

## NOMENCLATURE AND ABBREVIATIONS

$A$	– flow path area, m <sup>2</sup> ;
$d$	– diameter of pipeline, m;
$F_P$	– pool area, m <sup>2</sup> ;
$h$	– zone elevation, m;
$I$	– enthalpy, J;
$i$	– specific enthalpy, J/kg;
$l$	– length of pipe Section, m;
$L$	– length of the flow path, m;
$m$	– mass, kg;
$p$	– gas pressure, Pa;
$Q$	– energy, J;
$r_{ex}$	– bubble expansion radius, m;
$T$	– temperature, K;
$t$	– time, s;
$U$	– internal energy, J;
$V$	– volume, m <sup>3</sup> ;
$W$	– mass flow rate, kg/s;
$\Delta p_{gr}$	– pressure head due to gravity, Pa;
$\lambda$	– friction coefficient;
$\xi$	– flow resistance coefficient for the flow path;
$\xi_d$	– hydraulic resistance coefficient for pipeline;
$\xi_{loc}$	– local hydraulic resistance coefficient;
$\rho$	– density, kg/m <sup>3</sup> .

### Subscripts

$i$	– component of non-condensable gases;
$j$	– junction;
$p$	– pool;
$s$	– source zone;
$t$	– target zone;
$v$	– vapour;
$w$	– water.

## Abbreviations

ALS	– Accident Localisation System;
ALT	– Accident Localisation system Tower;
AVC	– Air Venting Channel;
AZ	– Reactor Emergency Protection System;
BSRC	– Bottom Steam Reception Chamber;
BWR	– Boiling Water Reactor;
CON	– Condensation on structures;
CP	– Condensing Pool;
CPS	– Control and Protection System;
CTCS	– Condenser Tray Cooling System;
CWL	– Control of Water Level;
DS	– Drum Separator;
ECCS	– Emergency Core Cooling System;
EFWP	– Emergency Feed Water Pump;
FASS	– Fast Acting Scram System;
FC	– Fuel Channel;
FOC	– Forced convection model;
FP	– Fission Products;
FRC	– Free convection model;
GDC	– Gas Delay Chamber;
GDH	– Group Distribution Header;
GRC	– Gas Delay Chamber;
GRS	– Gesellschaft für Reaktorsicherheit (Germany society on safety of installations and reactors);
HCC	– Hot Condensate Chamber;
HEPA	– High Efficiency Particulate Air;
IAEA	– International Atomic Energy Agency;
IRV	– Isolating and Regulating Valve;
LBB	– Leak Before Break;
LDS	– Leak Detection System;
LOCA	– Loss of Coolant Accident;
LWP	– Lower Water Piping;
MCC	– Main Circulation Circuit;
MCP	– Main Circulation Pump;
MDBA	– Maximum Design Basis Accident;
MER	– Mass/energy release;
MFWP	– Main Feed Water Pump;
MSD	– Membrane-Safety Device;

- MSIV – Main Steam Isolation Valve;
- MSRV – Main Steam Relief Valve (sometimes called also as MSV);
- MSV – Main Safety Valve;
- NPP – Nuclear Power Plant;
- PBB – Reinforced Leaktight Compartment;
- PH – Pressure Header;
- PSA – Probabilistic Safety Analysis;
- PSS – Pressure Suppression System;
- PWR – Pressure Water Reactor;
- RBMK – Russian acronym for ‘Large Channel Type Water Cooled Graphite Moderated Reactor’;
- RC – Reactor Cavity;
- RCVS – Reactor Cavity Venting System;
- RDIPE – Research and Development Institute of Power Engineering;
- RLC – Reinforced Leaktight Compartment;
- RSR – Review of Safety Analysis Report;
- SAR – Safety Analysis Report;
- SDD – Steam Distribution Device;
- SDV–A – Steam Discharge Valve to ALS tower;
- SDV–C – Steam Discharge Valves to Condenser;
- SDV–D – Steam Discharge Valve to the Deaerator;
- SH – Suction Header;
- TCV – Turbine Control Valve;
- TOB – Russian acronym of ‘Safety Justification Report’;
- TSRC – Top Steam Reception Chamber;
- URC – Under Reactor Compartment;
- USA – United States of America;
- VNIPIET – Russian acronym for ‘All-Union Research and Development Institute for Energy Technology’.