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MILITARY AFFAIRS

(FOUO 7/81)

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ARMED FORCES

GERMAN SOURCE ON SOVIET MILITARY DECISIONMAKERS

Cologne BERICHTE DES BUNDESINSTITUTS FUER OSTWISSENSCHAFTLICHE UND INTERNATIONALE STUDIEN in German 81, No 3, pp 1-37

[Article by Michael Checinski: "The Military Elite in the Soviet Decision-Making Process"]

> [Text] The opinions expressed in the publications released by the Federal Institute of Eastern and International Studies are exclusively those of the author. Correction: in titling report No 3/1981, the editorship was inadvertently omitted. The title should read correctly as follows: "The Military Elite in Soviet Decision-Making," by Michael Checinski, edited by Astrid von Borcke. We regret the omission.

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Introduction

After more than 60 years, W. Churchill's famous remark about the Soviet regime--"a riddle inside an enigma"--is in many respects still correct. Regardless of hundreds of books and articles about relationships between the party and the military in the USSR, the materialization of the most important military-policy decisions remains extensively in the dark and the opinions of specialists on the role of Soviet military elite in the decision-making process in some cases diverge widely.

This essay takes up the issue as to the way in which and the extent to which Soviet military commanders are in a position to influence military, political, and economic decisions. Here we can contemplate the role of the military elite in the decision-making process from widely differing viewpoints, to wit:

1. The army as a uniformly organized fighting force in the power struggle among the various bureaucratic apparatuses;

2. The army as an instrument of the ruling elite in order to exert pressure on certain social and political groups in the homeland;

3. The effects of the strength and capacity of the army on national consciousness and the feeling of security of the ruling elite and the entire population;

4. Objective needs and interests of the army which are supposed to serve the national or allegedly national interests of Soviet government policy. That includes problems such as the effect of military influence on economic and political decisions;

5. The army's influence on foreign policy.

2. By Whom and How Is the Soviet Military Elite Controlled?

An investigation of the role of the Soviet Army in the above-described fields of political conflict must start with this principal question: how does the party leadership control the military elite and the army as a whole? The answer to that gives us the point of departure for a better understanding as to the extent to which the "influence of the military" on the party leadership's decisions is at all possible.

All Soviet Armed Forces components are under the Defense Ministry. That ministry includes the central military institutions, primarily, in other words, the General Staff, the Political Main Administration, as well as the supreme commanders of the various services, that is, the Air Force, the Navy, the Rocket Forces, and the Ground Forces, etc. The latter are consulted by the defense minister in connection with important military decisions and naturally constitute a part of the military top elite[1].

In formal terms, the defense minister and his deputy are appointed upon nomination by the premier. From this (formal) viewpoint, the Defense Ministry is a component of the government administration and, as in a parliamentary system, is under the premier and the Supreme Soviet, both of which exercise supreme supervision. The

only difference with respect to the other ministries consists in the fact that the Defense Ministry is responsible for executing the decisions of the Defense Council and the government in matters of national defense[2]. The Defense Council is the highest authority on defense issues[3]. It spells out the guidelines for national defense, it coordinates all measures considered necessary in this connection, and it is especially responsible for the buildup and organization of the fighting forces.

In the meantime, Secretary-General Brezhnev is at the same time the chairman of the Defense Council (announced in April 1976) and (following Podgorniy's relief from office during the following May) also chairman of the Presidium of the Supreme Soviet[4]. Officially it is not perhaps the Politburo--which in fact determines the political guidelines--but rather the Party Central Committee which is mentioned as the highest political authority of the land and thus also of the Soviet Armed Forces[5].

The above description outlines the purely formal-legal relationships between the armed forces, the party, and the civilian government administration.

Regarding actual political practice, we generally start with the assumption that the political apparatus of the army, under the direction of the Political Main Administration, plays a key role in military policy and in the organization of the Armed Forces[6]. A description of the formal position of that institution regarding both the military establishment and the party organizations is therefore necessary.

The director of the very important Political Main Administration performs the functions of a deputy defense minister with responsibility for all political matters involved in the Armed Forces. At the same time he is the chief of a department of the Central Committee and in that capacity is also responsible for military-policy questions[7]. As we know, the Political Main Administration has the authority of a Central Committee department. The head of the Political Main Administration is usually a member of the Party Central Committee and a deputy in the Supreme Soviet, specifically, in addition to his place in the Defense Ministry's Military Council.

