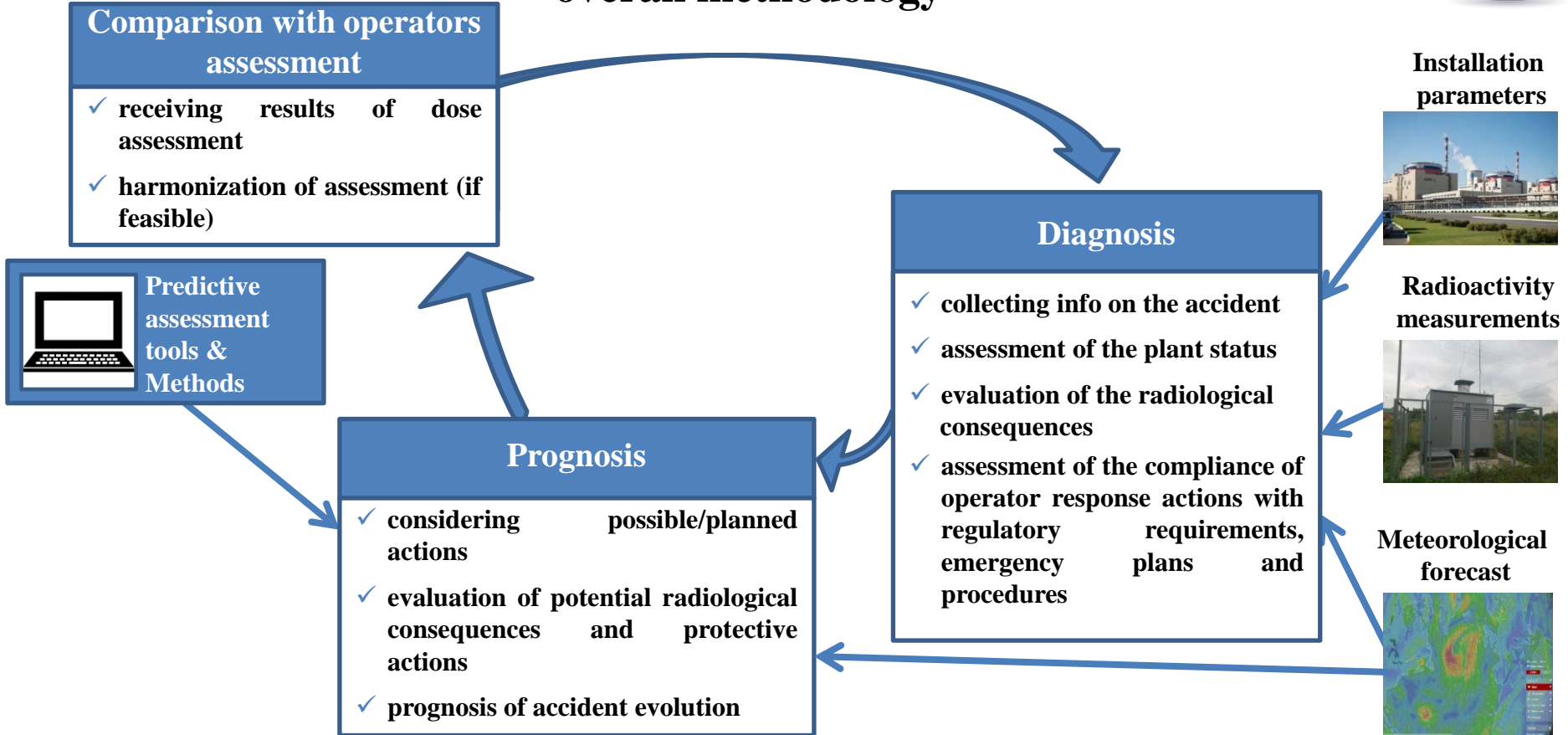


Unified Information System



Data transfer
 Video conference

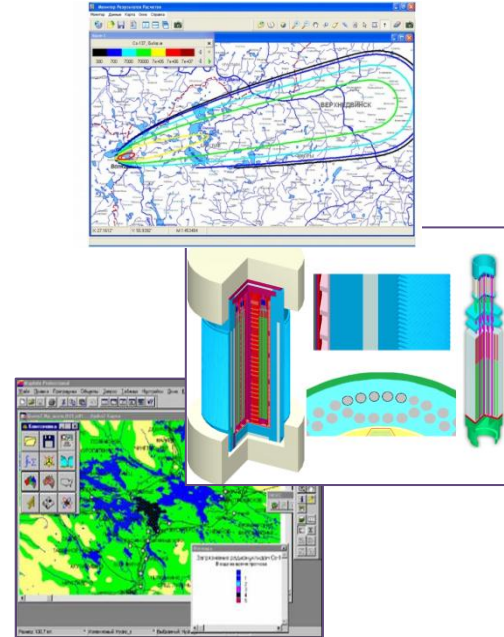
Emergency assessment by Rostechnadzor TEC: overall methodology



Assessment tools used by SEC NRS experts in support to Rostechnadzor TEC



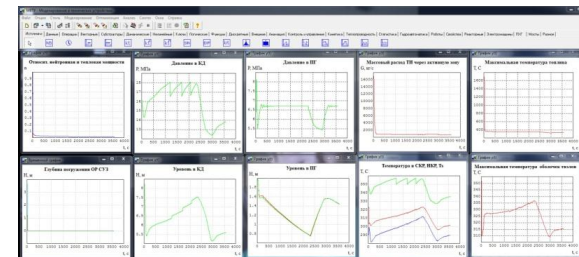
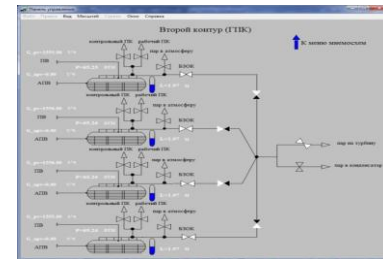
- ✓ SCALE – core inventory calculations
- ✓ NOSTRADAMUS – dose assessment due to accidental airborne releases (current meteorological conditions)
- ✓ RECASS NT – dose assessment due to accidental airborne and waterborne releases (meteorological forecast)
- ✓ methodologies for generic assessment of accidental releases
