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### TOTAL KRIEG NBC IN BLITZKRIEG



*As complete as it is, some aspects of modern warfare have been omitted from BLITZKRIEG '75 (and its revision as "BLITZKRIEG '85" in Vol. 21, No.6 of the GENERAL). The current game offers an accurate overview of European-type, conventional warfare in the last third of the 20th Century. Yet, however, another European war may very well feature an added dimension - NBC (Nuclear-Biological-Chemical warfare).*

*The rules that follow, like their real-life phenomena, are optional. A game scenario of the 80's technology is assumed.*

#### 54. NUCLEAR WEAPONS

Both NATO and the Warsaw Pact have made no secret of their stockpiling, not only of strategic nuclear weapons, but of a newer generation of tactical warheads. These tend to have yields of a half-kiloton (KT) or less and appear in sizes down to 155 mm. The temptation to resort to low-KT weapons may prove irresistible, especially with the advent of neutron (low-fallout) weapons.

Nuclear weapons have three major effects: thermal (that is, the visible light and heat emitted from the fireball), blast and radiation. Since tactical weapons will probably be set for air rather than ground-level burst, residual radiation will be minimal. Airbursts would still produce, and even maximize, the effects of blast, heat and initial radiation. Electromagnetic Pulse (EMP) is the fourth effect of a nuclear explosion. An atomic bomb emits a wide spectrum of "radiation" - visible light, heat, nuclear radiation, and in this case radio and electromagnetic impulses at random. An EMP is usually sufficient to scramble or damage most radio, TV, microwave, computer and transistorized equipment over a vast area. Armored units, for instance, though best able to withstand blast, heat and radiation, would still be debilitated by EMP.

Nuclear effects on the BLITZKRIEG mapboard are planned for a standard area - the "hex". Since a Soviet motorized rifle division currently attacks on a 10-16 kilometer frontage, and can defend up to 45 kilometers, the mapboard (and units) are presumably geared to 30-kilometer hexes. Thus, nuclear effects on the BLITZKRIEG map are less than you'd think, given such large areas.

As to general nuclear effects, given a weapon equal to 1000 tons of TNT (or 1 KT), some radiation fatalities would occur out to 800 meters. Thermal and blast effects would be more significant, and personnel in the open, even at a kilometer from "ground zero", would still experience burns and a blast wave equating to 100-mph winds. Personnel in buildings and armored vehicles would be protected from much of this, given reasonable distances from ground zero. Communications would be disrupted, and ground zero itself would remain "hot" even if no fallout was released.

Incidentally, those wondering about "vaporization" would be disappointed. The fireball would be only .04 mile in radius (or 420 feet in diameter) and would be well off the ground anyway. So, in a 30-kilometer hex, the fireball would not be as important as the four effects just described.

American and Soviet policy alike is in that initial use must be authorized at the highest political level (i.e., the White House or the Politburo). The United States would grant this permission as authority to use a "package" -- numerous weapons -- in a set time-frame and area, usually a corps sector. Soviet doctrine may well parallel this, but is unclear at the moment.

Nuclear weapons in "Total Krieg" are tactical. Strategic (thermo-nuclear) weapons are separate, with unique delivery systems. The two major nations in this game can be assumed to possess a number of thermo-nuclear warheads on ICBMs; these would be strictly controlled by the political leadership. The players, as field commanders, will not control these as they are outside the purview of the game.

**54.1** Delivery systems and effects are as described in the accompanying **NBC Effects Table**.

**54.2** When any nuclear attack occurs, the **NBC Repercussions Table** must also be rolled, once for each attack, using two dice. The effects and repercussions are implemented immediately.

**54.3** All nuclear attacks must be written one turn in advance, during the friendly Movement Phase for the player. Attacks occur on the following turn, during the opponent's Combat Phase. Written attacks must specify, for each attack:

**54.31 *The weapon desired*** as shown on the NBC Effects Table.

**54.32 *The number of packages*** requested that turn, for each attack. No more than six packages per turn, total per player, are allowed. Thus, in effect, 12 packages can be dropped in one full game turn, with no limit on the number of turns that this can continue.