Although the defense minister since April 1973 has been a member of the Politburo, in other words, the highest party authority, political activities and personnel questions involved in the armed forces are handled by a Central Committee secretary as well as the head of the Central Committee Department for Administrative Agencies (N. I. Savinkin). The latter mainly deals with personnel questions and special organizational matters, working in close coordination with the Secret Service (Osobiy otdel).

The basis for the political activities of the Political Main Administration consists of the party leadership's resolutions. The latter again often are also fashioned by the instructions coming from the Central Committee's Propaganda and Press Department. The Political Main Administration likewise maintains close contact with the leaders of the youth organization, the Komsomol.

There are two institutions that are responsible for control over party and political life in the army. First of all we have the political sections of the individual army units under the direction of the deputy commanders for political matters. The activities of the political sections at varying times and under different military

leadership reveals certain differences which however are not essential. The second institution consists of the party committees in the army units and their chairmen. In this area likewise various organizational and functional changes have been carried out; but they likewise are not fundamental. These party institutions exercise only purely formal control over military life.

This rather conscise description of the formal organization of the political apparatus and the party organizations in the army will now be supplemented by a short description of their practical functions. The author shares the view of Western Sovietologists to the effect that the activities of the army's political apparatus must remain within the framework of those limitations which on political issues are spelled out by the party leadership and in military matters by the military leadership.

One essential task of the party and the political apparatus in the army consists in raising the level of "military discipline," in other words, the creation and application of instruments of pressure designed to make sure that all instructions issued and missions assigned by superiors will be carried out unconditionally[8].

Another important function of the army's political apparatus is the implementation of obligatory participation of all officers--regardless of whether or not they are party members--in various political events of national significance.

In view of the organization of the army's political apparatus and the activities of the Political Main Administration, we must clearly realize that normally any autonomous fraction activity in the Soviet Army is impossible. If there should nevertheless be differences among the party leadership, the military elite, in case of such a conflict, can even go into action against a fraction in the Politburo, as was done by Marshal Zhukov in connection with the famous 1957 Central Committee Plenum (at which time Khrushchev maneuvered the "antiparty group" of Molotov, Malenkov, etc.), out of the leadership. But a conflict between military leaders and the party chairman is conceivable only if the military Secret Service is not under the latter's control. Normally, bureaucratic resistance can be mounted against the party boss only on the basis of informal and personal working relationships between the army and the political elite. Such relationships--both spontaneously rising and deliberately developed--do exist, as we know, outside the official hierarchy. They permit certain activities but those activities must under no circumstances be organized as such[9].

This strict control over all personal ties and political activities is an expression of the degeneration of a political regime which fundamentally rejects any genuine democratic processes. The inclination to form political groupings is in itself a natural thing; political conditions in every modern state are complex and moreover keep changing constantly. In political systems under communist rule, such endeavors however are suppressed. As we know, the power struggle between various groupings was conducted all the way to the physical destruction of opponents. There are detailed descriptions of that especially in the case of the Soviet Union.

There is a widespread opinion in the West that the party, in its capacity as a mass organization, in the army elite likewise serves above all to buttress loyalty. For example, John N. Hazard writes the following:

"Up to the 50th Anniversary (of the Soviet Union, in 1967), 85 percent of all army personnel were party members or Komsomol members and among the officers the rate was as high as 93 percent. Under these circumstances, in other words, since disciplined party members have been developed within the armed forces, the influence of the political commissars seems to have declined because they can no longer claim a quasimonopoly on loyalty for themselves. They are surrounded by men whose loyalty likewise must be considered to be very strong"[10].

We must take a closer look at this view in order to determine whether it holds water. Admittedly, in the light of his experiences in the Polish Army and his contacts with Soviet officers, the author does not always find it easy to agree with Western Sovietologists on the role of the Soviet military-policy apparatus.

The currently accepted idea of the political apparatus as a kind of guarantor of the loyalty of the military establishment is based on a stereotype of the "political commissar" (politruk) of the years right after the Bolshevik revolution. Such a role by the political officers was possible only in the past when the Communist Party as a whole was still a living and real movement. Since the destruction of all political life in the Soviet party during the thirties, the old idea of the political commissar has lost all practical meaning. Today, the political officers merely represent one of the numerous bureaucratic agencies of the regime. In short, the Soviet Army's political apparatus is a government agency, like any other, and its officers ressemble those who perform any other kind of military service. This is why the political officers are also being sharply watched by the Military Secret Service.