- ✓ CASSANDRA – dose assessment due to accidental waterborne releases



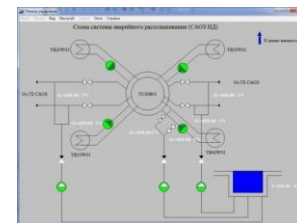
Tools for assessment and prognosis of integrity of physical barriers and performance of safety functions



- ✓ Rainbow-TPP – reactor thermohydraulics and neutronics (within coolant pressure boundary)
- ✓ TPP – 2nd circuit simulation, safety systems, containment;
- ✓ MBTY – safety systems modelling



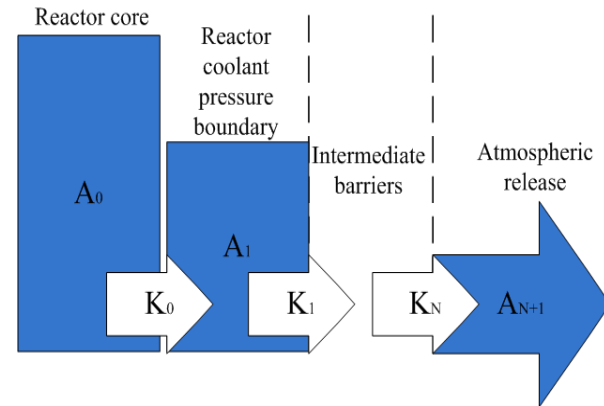
Управление		
АЗ	Защитное > 4 балла	Контроль 4С
ПЗ-1	Теплообменник	Контроль ПЗ
УЗВ	Отключение КЛЗ-24	Контроль УЗВ
Точка 1	Охлаждение азотом	Контроль Точка 1
ОР СУЗ	Подпитка баков САОЗ	Контроль ОР СУЗ
СИ для ТМН	Подпитка баков АМН	Контроль СИ для ТМН
Контроль		Контроль СИ-МН



