

**RULES FOR THE ~~INTERIM~~ RELIABILITY PERFORMANCE INDICES AND EQUIVALENT FORCED OUTAGE DAYS PER YEAR OF GENERATING UNITS**

**ARTICLE I - OBJECTIVES**

These Rules aim to:

- (a) Set a reliability performance benchmark per technology for all generating units to lessen **FORCED** outages and ensure predictable power supply and rate;
- (b) Promote accountability of Generation Companies, the System Operator, and the Transmission Network Provider to achieve greater operations and economic efficiency; and
- (c) Monitor the actual ~~planned and unplanned~~ **FORCED** outage days of generating units.

**ARTICLE II - GOVERNING PRINCIPLES**

Republic Act No. 9136, otherwise known as the "Electric Power Industry Reform Act of 2001" (The Act) declares that the State shall: 1) ensure quality, reliability, security, and affordability of the supply of electric power; 2) ensure transparency in a regime of free and fair competition, with full public accountability to achieve greater operational and economic efficiency; and 3) protect the public's interest as it is affected by the rates and services of electric utilities and other providers of electric power.

The Rules for the ~~Interim~~ Reliability Performance ~~Indices~~ and Equivalent **FORCED** Outage Days Per Year of Generating Units are among the rules promulgated by ERC to drive generating plants to perform better and instill discipline by setting outage allowance in days per year that will serve as the standard per technology for all generating units.

The ~~indices being prescribed are determined based on the computed Reliability Performance per Technology, as well as the Number of FORCED Outage Days per year WAS BASED by utilizing information from Actual Events Reports from 2014 TO 2022 2015 to 2019 as submitted by generation companies in compliance with ERC Resolution No. 21, Series of 2016.~~

**ARTICLE III - SCOPE AND APPLICATION**

The ~~interim~~ benchmark **FORCED OUTAGE DAYS** shall apply to Generation Companies with Conventional and Non-Variable Renewable Energy Generating Plants connected to the Grid, including Embedded Generating Plants, which have an aggregate capacity of 5 MW and above. **THESE RULES SHALL NOT APPLY TO VARIABLE RENEWABLE ENERGY INCLUDING RUN-OF RIVER HYDROELECTRIC GENERATING PLANTS.**

#### ARTICLE IV - DEFINITION OF TERMS

As used in these Rules, the following terms shall have the following respective meanings:

**Availability Factor.** The ratio of Available Hours to the Period Hours of a Unit and/or Component, expressed in percent.

$$\text{Availability Factor} = \frac{\text{Available Hours}}{\text{Period Hours}} \times 100\%$$

**Available Hours.** The number of hours a Unit is in the available state, in which a Unit is capable of providing service, whether or not it is actually in service and regardless of the capacity level that can be provided.

**Embedded Generators.** Refer to Generating Units that are indirectly connected to the Grid through the Distribution Utilities' lines or Industrial Generation Facilities that are synchronized with the Grid and supply power to their host Distribution Utility or the Grid.

**EXTENDED OUTAGE GOMP.** THIS IS AN OUTAGE STATE THAT IS THE EXTENSION OF THE PLANNED OUTAGE (GOMP) BEYOND ITS PREDETERMINED DURATION. EXTENDED GOMP APPLIES ONLY IN INSTANCES WHERE THE ORIGINAL SCOPE OF WORK REQUIRES MORE TIME TO COMPLETE THAN ORIGINALLY SCHEDULED.

**FORCED OUTAGE.** AN OUTAGE THAT REQUIRES IMMEDIATE REMOVAL OF A UNIT FROM SERVICE, ANOTHER OUTAGE STATE, OR A RESERVE SHUTDOWN STATE:

**CLASS 0 FORCED OUTAGE. (STARTING FAILURE)** AN OUTAGE, ASIDE FROM OUTSIDE MANAGEMENT CONTROL (OMC), THAT RESULTS FROM UNSUCCESSFUL ATTEMPT TO PLACE THE UNIT IN-SERVICE.

**CLASS 1 FORCED OUTAGE. (IMMEDIATE)** AN OUTAGE, ASIDE FROM OMC, THAT REQUIRES IMMEDIATE REMOVAL FROM THE EXISTING STATE. IT CAN BE MEASURED WITHIN FIVE (5) MINUTES OF TIME OF REMOVAL.

**CLASS 2 FORCED OUTAGE. (DELAYED)** AN OUTAGE, ASIDE FROM OMC, THAT DOES NOT REQUIRE IMMEDIATE REMOVAL FROM THE IN-SERVICE STATE BUT REQUIRES REMOVAL BEYOND FIVE (5) MINUTES BUT NOT EXCEEDING SIX (6) HOURS. THIS TYPE OF OUTAGE CAN ONLY OCCUR WHILE THE UNIT IS IN-SERVICE.