The degeneration process in the political apparatus was speeded up by a network of informants who have infiltrated the army, the ranks of the political officers, the party committees, the secretariats of the party organizations, and even the Political Main Administration.

The political officers and the career officers likewise, who had to work under such circumstances for many years, have come to terms with a situation where they must live under steady psychological pressure and are not allowed to entertain any independent thoughts of their own. At the same time they had to realize that neither their political knowledge, nor their political loyalty could do them any good as such.

The vast majority of political officers in the Soviet Army do not have any political opinion of their own; they remain emotionally uninvolved and they are guided primarily by personal ambition and the desire for a well-paid job. For the rest, most of them consider their work to be fruitless.

For this reason alone one should not overestimate the importance which such an army --in which even the political officers are "unpolitical"-- exerts on the party's political decisions. That even applies to the supreme military leadership. The attempt made by Marshal Zhukov after Stalin's death, in his capacity as commander-in-chief of the Soviet Army, to play an independent role, once again made it clear that no party boss would permit such a thing; after a short interlude Zhukov was relieved in November 1957, regardless of the fact that he had supported Khrushchev at the critical moment.

Another reason why the army would find it difficult to exert direct pressure on the party leadership is that the military establishment is at all times being totally watched by the party leadership, a leadership which has always been careful to guard against the dangers that might spring from a mighty, highly-disciplined army. This is why the Military Secret Service constantly watches all higher military authorities, including the High Command. This is done with the help of highly refined and extremely carefully devised methods. In the process, they do not even shy away from blackmail.

The primary mission of the Military Secret Service, the Osobiy otdel of the KGB [State Security Committee], is not counterespionage. (The Soviet concept of espionage is very broad and quite vague to begin with.) Instead, it is primarily supposed to prevent the formation of cliques among senior officers, in other words, gatherings and private contacts which could no longer be checked on. Thus, even the highest-ranking officers must put up with intrigues, provocations, having their telephones tapped, and having their private correspondence censored.

Above all, the army's political apparatus is designed to frustrate any form of unsupervised organized activity. The main purpose of the political sections and departments of the party organization is to manipulate the army's quasipolitical activities and totally to watch them and thus at the same time to deprive any other form of political activity of its legal status.

"Political policemen" naturally can do their job only if they are efficient bureaucrats. Their political persuasion and ideological attitude are immaterial here. The Soviet political officer is therefore characterized not so much by his political consciousness but rather by his unconditional obedience, an attitude which is also promoted by army discipline.

The political ignorance of political officers constitutes reinsurance for the political leadership against the army's political apparatus which ight possibly, together with the military establishment, constitute a source of opposition and thus a threat to central authority[11]. Moreover, as we said before, the army's political apparatus has been infiltrated and is so tightly watched by the Military Secret Service that it would seem to be impossible for the political officers to formulate any independent political program[12].

Many Soviet experts have the habit of estimating the "military influence" on the party leadership's political decisions on the basis of the number of senior officers who sit in the Party Central Committee[13]. But such data must be interpreted with caution, for the following reasons:

1. The Central Committee of the Communist Party long ago ceased to be the political decision-making body in the USSR. One of its primary functions is to give the impression of a consistnetly democratically led party. In reality, its members are designated in advance by the Politburo. Traditionally, this enabled the secretary-general to develop patronage and above all to get his own followers into the apparatus.

In other words, Central Committee members cannot readily function as "pressure groups" in support of special interests, such as those of the military establishment.

They must primarily serve as transmission belts who must transmit the leadership's policy to the particular institutions and "social groups." Of course, the party boss does not have full control over the Central Committee at all times and under all circumstances. That became particularly clear in two cases.

In 1957, during the power struggle between Khrushchev and the "antiparty group" (Malenkov, Molotov, etc.) and again in 1964, on the occasion of the coup which ousted Khrushchev. But such occasions are the exception. To the extent that they did take place nevertheless, the Central Committee members had to confine themselves merely to approving resolutions that had been drafted in advance by a handful of conspirators. A party boss or head of government in the Soviet Union had been overthrown only by the "programmed game" played by the mighty outside the Central Committee. Nevertheless, the Central Committee on such occasions plays an incomparably greater role than in every day political activities. Every party boss is fully aware of this risk and therefore tries to secure his position with the help of precautionary measures.