**54.33 *Target areas***, written as a single-hex coordinate. That hex, and a radius of two hexes around it, constitute the "target area". The number of packages in the area, up to two maximum, must be specified. No more than four target areas may be designated for a given turn, and these areas may *not* overlap.

**54.34 *The turn of attack***, for attacks may be plotted more than one turn in advance (although the limit of six packages in any single turn is still enforced).

**54.4** When attacks are made, they must be delivered exactly as written. Particular attacks may be partially or wholly aborted at the time of the attack, and is the only deviation allowed from the written instructions. Attacks may occur anywhere within the target area, as declared by the player at the time of attack.

**54.5** If a delivery system -- SAC, for instance -- assigns more factors than needed to deliver the package, then the last factor destroyed can be assumed to have the nuclear weapons (e.g., a SAC half-unit out of an original two units on the mission). The escort rule (32.4) continues to apply, except that unescorted bombers *never* employ nuclear weapons at half-effectiveness (contrary to the ACT notes). If they get through, too bad.

**54.6** If a bomber force is whittled down to less than the minimum number of units (as cited on the NBC Effects Table), the mission is aborted. This is on a weapon-by-weapon basis, and applies mainly to chemical missions. One bomber factor is sufficient to drop a nuclear warhead.

**54.7** All nuclear weapons assigned to a target area can be dropped in any of that area's hexes. *Each* nuclear weapon must be used on no more than one hex; however, all weapons in the package can be concentrated on a single hex.

**54.8** The player receiving a nuclear attack may himself request one package or more for the next turn. Failure to complete a "retaliatory" nuclear strike of not less than one package will require the player to roll on the NBC Repercussions Table on the *Failure* line at the end of the second friendly Combat Phase after the nuclear attack.

**54.9** The Night Bombing mission may *not* be used for nuclear attacks. (All-weather radar and fighters would certainly react, as effectively as in daylight given the '80s technology.)

**54.10** No NBC attacks are allowed in sea or lake hexes! Also, only delivery systems named by the NBC Effects Table may ever be used.

## 55. CHEMICAL WEAPONS

Chemical weapons are a reality on today's battlefield. First used in 1915, toxic gases have appeared as recently as 1980 in Afghanistan. Over 100,000 full-time chemical personnel serve in the Soviet forces; the Warsaw Pact regards chemical weapons as an integral part of conventional warfare. Chemical weapons -- specifically toxic chemicals used in battle -- can be delivered by aerial spray, airdropped aerosol containers, or, more likely, in shells and barrage rockets. These are local in effect (within a single *BLITZKRIEG* hex) but can be used wholesale to support (or stop) a general offensive.

Chemical warfare is more cumbersome than nuclear warfare, even given the potency of certain nerve gases. Given one of the most deadly -- "Sarin" (nerve agent GB) -- and ideal weather conditions, the results of a sample attack would be surprising. Under such conditions (little or no wind, an inversion layer, 50 degrees F, no rain, open country), 1150 rounds of 155 mm shells would be needed for 50% casualties. And that's

in a 100-hectare area (a *BLITZKRIEG* hex encompasses about 600 hectares). An entire artillery division would have to be dedicated, and that's under ideal conditions. Other agents or other chemical weapons would require even greater concentrations. Chemical weapons appear in the following varieties:

**a) Nerve Agents**, which attack the nervous system, usually kill by paralysis of the lungs. Nerve agents require only one drop to kill, whether breathed in or absorbed through the skin. Symptoms, often slow to appear, may not begin until after the damage is done.

