ATENA
Atomic Energy Association

Organization Overview

Name Atomic Energy Association (ATENA)

Address Keidanren Kaikan, 3-2, 1-Chome, Ohte-machi, Chiyoda-ku, Tokyo, 100-8118

Establishment date July 1, 2018

Executive officers (as of July 1, 2018)

President & CEO	Ei Kadokami, Special Advisor, Mitsubishi Heavy Industries, Ltd.
Director	Hideki Toyomatsu, Director and Executive Vice President, The Kansai Electric Power Company, Incorporated
Director	Yoshihiro Tomioka, Director and Deputy Secretary General, The Federation of Electric Power Companies of Japan
Auditor	Akio Takahashi, President, Japan Atomic Industrial Forum, Inc.
Auditor	Manabu Takamoto, President, The Japan Electrical Manufacturers' Association

Members (as of July 1, 2018)

19 companies and organizations

Central Research Institute of Electric Power Industry, Chubu Electric Power Co., Inc., The Chugoku Electric Power Co., Inc., Electric Power Development Co., Ltd., The Federation of Electric Power Companies of Japan, Hitachi, Ltd., Hokkaido Electric Power Co., Inc., Hokuriku Electric Power Company, Inc., Japan Atomic Industrial Forum, Inc., The Japan Atomic Power Company, The Japan Electrical Manufacturers' Association, The Kansai Electric Power Company, Incorporated, Kyushu Electric Power Company, Inc., Mitsubishi Electric Corporation, Mitsubishi Heavy Industries, Ltd., Shikoku Electric Power Company, Incorporated, Tohoku Electric Power Co., Inc., Tokyo Electric Power Company Holdings, Inc., Toshiba Energy Systems & Solutions Corporation (Alphabetical order)

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Atomic Energy Association (ATENA) will exercise leadership in the nuclear industry and step forward to address issues related to nuclear safety, thereby promoting initiatives by nuclear operators to enhance safety.

Ever since the Fukushima Daiichi Nuclear Power Station accident, nuclear operators have responded appropriately to the new regulatory requirements. In addition to that, based on the reflections and lessons learned from the accident, they have sought to introduce various safety measures in cooperation with the Japan Nuclear Safety Institute (JANSI) and Central Research Institute of Electric Power Industry's Nuclear Risk Research Center (NRRC) with the idea of "there is no zero risk in nuclear power". Through these efforts, nuclear operators have restarted several plants that are safer than ever before. However, the industry has yet to regain society's trust in nuclear power—we are aware that the environment surrounding nuclear power continues to be severe.

To firmly ensure operators' voluntary and continuous safety improvement activities, the whole of the nuclear industry, including manufacturers, must cooperate and engage in dialogue with the regulatory authorities, build a transparent system to formulate effective safety measures and prompt operators to introduce them into the actual sites.

ATENA seeks to coordinate the activities of the nuclear industry and effectively utilize the knowledge and resources held by various industry entities to identify issues to be addressed together and propose safety measures from a scientific and objective viewpoint. By deploying the proposed measures to nuclear power plants across the country, we hope to accomplish the higher level of safety for nuclear power plants.

I have long considered safety improvement initiatives that the nuclear industry aims for analogous to a "boat that is rowing out upstream in a swift current." If we do not keep on rowing the boat, the current will carry us downstream. I believe that the nuclear operators and manufacturers as rowers of the boat named ATENA can provide each other with ideas, and cooperate and row together as one to aim for the upper stream, toward even higher safety level.

To that end, operators, manufacturers and related organizations will work together to improve safety. ATENA will commit to exhibiting leadership within the nuclear industry and take a new step forward in that endeavor.

President & CEO
Ei Kadokami

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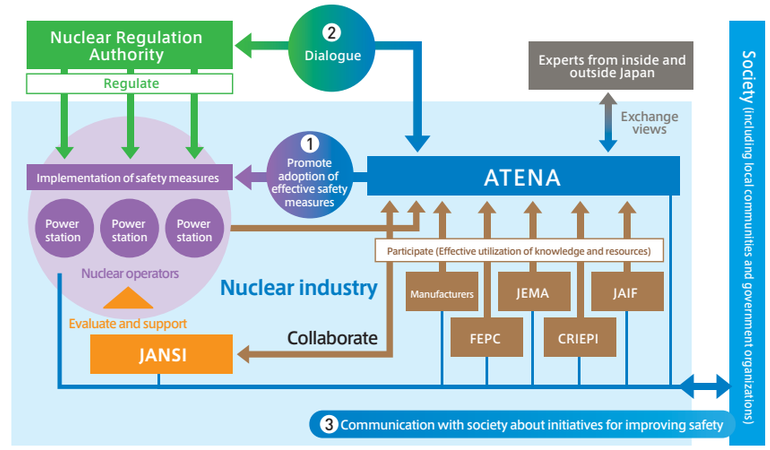
About Atomic Energy Association (ATENA)