2. By controlling the personnel makeup of the Central Committee, the leadership tries to prevent any possible coordinated actions by that body against its policy. If a Soviet party boss wants to remain in power for a long time, he must in every case be highly skilled in this "art" of personnel policy. Another technique of this kind is represented by the manipulation of the personnel makeup of even the Politburo whose members especially in recent times again seem to have been appointed increasingly on the basis of the degree to which they fulfill the wishes and interests of the secretary-general.

3. A third error in some Western reports consists in generally and uncritically accepting the official story of the party's "leading role," that is to say, to start with the assumption that the party in communist countries is supposed to be a democratic institution which enjoys the right to free debates and which is supposedly guided by democratically elected leaders. But, as everybody has known for a very long time, reality is entirely different: as a mass organization, the Soviet type of party has no more to say about the course of history or life in society than any other "mass organization," such as labor unions, women's groups, etc. The individual cells of these mass organizations traditionally were to serve only as mere "transmission belts" in order to pass instructions on from topside. Management in the Soviet system thus does not run "from the bottom up." Something similar applies to the Soviet Armed Forces, including the top military elite.

After these preliminary considerations, we can take up the question as to the way in which the Soviet military elite influences the political and economic decisions of the Soviet rulers.

3. Soviet Military Elite and Party and Government Leadership

As we said before, the Defense Council (Sovet oborony) both in formal and in real terms is the highest military authority in the USSR. In this connection it is necessary to clarify the relationship between Politburo, government, Defense Ministry, and General Staff because all of these bodies belong to the Defense Council as such. Above all, we need a precise description of the position of the secretary-general in these three key institutions, in other words, the Politburo, the Defense Council, and the government.

It is an almost sacrosanct principle of communist, Soviet, and Russian political tradition that the supreme ruler of the land personally watches over security, defense, and foreign policy. No new secretary-general will allow anyone to take that power and authority away from him. The party leadership's basic principles as well as special organizational precautions already take care of the maintenance of this power position held by the party boss. The principle of "democratic centralism" means that power and decision-making authority are in the hands of a small and closely intertwined group of rulers. This tendency determines Soviet policy all way up to the Politburo. The assertion in official party documents, to the effect that the Central Committee of the CPSU is the master of the land and thus also of the military establishment[14] is nothing but propaganda which is supposed to impart the image of a democratic party.

Formally speaking, the party boss of course is not a dictator, such as Hitler or Mussolini were. His dominant position is not based on his "personality" but on his office as the elected leader of the party apparatus and thus, in fact, also of the Politburo. In the words of a Polish-German specialist: "The essential thing here is that in each case we are dealing with the recognition of the party as an institution and not of its leader..."[15].

Even the wisest and most experienced party boss is not in a position personally to analyze all of the country's problems and to make all decisions himself.

For that he needs the mighty party and government machine, which assembles and analyzes information, which gives advice and which carries out decisions.

In this elite--which prepares and carries out the decisions, the most powerful persons (after the party's secretary-general are the members of the Politburo and the secretaries of the Central Committee. They are indeed "vice premiers" of the party boss. The most important of them is the premier himself. Basically he is responsible for the current activities of all ministries. In practice, responsibility is shared: some areas are controlled by the secretary-general in person while others are under the supervision of the premier[16]. The secretary-general exercises supreme supervision over military matters. In this field, the premier can only give advice in his capacity as member of the Defense Council. He is primarily responsible for the entire national economy. From that viewpoint naturally he is a very important and powerful advisor. But he cannot directly influence the defense minister's policy although he is formally the latter's superior. The real superiors of the defense minister are the Politburo and especially the secretary-general. The secretary-general's almost monopolist position in the field of defense policy, which we mentioned earlier, is further strengthened by the system of functionally exactly distributed competences in the top party bureaucracy: "Only in its own sphere of competence does the bureaucracy have the right to express its opinions; it does not seem to be empowered to express an opinion when the sphere of competence of another department is involved, even if this entails a related subject," as former American Secretary of State H. Kissinger remarked[17].

The secretary-general's almost monopolistic position on military matters was by no means challenged when the defense minister was elected to the Politburo in April 1973. This step must be viewed above all in connection with the introduction of a broad scale of functional representative assignments corresponding to the Politburo's information interests[18].