**b) Blister Agents** are mustard-type gases which inflame and burn the skin, eyes, lungs (and can be fatal in the latter case). Blister agents cause fewer fatalities, but cause many casualties nonetheless, burdening the medical services heavily. Recovery will be slow, and the mustard-gas victims may be out of the war for good. These gases, and the choking agents, accounted for one-quarter of all World War I casualties.

**c) Choking Agents**, such as phosgene and chlorine, damage and flood the lungs when breathed and are potentially lethal.

**d) Blood Agents**, cyanide-type gases, interfere with oxygen absorption in the blood stream. These enter the body through the lungs and kill rapidly. Blood agents also attack gas mask filters, rendering them ineffective.

Non-fatal agents occasionally appear on the battlefield, as tearing, incapacitating, or vomiting gases. These are rarely found in military hands and are generally left to the civil police, outside the *BLITZKRIEG* player's consideration. "Chemical" weapons, as termed, don't usually include flame weapons. Such weapons as napalm, white phosphorus, flame-throwers and star shells are integral to conventional operations and are not classed with the more "uncivilized" poison gases. The distinction is moot.

The varied toxic agents fall into two tactical classes. *Persistent* agents are those which contaminate an area for days or weeks; these include all blistering, and some nerve, agents. *Non-persistent* agents are those which disperse or lose potency quickly (but need very little time

to kill); these number some nerve agents, and all blood and choking agents.

Military planning hinges on these two classes in an NBC environment. Areas that friendly forces might enter would get non-persistent agents, so that an offensive would not be impeded. Enemy rear area targets, such as road junctions, munitions dumps, airbases or missile sites would face contamination from persistent agents.

These two categories are shown on the NBC Effects Table. Persistent attacks, on the chart, include combinations of persistent and non-persistent agents. All varieties of chemical weapons are narrowed down to these two classes, for simplicity's sake. On the *BLITZKRIEG* game scale, effects on units would not only include casualties, but the attendant disruption and manpower diversion as well. Clean-up after persistent agents would be as damaging as losses, for the decontamination of equipment, personnel, and buildings would require much of the survivors' time and much specialized equipment as well.

Some units would be more resilient. Tanks, armored personnel carriers, and self-propelled artillery would be able to button up and avoid some of the hazard (especially with internal mask systems for the occupants). Vehicles in artillery, infantry and airborne divisions would be mostly wheeled and lack NBC protection.

Forces in a chemical environment, including many untouched by direct attack, would have to don protective masks and clothing and have to work and fight in them. Fatigue and heat exhaustion would be rife within hours, and soldiers would find usual activity (eating and other acts of nature) to be personal crises. Civilian populations would not be so protected, and occupying armies will thus have a further drain on medical resources, not to mention the loss of war production or the roads clogged with desperate, panicky refugees.

**55.1** For delivery systems and effects, see ***the NBC Effects Table***.

**55.2** Players may use chemical weapons during any attack, including AVs during the Movement Phase (non-persistent agents *only*). Any use of chemical weapons will require a roll on the NBC

Repercussions Table for each attack. Effects and repercussions are immediate.

**55.3** Rule 25.3 still applies -- only one BBT attack of any sort may be made against a single hex on a given turn. If the BBT attack was with non-persistent agents, units may advance more than one hex, up to the maximum allowed by the TGAT.

**55.4** Players are each permitted *four* chemical attacks per turn. No advance notation is required. Only one attack is permitted per hex, or per city, per turn. Chemical attacks only affect one hex (or one city) each.

**55.5** Failure to retaliate to chemical attack is punishable with a roll on the "Failure" line of the NBC Repercussions Table. The attacked player must roll at the end of the next friendly Combat Phase if he has failed to make at least one chemical attack. Retaliation need not occur in the same locality.

**55.6** Persistent agents (only) may be employed against a vacant hex, with contamination being automatic. This still constitutes one attack, but there are no defending casualties unless units enter the hex later.