**CLASS 3 FORCED OUTAGE. (POSTPONED)** AN OUTAGE, ASIDE FROM OMC, THAT CAN BE POSTPONED BEYOND SIX (6) HOURS BUT NOT EXCEEDING SEVEN (7) DAYS. THIS TYPE OF OUTAGE CAN ONLY OCCUR WHILE THE UNIT IS IN-SERVICE.

**Force Majeure Event.** An event beyond the reasonable control of the Participant claiming force majeure which, through the exercise of due foresight and Good Industry Practice, the Participant could not have avoided and which, by exercise of due diligence, the Participant is unable to overcome. Such events include, but are

not limited to the following, to the extent that such event prevents performance of a Participant of an obligation: typhoon; storm; tropical depression; flood or inundation; lightning strikes; earthquake; volcanic eruption; fire; epidemic; war; invasion; riot; national emergencies, civil disturbance; sabotage; explosion; insurrection; military or usurped power; action of any court or governmental authority; or any civil or military authority de facto or de jure; natural calamity or act of public enemy; or any other event or cause of a similar nature beyond the reasonable control of the Participant claiming force majeure. A strike or labor dispute is not a Force Majeure Event. **OUTAGES THAT ARE OUTSIDE THE CONTROL OF MANAGEMENT SUCH AS EVENTS THAT ARE UNFORSEEABLE OR NONETHELESS INEVITABLE, AS WELL AS THOSE SIMILAR IN NATURE SUCH AS LACK OF WATER FOR HYDRO BASED FACILITIES, AND OTHER SIMILAR CASES SHALL BE CONSIDERED UNDER THIS SECTION.**

**Generating Plant.** A facility, consisting of one or more Generating Units, where electric energy is produced from some other form of energy by means of suitable apparatus.

**Generating Unit.** A unit conversion apparatus, including auxiliaries and associated equipment functioning as a single unit, which is used to produce electric energy from some other form of energy.

**Generation Company.** Any person or entity authorized by the ERC to operate a facility used in the generation of electricity.

**Grid.** The High Voltage backbone system of interconnected transmission lines, substations and related facilities, each located in Luzon, Visayas, and Mindanao, or as may be determined by ERC in accordance with Section 45 of the Act.

**Grid Operating and Maintenance Program (GOMP).** The Operating Program of the Grid prepared by the System Operator that contains the Scheduled Maintenance of grid components and/or facilities, its duration, estimated date and time of start and completion.

**Outage.** The state of a Unit and/or Component when it is not available to perform its intended function due to some event directly associated with that Unit and/or Component. An Outage may or may not cause an interruption of service to customers.

**OUTSIDE MANAGEMENT CONTROL (OMC).** AN OUTAGE WHEREIN THE CAUSE IS BEYOND THE CONTROL OF THE GENERATION COMPANY AND HAS NOT RESULTED FROM PLANNING ERROR OR NEGLIGENCE. THE FOLLOWING ARE CONSIDERED UNDER THIS CLASSIFICATION:

1. **FORCE MAJEURE EVENT;**
2. **GRID CONNECTION OR SUBSTATION FAILURE. THIS REASON RELATES TO PROBLEMS WITH TRANSMISSION LINES, SUBSTATION, AND SWITCHYARD EQUIPMENT OUTSIDE THE RESPONSIBILITIES OF THE GENERATING PLANT;**
3. **LACK OF FUEL (WATER FROM RIVERS OR LAKES, COAL MINES, GAS LINES, ETC.) WHERE THE GENERATION COMPANY IS NOT IN CONTROL OF CONTRACTS, SUPPLY LINES, OR DELIVERY FUELS;**

4. SPECIAL ENVIRONMENT LIMITATIONS SUCH AS LOW COOLING POND LEVEL, OR WATER INTAKE RESTRICTIONS THAT COULD NOT BE PREVENTED BY OPERATOR ACTION
5. LABOR STRIKE; AND
6. CHANGE IN ANNUAL PLANNED MAINTENANCE SCHEDULES DUE TO O&M OF GOVERNMENT FACILITIES AND/OR SYSTEM OPERATOR (I.E., NGCP, NPC, NIA).

**Period Hours** - number of hours a Unit was in the active state. A unit generally enters the active state on its service date which is the date of the actual commercial operation of the plant, after testing and commissioning.