A clear understanding of the role of the party boss on defense policy is of the utmost importance especially for Western observers and politicians. After all, the Soviet leadership is very much interested in giving the impression that there are differences of opinion between a presumably "liberal" secretary-general who would be inclined to make concessions to the West and his allegedly extremist, aggressive, and warmongering opponents, especially in the ranks of the Soviet military elite[19].

By passing himself off as a "nice guy," the party boss can exert psychological pressure on Western statesmen to the effect that he could get them to agree to his "moderate" proposals (for example, in the case of SALT negotiations or some other international agreements). It is of course entirely possible that certain representatives of the Soviet elite might represent even more extreme views than official policy; but it is practically impossible for anybody--including the commander of the army--to issue instructions to the Soviet Party's secretary-general.

This assertion does not conflict with the thesis that a "power decentralization" has taken place in the USSR (as argued, among others, by M. Tatu)[20]. The critical political, military, and economic decisions are continuing to be made exclusively in the Politburo, a body whose first among equals is the secretary-general.

This strong position of the secretary-general is inherent in the system itself; the Soviet political system continues to have an inherent inclination toward power concentration, "personalism," "monolithism"[21]. The view generally accepted in the Soviet Union, to the effect that only "the strongest man" with the "strongest hand" is the right ruler, is deeply anchored in political culture (something which quite correctly is pointed out by an American expert)[22].

The party apparatus, the military elite, and the KGB can only express opinions and provide expert analyses. In this way they may or may not influence the Politburo's decisions. To the extent however that they actually influence the decision-making process, this is done either on the basis of their special knowledge or because they advocate the views of a certain "opinion group" whose goals and interests coincide with those of the Politburo anyway. In short, neither the big armament drive, which has been underway since the middle of the sixties, nor the stepped-up role of the military establishment in diplomacy, yes, not even the military occupation of Afghanistan, in themselves already mean that the influence of the military elite on the decision-making process has grown[23]. All of these developments first of all merely mean that the Politburo and the secretary-general have decided to pursue a more accentuated "military" policy.

There is hardly any doubt that Brezhnev and the marshals basically have the same opinion on the role of the armed forces, that is to say, that both can influence the course of world events primarily only by means of the military presence of the Soviet Union and believe that they can derive political advantage from this presence[24]. But even in its most belligerent mood, the Politburo would never allow the marshals to form a "pressure group" which could then also oppose its political decisions.

This kind of party-military relationship exists both in the Politburo and in the Defense Council as well as in the administration as such. The members of those bodies can express their opinions and they are even obligated to do so. But political key decisions are made by the Politburo, possibly of course with a simple

majority. Under Soviet conditions it is not even probable that a declared opponent of the secretary-general could hold on to his seat in the Politburo for any length of time. Even a Politburo member today can express an opinion, which conflicts with the proposals of the party boss, only with the utmost caution.

For all of these reasons, the secretary-general therefore is the mightiest and most competent personality in the Politburo on military matters. On top of this, the very reason of existence of the party could be viewed to reside precisely in the implementation of the primacy of military requirements[25].

The secretary-general's military competence was to be further backed up by Brezhnev's nomination to the position of chairman of the Defense Council (or the "Supreme Military Council," as it was called under Stalin and Khrushchev), as announced in May 1976, as well as his appointment, soon thereafter, to the position of chairman of the Presidium of the Supreme Soviet. The Supreme Soviet is, formally, the highest constitutional and constituent institution in the USSR[26] which among other things might possibly also have to proclaim a declaration of war. In reality however the Supreme Soviet is obligated to approve all government decisions, in other words, also those of the defense minister.

The military elite thus can bring its influence to bear only via the secretary-general and not against him. The most suitable institution for this purpose is the Defense Council. Of course, the defense minister alone is a permanent member of that body; but the chief of the general staff and his deputies also usually attend its meetings.

In the Defense Council, the military establishment exercises its influence most effectively on military doctrine and strategy, as drafted by the General Staff. Naturally, the members of the General Staff can present their proposals and requirements only within the framework of political guidelines prepared by the secretariat of the Central Committee and the secretary-general himself and blessed by the Politburo. Here, the Defense Council can, last but not least, serve as a political instrument for the party boss. It is his "closest" and thus most efficient bureaucratic body in which he meets simultaneously with his two types of counterparts: the military leaders, represented by the defense minister and the members of the General Staff, on the one hand, and the civilians, represented by the premier, on the other hand. Those two groups however do not exert any political pressure on that level; instead, they only supply advice and information. They cannot blackmail the secretary-general and the chairman of the Defense Council with their arguments. But the party boss in turn can force the Defense Council to accept Politburo resolutions or, vice-versa, he can play the resolutions of the Defense Council off against the Politburo.