**55.7** In a target hex, armored units take chemical losses *last*, after other units are eliminated (air assault units are considered armored). When armored units are eliminated, they suffer losses equal to *half* the remaining BBT/TGAT losses (fractions rounded up).

**55.8** Rule 54.6 applies to bomber chemical missions.

**55.9** Weather rules, if used, do affect chemical attacks as described below:

**55.91 Fog:** Non-persistent agents now roll at +3 columns on the TGAT. BBT losses are doubled.

**55.92 Rain:** Negates all contamination.

**55.93 Gale, Ice, Snow:** No chemical attacks are allowed.

## 56. BIOLOGICAL WEAPONS

Biological agents (i.e., "germ warfare") would hit war-weary populations very hard. Diseases employed against troops and civilians would be highly contagious and include ordinary and mutated strains of anthrax, Q-fever, encephalomyelitis, or worse. Detection would be difficult initially, and authorities would be slow to move to stop an epidemic which, once rampant, could attain the scale of the "Black Death". Even if a ready cure were available (usually not), distributing it in time under war conditions may not be possible.

Biological agents can be employed by one of three methods: aerosol or spray involving aerial dispersion; vector dissemination, which utilizes insect carriers (mosquitoes, lice, ticks, etc.); or covert dissemination, using espionage forces to introduce biological agents into water or food supplies. Beyond the obvious losses, the attacked nation would be forced to divert manpower to containment and decontamination attempts. However, the diseases could spread to the attacker's own forces, boomeranging through POWs and refugees.

Even the technical units would not be immune. To be sure, aircraft, artillery, and armor would be intact. But the crews would not be, nor would the service and support personnel; and the equipment itself require decontamination. There would be no rapid replacement of these units -- even with reclaimed equipment. Biological warfare is the nightmare of every service, the single greatest threat that hangs over the modern battlefield.

**56.1** One biological attack may be made per game, per player. Retaliation is mandatory within two turns, but may be made with nuclear weapons (two packages minimum) rather than "in kind". Failure repercussions are rolled at the end of the second friendly Combat Phase after attack, if not.

**56.2** A biological attack may be made against any hex on the map, and affects the target hex and all others within two hexes (except lake/sea hexes). If any part of a city lies within the affected region, all adjacent city hexes are affected.

**56.3** Biological agents are rolled on the **NBC Repercussions Table**, and then on the **Biological Attack Table**, with results applied immediately. Biological agents are made during a player's Combat Phase, and do not require pre-notation.

**56.4** Entry of a contaminated site of city results in immediate elimination.

**56.5** Biological attacks may not be made during Rain. Rain also is considered to remove any biological contamination immediately.

**56.6** Any hexes affected by a biological attack remain contaminated for four full turns after the attack, or until a Rain turn.

"**Total Krieg**" was written to show the effects and constraints of NBC, using the *BLITZKRIEG* game as a format. With nuclear and chemical weapons rife among the superpowers, and with nuclear proliferation even among the minor nations, the subject is timely. It remains a simulation, in the sense that player's options have been deliberately limited. NBC represents a global "Pandora's Box"; even if belligerents strive to limit NBC to tactical levels; and so, political authorities have kept these weapons under tight control. Indeed, the time delays and limits on

employment of these weapons represent the only saving grace. But the artillery and bomber units of the superpowers will certainly have nuclear warheads and chemical weapons nearby in the next war.

The **Repercussions Table** is a part of the simulation mode. Though field commanders may profess to be apolitical, their decisions will not be. The chemical and biological agents are so potent, in fact, that simplification becomes necessary. It really doesn't matter which gas or microbe gets you, for they will all kill you just as dead. Thus, I discarded the fine distinctions between specific weapons in this variant.

These rules are intended to be used as a complete variant (i.e., if one rule or one NBC weapon is employed, then all are in effect or use). When any part of the unthinkable is possible, then nothing is too horrible.