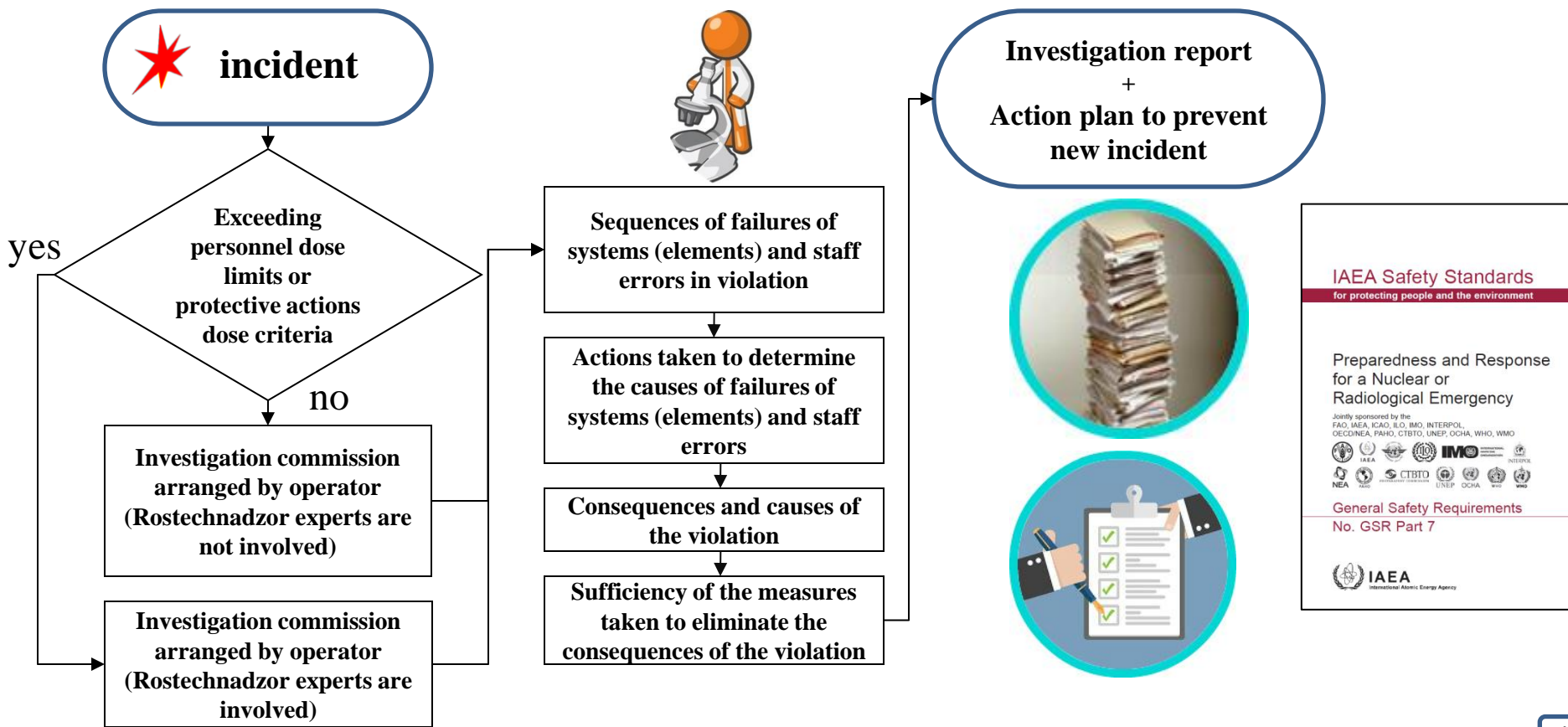
Methodologies used in Rostechnadzor TEC



- ✓ methodologies used during drills and emergency exercises:
 - Methodology for evaluation of emergency drills and exercises (applicable for NPPs)
 - Methodology for generic assessment of accidental releases for WWER-1000 (V-320)
 - Methodology for generic assessment of accidental releases for RBMK-1000 (V-320)



Investigation of incidents and developing measures to prevent new ones (example of research reactors)



IAEA Safety Standards
for protecting people and the environment

Preparedness and Response
for a Nuclear or
Radiological Emergency

Jointly sponsored by the
FAO, IAEA, ICAD, ILO, IMO, INTERPOL,
OECD/NEA, PAHO, CTBTO, UNEP, OCHA, WHO, WMO

General Safety Requirements
No. GSR Part 7

IAEA
International Atomic Energy Agency



Thank you for attention!