But the circumstance that the essence of military doctrine, strategy, and tactic, the selection and development of weapons categories, expert reports on decision-making possibilities and options, as well as on the military strategy of the potential enemy today presuppose that such a high degree of technical knowledge already in itself gives the Soviet military elite a weighty instrument of a purely professional nature with which it can lastingly influence the key decisions made by the party and the government. On the other hand, the Soviet Army is not a "monolithic" formation[27]. The commanders-in-chief of the various services also have their own special interests. Almost no military program would seem to materialize without careful

negotiations and corresponding compromises. The only interests which are commonly shared by all components of the army as a social group concern questions of active-duty and retirement pay, secondary incomes, the case of a general cutback in the armed forces and especially the level of the military budget. Nevertheless it must be emphasized that, in the Soviet Union military development programs--regardless of whether they involve weapons or personnel--are by no means determined by competition among competing "forces" in the military elite but primarily by the party leadership's general strategy.

Such programs are spelled out in terms of their basic outlines by the Defense Council. Often, the resolutions of this top body for military questions are simply forced upon senior officers; the general staff and the deputy commanders only need to approve them. In this way, it is possible to adopt unexpected restrictions in the military budget, to postpone a specific development program, etc. [illegible words in photostat].

4. Military Strategy and the Economy: Formal and Informal Influence Exerted by Supreme Military Leadership

The General Staff is the power center of the Soviet military elite. It is, so to speak, the brain of the Soviet Army or the laboratory which drafts and amends strategic plans, which translates military doctrine into quantitative and qualitative data on weapons and military equipment and which computes the level of the defense budget. In the words of Thomas Wolfe: "The General Staff has in utmost detail been concerned with the development of Soviet military theory. At the same time it plays a big role in the practical management of Soviet military might. It is the central organ of the military high command, an organization which is even somewhat bigger than the Defense Ministry. In this capacity it maintains direct control relations with the main staffs of the various arms of the service, military districts, and combat units. Under N. V. Ogarkov, who became Kulikov's successor in January 1977, the General Staff directs military operations, develops strategic concepts, missile targets, and war plans, maintains a worldwide military intelligence service, the GRU (Main Security Office), assigns high-ranking military representatives to SALT and contributes to the drafting of general military policy"[28]

The strong militarization of the Soviet regime has provided an occasion for speculations in the West to the effect that the Soviet General Staff under certain political circumstances could translate its purely technical function into political power[29]. But this speculation is not at all convincing.

To be sure, the principle of "edinonachaliye," the principle of one-man leadership, in the Soviet Army is equivalent to a strictly hierarchical command system[30]: "The army's party organizations do not have the right to control the military leadership of the unit in which they work..."[31]. In reality however the party leadership's control over the armed forces on all echelons, over all arms of the service and especially the General Staff is so comprehensive that it would seem to be just about impossible for the military leaders to organize any actions against the party leadership. This question has already been taken up in the second part of this essay.

The Politburo and especially the secretary-general also keep an eye on the military strategy area in which the General Staff and the command of the various services enjoy considerable professional autonomy. This task, as we said, is accomplished by the Political Main Administration and the Osobiy otdel, the special department of the Military Security Service. Last but not least, the party boss maintains personal relations with the various reciprocally competing groupings in the military elite.

Control over the leadership elite of the military establishment is further strengthened by a series of additional factors[32].

1. In formal terms, the deputy defense ministers, including the chairman of the General Staff, are nominated by the Council of Ministers and can also be fired only by that government agency. In reality however the party's Politburo decides who is to become a deputy defense minister and who is to cease holding such office.

2. The defense minister acts in accordance with the advice given by the executive board of his ministry. That includes the following individuals:

(a) All deputies of the defense minister;

(b) The chief of the Political Main Administration;

(c) All commanders of the various services and military duty stations and units;

(d) The chief of the Military Security Service (Osobiy otdel).