So, if the **Biological Attack Table**, or the **NBC Repercussions Table**, represents a hideous risk, you'll have some concept of NBC. Pray that our heads of state think likewise. ●

By Robert D. Harmon

BIOLOGICAL ATTACK TABLE	
DIE ROLL	RESULT
1-4	<b>EPIDEMIC.</b> Attack succeeds; results are as determined by NBC Effects Table. Defender must remove four infantry or airborne units from the board immediately (equivalent substitute units are acceptable), to be returned as reinforcements on the defender's turn AFTER contamination ends. Defender also forfeits air transport on the first turn of contamination.
5	<b>BOOMERANG.</b> Infection spreads to attacker's forces: nearest attacker-occupied city is contaminated. Same results to attacker as above and as found on NBC Effects Table. Defender suffers same effect as EPIDEMIC result above.
6	<b>PANDEMIC.</b> Epidemic breaks out of control and spreads throughout Continent. Five percent of human population survives none of it as an organized society. The game is over.



NBC EFFECTS TABLE					
WEAPON/ PACKAGING	TABLE	DELIVERY SYSTEM(s)	MIN # OF UNITS	CITY EFFECT	GENERAL EFFECTS
Chemical Persistent	BBT (AF x 2)	MDM/BA	1	SRIX, RCX, PX	No friendly unit may enter on turn of at- tack. Surviving enemy (other than 2 DF decon MUST leave. Target hex is contami- nated. All effects lift upon decontamina- tion.
Chemical Non-persistent	BBT (AF x 2) TGAT + 1	MDM/BA or TAC/BA	1 1	SRIX One turn	Friendly/enemy units may enter hex freely. No contamination.
Neutron (1 package)	BBT (AF x 2)	MDM/BA	1	SRIX, Perm.	Friendly units may advance through hex. No contamination
Tactical Nuclear (1/2 package) 0.5 - 50 KT	N/A	SAC/MDM/BA	1/2	SRIX, RCX or PX perm.	Eliminate one ground unit OR all air units in hex (attacker's choice). Attacking ground units may not enter that turn; surviving defender units must retreat 2 hexes. Contamination is present; no units may enter till attacker's next movement phase; contamination lifts automatically.
Theater Nuclear (2 packages) 100-500 KT	BBT (24)	SAC	1/2	SRIX, RCX & PX	Friendlys may not be adjacent during at- tack. Surviving enemy retreat 4 hexes. Same contamination effect as Tactical Nu- clear above.
Thermonuclear 1-25 MT	NOT USED	BY PLAYERS			
Biological	N/A	N/A	0	SRIX Perm.	Affects target hex and all hexes two or less away. All units in affected hexes eliminated. Contamination last four full turns or till rain; contaminated cities are RCX during contamination
Chemical Decontamina- tion	Persists indefinitely. Removable by placing 2 DF in hex for one full turn (invert unit). Decon unit removes contamination unless attacked or eliminated; decontamination is complete at end of friendly movement phase when decon unit spent ENTIRE phase without moving. Any other ground units entering or failing to evacuate hex rolls 16 column on BBT upon ending movement. Air units in a contaminated hex must leave and may not fly any combat missions that turn. Air units may fly over, but not land, in contaminated hexes.				
Nuclear Decontamina- tion	None, contamination lifts at start of attacker's next movement phase. Any unit entering before then rolls the 20 column on the BBT (once per stack, or unit, as they move through).				
NOTES TO NBC EFFECTS TABLE -- ABBREVIATIONS:					
BA = Breakthrough Artillery AF = Attack Factors TGAT + 1 = Shift TGAT one column in attacker's favor Package = This is PER ATTACK. KT/MT = Provided for scale. No effect in game. Neutron = Each package represents several warheads. (Necessary on a map of this scale.)				Each <i>attack</i> = 1 package. SRIX, RCX, PX = See Rule 33 DF = Defense Factors AF x 2 = Multiply AF by 2, including BA AF (1 BA Div x 2 = 16)	