**Planned Outage.** The state in which a Unit is unavailable due to inspection, testing, preventive maintenance or overhaul. A Planned Outage is scheduled with a pre-determined duration and is coordinated with the System Operator. The Planned Outage of a Unit shall be reflected in the Grid Operating and Maintenance Program (GOMP). **OR ANY OF ITS REVISIONS AS APPROVED BY THE SO SEVEN (7) DAYS BEFORE THE OUTAGE SCHEDULE. ANY OUTAGE ON ACCOUNT OF MAJOR MAINTENANCE AND OVERHAUL SHALL NOT BE COUNTED AGAINST THE NUMBER OF DAYS ALLOWED FOR PLANNED OUTAGES.**

**RUN-OF-RIVER (ROR) HYDROELECTRIC GENERATING PLANT.** A WATER-BASED ENERGY SYSTEM WHICH PRODUCES ELECTRICITY BY UTILIZING THE KINETIC ENERGY OF RUNNING WATER TO TURN A TURBINE GENERATOR, HAS NO OR VERY LITTLE STORAGE CAPACITY, AND WHOSE GENERATION IS DEPENDENT ON THE TIMING AND SIZE OF RIVER FLOWS.

**System Operator (SO).** The party responsible for generation dispatch, or the implementation of the generation dispatch schedule of the Market Operator, the provisions of ancillary services, and operation to ensure the safety, power quality, stability, reliability and security of the Grid.

**Transmission Network Provider (TNP).** The party responsible for maintaining adequate Grid capacity in accordance with the provisions of the Philippine Grid Code.

~~**Unplanned Outage.** The state in which a Unit is unavailable but is not in the Planned Outage state. Also, Unplanned Outage starts when Planned Outage ends but is extended due to unplanned work.~~

**VARIABLE RENEWABLE ENERGY GENERATING FACILITY.** A FACILITY CONSISTING OF ONE OR MORE GENERATING UNITS, WHERE ELECTRIC ENERGY IS PRODUCED FROM A SOURCE THAT IS RENEWABLE, CANNOT BE STORED BY THE FACILITY OWNER OR OPERATOR AND HAS INHERENT INTERMITTENCY THAT IS BEYOND THE CONTROL OF THE FACILITY OWNER OR OPERATOR.

#### **ARTICLE V – RELIABILITY PERFORMANCE INDICES AND EQUIVALENT FORCED ALLOWABLE OUTAGE DAYS**

~~Shown in Table 1 are the Standard Planned and Unplanned Outages determined by ERC for the different generating plant technologies:~~

**Table 1. Allowable Planned and Unplanned Outage Days**

	Pulverized Coal	Circulating Fluidized Bed	Combine Cycle	Gas Turbine	Diesel	Geothermal	Hydro-electric	Oil-Fired Thermal	Biomass
No. of Day Unavailable	44.7	32.3	20.2	29.2	19.0	19.7	29.9	58.6	39.7
No. of Days of Planned Outage	27.9	15.4	12.5	6.5	5.0	6.0	23.1	30.8	32.7
No. of Days on Unplanned Outages	16.8	16.9	7.7	22.7	14.0	13.7	6.8	27.8	7.0

**TABLE 1. ALLOWABLE FORCED OUTAGE IN DAYS**

TECHNOLOGY	ALLOWABLE FORCED OUTAGE (DAYS)
COAL (CFB)	64.0
DIESEL	75.1
NAT GAS	47.93
GEO THERMAL	138.8
HYDRO	29.3
HYDRO (PUMP-STORAGE)	33.1
COAL (PULVERIZED)	95.9

ERC recognizes the technical capabilities of the SO and the TNP, being the primary entities in maintaining and ensuring the security and reliability of the grid, in so far as the determination of the reasonable **PLANNED** outages are concerned **AND SHALL BE DETERMINED THROUGH THE APPLICATION PROCEDURE OUTLINED IN ARTICLE VI.** For this reason, the SO and the TNP shall utilize the allowable planned outage days in Table 1 as guide in preparing the GOMP. However, if the SO and the TNP shall utilize planned outages beyond what is allowable in Table 1 hereof, the same shall provide a report as to the reason for such consideration. This report shall be incorporated in the Quarterly Submission of the GOMP by the SO to the ERC.