Since the accident at the Fukushima Daiichi Nuclear Power Station, the nuclear industry has firmly resolved never to allow such an accident to happen again, and pursued initiatives aimed at assuring an even higher dimension of safety that goes beyond the regulatory framework by having organizations, such as the Japan Nuclear Safety Institute (JANSI) and Central Research Institute of Electric Power Industry (CRIEPI) Nuclear Risk Research Center (NRRC), support and assist in nuclear operators' safety improvement efforts.

So that these voluntary and continuous initiatives of the nuclear industry are promoted by more sound basis, a new organization, ATENA, was established to effectively utilize the knowledge and resources of the entire nuclear industry, formulate effective measures while engaging in a continuing dialogue with regulators and others, and encourage nuclear operators to incorporate these measures into their actual site operations.

Role of ATENA



(FEPC : The Federation of Electric Power Companies of Japan JEMA : The Japan Electrical Manufacturers' Association JAIF : Japan Atomic Industrial Forum)

① Work throughout the nuclear industry to provide solutions to common issues and encourage nuclear operators to incorporate effective safety measures

② Engage in dialogue with regulators with the shared objective of improving safety

③ Communicate with various stakeholders about safety improvement initiatives.

Business activities of ATENA

Mission

- ATENA will make decisions on introducing voluntary and effective safety measures while effectively utilizing the knowledge and resources of the entire nuclear industry, and encourage nuclear operators to incorporate these effective measures into their actual site operations, thereby raising the level of safety at nuclear power stations even higher.

Vision

- ATENA will exercise leadership in the nuclear industry and step forward to address issues related to nuclear safety, thereby promoting initiatives by nuclear operators to enhance safety.

Activity policy

- ATENA will provide a framework for the nuclear operators, manufacturers, and other nuclear organizations comprising the nuclear industry, to work collectively to address common issues relating to nuclear safety. Within this framework, while engaging in dialog with regulators as a representative of the nuclear industry, ATENA will exercise leadership in the nuclear industry and employ a high level of expertise, transparency and objectivity to identify and deliberate on issues relating to nuclear safety that the nuclear industry should address, make decisions on voluntary safety measures under singular governance, and encourage nuclear operators to incorporate these measures into their actual site operations.

Organization of ATENA

Steering Committee
- ·Identify issues
- ·Make decisions on safety measures
- ·Assess status of safety measure implementation, etc

- ■ ATENA members' senior executive level personnel serve as committee members
- ■ ATENA policies determined with the commitment of all committee members
- ■ Safety measures agreed upon using a methods that does not require the unanimous consent of nuclear operators

Attend

President & CEO Directors

Admin-ister ATENA affairs

Secretariat
- ·Coordinate activities in the nuclear industry

■ Expert staff dispatched from nuclear operators and manufacturers

Administration Committee
- ·Deliberate on issues and the review structure, etc

■ ATENA members' director level personnel serve as committee members

Working Groups
- ·Deliberate on topics
- ·Conduct a technical review of each issue
- ·Prepare technical reports, etc

■ Comprised of leading experts of the nuclear industry in a manner commensurate with the issue

[Information Release]
- ·Issues to be addressed by the nuclear industry
- ·Technical reports
- ·Status of operators' implementation of safety measures, etc

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Identify and address the nuclear industry's common issues

Identify issues

Issues that the nuclear industry should address will be identified by investigating and analyzing plant status, the most up-to-date knowledge and other data available both inside and outside Japan while incorporating the opinions of overseas experts and assessing the significance of issues and effectiveness of potential safety measures in reducing risks. Issues will be identified in the Steering Committee on which senior executive level personnel from ATENA members will serve as committee members.

Deliberate on issues

Technical reviews will be conducted for each issue in working groups that will be attended by experts including those from manufacturers.