NBC REPERCUSSIONS TABLE											
ATTACK METHOD/HEX	ROLL 2D6										
	2	3	4	5	6	7	8	9	10	11	12
Nuclear/Country	N	N	M	M	A	A	M	M	M	N	U
Nuclear/City	U	U	N	N	N	M	M	N	N	T	T
Chem-NP/Country	E	N	M	M	A	A	A	A	M	N	U
Chem-NP/City	U	U	N	N	M	M	M	N	N	U	U
Chem-P/Country	N	N	N	N	M	A	M	M	U	U	E
Chem-P/City	U	U	N	N	M	M	M	N	N	U	T
Biological/Any Hex	T	F	E	N	O	O	O	N	E	F	T
Failure to Retaliate	T	Y	C	S	U	N	M	S	C	Y	T
NOTES:											
<b>Biological:</b> Case "M" applies in all cases											
<b>Failure:</b> Cases "M" and "N" apply IN FAVOR of the player who failed to retaliate. Case "U" applies against the failing player.											
<b>Roll:</b> This table is rolled by the attacking player, or the failing player if that line is rolled. Respective player rolls once per attack; all effects immediate.											
NBC REPERCUSSIONS TABLE COMMENTARY											
<b>A</b>	<b>Attack proceeds</b> as shown on NBC Effects Table; no other effect.										
<b>C</b>	<b>Coup.</b> Five units must be moved to the capital of the player rolling this, on his/her next movement phase. All surviving airborne and air assault units must be included toward this total. These units must then stay in the capital one complete movement phase after that. Failure to perform this requirement means immediate surrender by the new government.										
<b>E</b>	<b>Enemy army mutinies.</b> It may not attack during next enemy turn; all engaged units are eliminated immediately from enemy army.										
<b>F</b>	<b>Failed attack.</b> Your agents caught in act. Attack has no biological effect, ignore NBC effects table. Enemy receives four inactive divisions (or eight substitutes), all of them infantry, on next enemy movement phase, over and above replacement rate. No more biological attacks allowed by either side; enemy need not retaliate.										
<b>M</b>	<b>Minor country</b> that is site of attack recognizes attacking player as "aggressor," other player as "liberator," regardless of previous status. If a player reverts to aggressor status in a particular country for the SECOND time on this table, country becomes permanently unfriendly to both players, regarding both as aggressors.										
<b>N</b>	<b>Nearest neutral country</b> to site of attack recognizes attacking player as "aggressor," the other as "liberator," without violation occurring physically. Does not apply if no neutral country bordered attacked country. Case M above applies automatically.										
<b>O</b>	<b>Political leadership overrules and cancels attack.</b> No effect; enemy need not retaliate; another attack can be made by player rolling this. Ignore NBC Effects Table.										
<b>S</b>	<b>Separatist movement.</b> Player rolling this regards following cities as unfriendly under rule 5: Blue player D7, G4, I12; Red player - NN48, ZZ48, YY43. Rule 23 does not apply. Cities remain supply and critical-resource sources for owning player.										
<b>T</b>	<b>Thermonuclear attack ordered by political leadership in both major powers.</b> All cities in Red and Blue are no longer supply sources; all units therein are destroyed; no units may enter them, or the hexes adjoining them, permanently. Cities are permanently RCX, SRIX, PX (see rules 33 and 36). All supply and critical-resources rules take effect; all scheduled replacements and reinforcements are forfeited by both sides. The game continues under the usual victory conditions.										
<b>U</b>	<b>General uprising.</b> All cities in country being NBC-attacked (held by player rolling this) revert to "unreduced" status (rule 29.4), and must be reduced all over again. All garrisons lose one defense factor per city and must retreat two hexes. This roll not applicable if attack was against country not held by attacker; roll again, if so.										
<b>V</b>	<b>Your army mutinies.</b> See case E above and apply it to yourself.										