The ERC sets the standard **unplanned FORCED** outages for the generating plants to strictly observe. Not only shall this ensure that the generating plants will be properly maintained, consequently resulting to lesser incidents and occurrences of **unplanned FORCED** outages. **FORCED OUTAGES THAT ARE CLASSIFIED AS OUTSIDE MANAGEMENT CONTROL OUTAGES SHALL NOT BE COUNTED AGAINST A GENERATING UNIT'S FORCED OUTAGE ALLOWANCE.**

Further, as part of the operational responsibilities stated in 6.3.1 and 6.3.2 of the PGC Grid Operations (GO), the SO and the TNP shall ensure security and

~~reliability of the Grid in the preparation and implementation of the Grid Maintenance Program.~~

#### ARTICLE VI – OUTAGE ALLOWANCE APPLICATION

The planned outage allowance in days per year, **AS SUBMITTED BY THE GENERATING PLANTS**, ~~as determined herein~~, shall be used by the SO and TNP TO guide their preparation and implementation of the GOMP. **ALL PLANNED OUTAGES REFLECTED IN THE GOMP, ANY OF ITS REVISIONS, OR AS APPROVED BY THE SO SEVEN (7) DAYS BEFORE THE OUTAGE SCHEDULE SHALL BE ALLOWED. IF THE SO APPROVES THE EXTENDED OR REVISED PLANNED OUTAGE SCHEDULE IN LESS THAN SEVEN (7) DAYS BEFORE THE OUTAGE SCHEDULE, SUCH APPROVAL SHALL BE IMMEDIATELY COMMUNICATED TO THE ERC.**

On the other hand, the **FORCED** ~~unplanned~~ outage allowance in days per year, **AS DETERMINED UNDER ARTICLE V**, will serve as the maximum or cap for **FORCED** ~~unplanned~~ outages per power plant technology.

The said planned and **FORCED** ~~unplanned~~ outage allowances may also be used as guide **IN THE COMPETITIVE SELECTION PROCESS AND** by the Commission for its evaluation of cases and monitoring purposes.

#### ARTICLE VII – TRANSITORY AND FINAL PROVISIONS

**Section 1. Administrative Sanctions.** In case of non-compliance by any person or entity with any of the provisions of these Rules, ERC shall review such non-compliance and issue a Notice of Non-Compliance with an Order ~~to comply and to explain~~, within **FIFTEEN (15) DAYS** ~~seven (7) days~~ from receipt of the same, the reason or reasons therefor. After the Notice and Order shall have been issued by ERC and the person or entity still refuses and fails to ~~comply~~. **EXPLAIN** within the reglementary period of what is incumbent upon the person or entity, ERC shall impose the necessary fines and penalties.

Violations of these Rules shall be subject to the imposition of appropriate sanctions, fines, and penalties in accordance with SECTION 5 OF ERC Resolution No. 3, Series of 2009, entitled a *“Resolution Amending the Guidelines to Govern the Imposition of Administrative Sanctions in the Form of Fines and Penalties Pursuant to Section 46 of Republic Act No. 9136,”* or any other issuances that may be adopted by ERC in the future. **FOR THE AVOIDANCE OF DOUBT, ONE DAY (24 HOURS) OF OUTAGE INVOLVING ONE HUNDRED PERCENT (100%) OF THE DEPENDABLE CAPACITY OF THE GENERATING UNIT IN EXCESS OF THE ALLOWABLE FORCED OUTAGE SHALL BE TREATED AS ONE INCIDENT SUBJECT TO PENALTY.** *Violations of these Rules shall be without prejudice to sanctions or penalties for violations of other applicable laws or rules.*

**Section 2. DISPOSITION OF SHOW CAUSE ORDERS, CASES, AND PENALTIES.** **ALL PREVIOUSLY ISSUED SHOW CAUSE ORDERS, PENDING CASES, AND PENALTIES IMPOSED FOR VIOLATIONS OF THE INTERIM RELIABILITY PERFORMANCE INDICES AND EQUIVALENT OUTAGE DAYS PER YEAR OF GENERATING UNITS UNDER RESOLUTION 10 SERIES OF 2020, PRIOR TO THE**

**EFFECTIVITY OF THESE RULES, ARE HEREBY WITHDRAWN AND RESCINDED.**

**SECTION 3.** Separability Clause. If, for any reason, any provision of these Rules is declared unconstitutional or invalid by final judgment of a competent court, the other parts or provisions hereof which are not affected thereby shall continue to be in full force and effect.

**SECTION 4.** Repealing Clause. **THE INTERIM RELIABILITY PERFORMANCE INDICES AND EQUIVALENT OUTAGE DAYS PER YEAR OF GENERATING UNITS UNDER RESOLUTION 10, SERIES OF 2020 AND** any rule or regulation inconsistent with the provisions of these Rules is hereby repealed and modified accordingly.

**SECTION 5.** Exception Clause. Where good cause appears, the ERC may allow an exception from any provisions of these Rules if such exception is found to be for the interest of the public and is not contrary to law or any other related rules and regulations.

**SECTION 6.** Effectivity. These Rules shall take effect fifteen (15) days after its publication in a newspaper of general circulation.