Plant status
- Regulatory requirements conformance status
- Trouble reports
- Probabilistic risk assessment (PRA), stress test results (risk profile), etc

Domestic knowledge
- Technical issues that operators are aware of
- Technical issues that the regulatory authorities are aware of
- Issues shared in owners' groups
- Status of JANSI' s domestic and overseas information analysis

Overseas knowledge, etc
- The most up-to-date knowledge discussed at IAEA, NEI, EPRI, and regulatory agencies abroad (e.g. U.S. NRC and French ASN), etc

Main issues → Prioritized → Issues to be addressed by the nuclear industry → Technical discussion in working groups

Probabilistic risk assessment (PRA): A comprehensive methodology to review accident scenarios that may occur at nuclear power plants and quantitatively assess the frequency and the impact of such scenarios
Stress test: A test that evaluates the safety margin of safety critical facilities and equipment for a nuclear power plant event exceeding design basis event
Risk profile: Quantitative or qualitative risk assessment results of power plants
Owners' groups: Meetings to conduct necessary technical discussions and share technical information between domestic nuclear operators and domestic plant manufacturers. There are the Japan PWR Owners' Group and Japan BWR Owners' Group.

IAEA International Atomic Energy Agency
NRC Nuclear Regulatory Commission
ASN Autorité de sûreté nucléaire
NEI Nuclear Energy Institute
EPRI Electric Power Research Institute

Deploy safety measures

Make decisions on safety measures

ATENA's policy is determined in the Steering Committee attended by regular members. Nuclear operators' deployment of safety measures in the site will not require unanimous consent.

Compile and release the technical reports to the public

Such as recommendation on safety measures will be compiled into a technical report and released to the public.

Examples of technical reports

- ■ Nuclear industry guidelines that contribute to the further improvement of safety
- ■ Response policy for new knowledge
- ■ Guidelines that specify the operational procedures to fulfill the regulatory requirements, etc

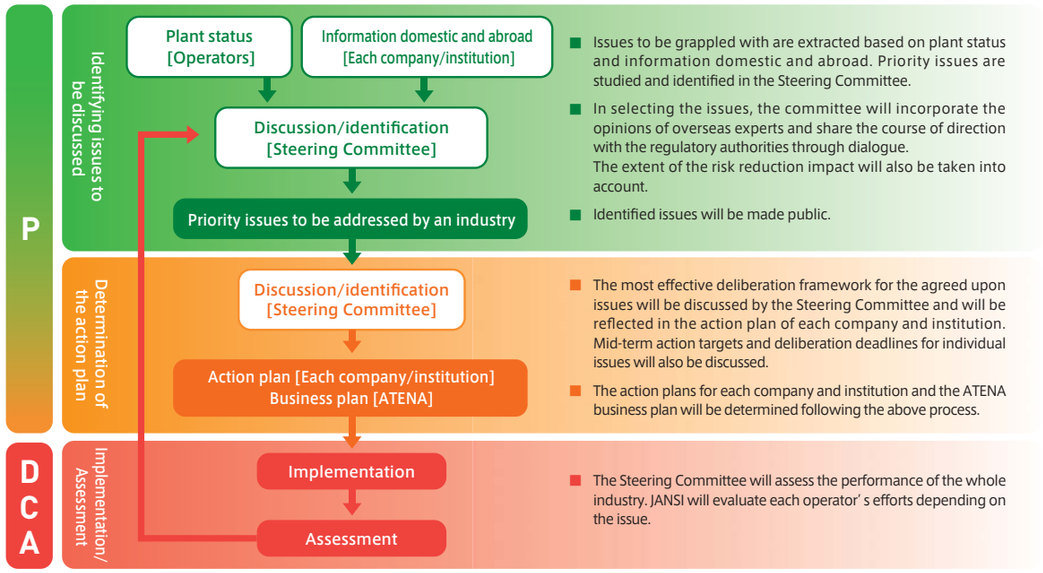
Assess, and inform the status of the industry

Every year, assess and release to the public the status of the nuclear operators' implementation of safety improvement initiatives including their effect on risk reduction