3. In April 1958, military councils were established on all echelons of the Soviet Armed Forces[33]. They operate both vertically (in the leadership bodies of the armed forces and in the units) and horizontally (in the military districts). The military council is authorized to make the most important military decisions on its particular echelon. The military council includes the most important commanders, the chief of staff, the director of the Political Main Administration, as well as the party secretaries of the particular Union republics, regions, or "subregions" (oblast', kray), the chief of the military security service, and the director of the territorial KGB.

All leading bodies of the military establishment thus are under constant control by the civilian party apparatus. The Political Main Administration and the nonmilitary party officials constantly send reports to the Central Committee Department for Administrative Agencies (under the chairmanship of N. I. Savinkin) which is responsible for military and security questions. The military and nonmilitary security service also sends reports to that department. The most important and most secret reports however are normally addressed to the party's secretary-general. His secretariat will then decide which of these reports are to be forwarded to the Central Committee Department for Administrative Agencies.

The commanders--including the general staff officers know all about the "quiet role" of the military security service and the reports of the Political Main Administration. Through the presence of officers from the Osobiy otdel in all of the abovementioned military bodies, strong psychological pressure is exerted and it is supposed to nip in the bud any kind of controlled activity by the General Staff and the entire military elite.

Thus one must conclude that the military elite can influence the decision-making process only with those methods that have been approved or are being accepted by the Politburo and especially the secretary-general.

Some Western observers assumed that the Soviet General Staff or the military elite had strengthened their political influence; this supposedly took place particularly during the "changing of the guard" among the leadership; Soviet armament programs supposedly constituted a very essential factor here. Such assumptions were considered to have been confirmed by the role of Soviet military representatives in the country's foreign policy and most recently especially by the Soviet invasion of Afghanistan. But these speculations are not really convincing[35].

The role of the military elite in Soviet policy is not based on the exercise of direct military pressure but instead on the political priority assigned to defense by the party leadership itself.

Of course, rapid technological progress in the development of weapons systems--with its effects on production programs, foreign trade relations, and economic planning as a whole--is a main factor which favors military influence. The military elite can try to exert influence by demanding certain defense programs; but that influence becomes effective only if the party leadership also accepts those proposals. Finally, the military-industrial complex provides the arms and defense plans for war (the civil defense program) and the military elite is an integral component of that complex. It consists of all those bureaucratic groups, offices, organizations, and enterprises whose task it is to carry out the party's military-industrial programs or to cooperate in these programs or supervise them[36].

That includes primarily the Politburo, the Council of Ministers, the Defense Council, and finally the military elite; furthermore, it includes all military departments of the Gosplan [State Planning Committee of the Council of Ministers USSR], all military-industrial ministries and various departments of civilian ministries as well as the MIK (Military-Industrial Commission)[37].

The Soviet military establishment thus does not need any special representation in order to advocate its interests in the military-industrial complex of the USSR. The party leadership and the gigantic bureaucratic party apparatus are already themselves the most eager advocates of precisely those interests: the military industrial complex is an integral component of the overall political, economic, and social system of the Soviet Union: "There is a core of truth in the aphorism that 'the USA has a military-industrial complex, the USSR is a military-industrial complex,'" as M. Agurskiy and H. Adomeit noted[38]. The Soviet military-industrial complex extends into the Foreign Trade Ministry where it is represented by military departments[39]. These departments are organized in two main sectors:

1. One of them is concerned with the export of weapons and military equipment,

2. The other one exports military-industrial systems, such as military airfields, naval bases, etc.

In addition we have the Commission for Foreign Trade Questions of Gosplan under the direction of V. N. Novikov. Novikov at the same time is director of the military department in Gosplan[40]. Thus the Soviet military-industrial complex exerts

decisive influence on all Soviet foreign trade. Novikov--or his deputy--at the same time sits on the Military Industry Commission of the CEMA so that, on important military issues, there is a constant link between the USSR and the other CEMA countries[41].

The military factor has considerably influenced Soviet economic growth, not only because of the purely quantitative volume of funds diverted for armament. It also put its stamp on the economy in qualitative terms. Thus, the location and construction of industrial plants were determined last but not least by military-strategy considerations[42].

To protect their industry against a nuclear attack, the Soviet Union has taken three types of measures:

1. All militarily important new plants must be built five-six stories below ground.

2. Special plants were built about 35-40 kilometers outside of cities. They are to serve for an immediate evacuation and resumption of production in a whole series of important factories in case of war.