PDCA Cycle for ATENA activities

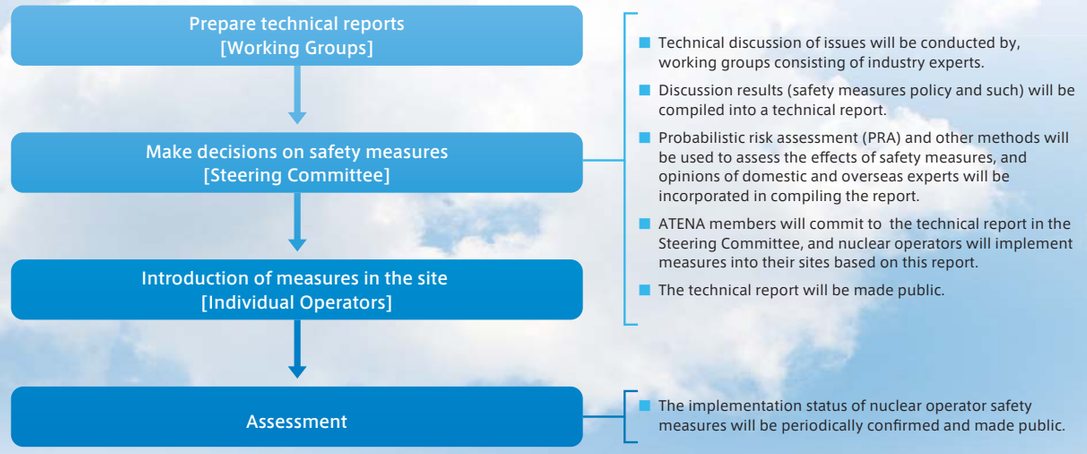
Business activities

The PDCA cycle will be operated following the work processes below. Priority items that need to be addressed by the nuclear industry will be determined and described in ATENA's business plan . Activity performance of the whole industry will be evaluated.



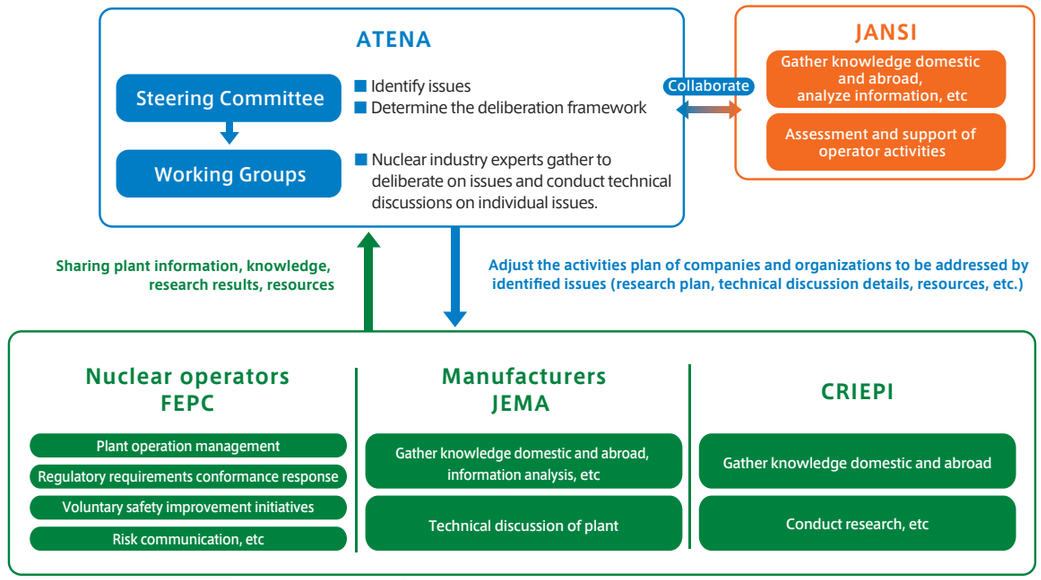
PDCA: An activity cycle for improving work performance. An acronym of Plan-Do-Check-Action.

Discussion flow for individual issues



Coordinate activities within the nuclear industry

Each stage of the process, including identifying the issues to be addressed by the nuclear industry and deliberating on individual issues, will be conducted effectively and efficiently, utilizing the knowledge and resources held by the nuclear industry.



Dialogue with the regulatory authorities

The regulatory authorities and operators will share issues from the initial discussion stage. Among such issues, issues that could be beneficial to investigate in increasing safety effectively and efficiently will be selected. When deliberating on individual issues, dialogue with regulators will also take place and the process of developing safety measures will be shared each other.

Opinion exchanges with experts domestic and abroad

The opinions of experts domestic and abroad will be incorporated in deciding on issues and safety measures.