These underground factories must keep about 20-25 percent of their production capacity ready so that they will be able even in case of the outbreak of an atomic war to continue their work (naturally on the assumption that they are not at the center of the explosion). Such underground plants have also been added to older but important factories of which it is expected that they could be the targets of an atomic attack by NATO. Reports on underground defense facilities come from eyewitnesses who mostly in connection with other kinds of business accidentally ran into those factories.

Some Polish engineers, who visited Soviet factories during the sixties for job-related reasons, reported to the author on the following underground industry and other civil defense facilities.

1. In Lyubertsy, on the road to Ryazan', 40-50 kilometers southeast of Moscow, stands the biggest optical and special glass factory of the USSR (Lyuberetskiy Opticheskiy zavod) which works exclusively for the Defense Ministry. This factory was built mostly into small, about 50-60-meter tall hills or it was designed underground.

2. Along the railroad line to Ryazan', in a small town 10 kilometers from Kratovo, there is one of the biggest USSR aircraft factories, one of the "hearts and brains" of the research and development industry and the design shops of the famous designer Tupolev. The plant employs about 10,000 engineers and technicians almost exclusively under ground.

3. In the little town of Novay, between Samarkand and Bukhara, in Uzbekistan, a new chemical factory was built 15 years ago; it employs about 10,000 workers, half of the town's population; only 3 stories of this factory are above ground while six stories are below ground. Another chemical plant was erected in that same town likewise with its facilities underground.

4. In Latvia, in a forest about 35 kilometers from Riga, to which leads a special, secret and closely watched road, which is closed to ordinary traffic, buildings with water and energy supply plants, the most important machinery and raw materials, etc., had been completed for use as wartime reserves for the biggest machine-building plant in Riga which is to be evacuated in case of a crisis. From time to time, special exercises are conducted with a selected group of management personnel and workers from the factories for the purpose of checking how the evacuation and immediate resumption of production are to be handled at the new location in case of war.

Such construction projects cost billions of rubles--plus the enormous expenditures for defense (which the CIA estimates at 13-15 percent of the Soviet GNP)--as the most visible result of the influence of the Soviet military elite. The power of the military bureaucracy is supported by a gigantic network of military departments and voyenpredy, a system which polyp-like grasps all Soviet economic planning, production, deliveries, and services[44].

5. The Role of the Soviet Military Elite: Myth and Reality

At the start of the buildup of the Red Army, when M. Ye. Frunze launched the organization of this "equal fighting force of the proletariat" into a professional institution, Stalin supported this plan without restriction. The dictator of the new party bureaucracy however, together with the professionalization of the military leadership, began to introduce stepped-up political police control[45]. The reason for that was Stalin's distrust of the new military elite which had been given the authority of "edinonachaliye," i.e., one-man leadership[46].

Stalin's distrust to this very day inspires the party leadership although the Soviet Armed Forces are "a child of the revolution" and although almost all commanders in the meantime have become members of the Communist Party.

During the time after Stalin, when the slogan of a new "collegial" top leadership in the USSR attracted the attention of Western Sovietologists, many people began to assume that the military elite would play an increased role in view of the power constellation. Such misinterpretations contributed to the prediction that the Soviet Military Establishment would gain growing autonomy with respect to the party[47].

The view of Western experts was strenghtened by the fact that the technological revolution, which has taken place in warfare over the past three decades, was pushing the professionalization of the officers. Many people believed that in this kind of "professional" military establishment, the party leadership's control would necessarily automatically lose some of its effectiveness. R. Kolkowicz, the author of a series of extremely competent investigations on relations between the party and the military in the USSR, is probably the most important representative of that "school" of American Sovietology. Starting with Western conditions, he seeks to examine conflicts and discrepancies in the "basic special features" of the military establishment and the party in the Soviet Union[48]. Such discrepancies exist--he argues--because the decisive political values and the ideology of the political leaders supposedly are basically antimilitaristic, that is to say, they are supposed to be inspired by a fundamental distrust of the career military establishment, the "experts of violence" who control weapons and the technology of war[49].

According to Kolkowicz, the party is characterized by egalitarianism, the primacy of ideology, proletarian internationalism, and social commitment; the military establishment on the other hand is characterized by elitism , professional autonomy, nationalism, and segregation from society[50]. That viewpoint was subjected to brilliant criticism by William E. Odom. Kolkowicz thus does not grasp the actual problems in relations between the party and the military in the Soviet Union. This is all the more noteworthy especially since not even Odom is entirely free of mistaken concepts as to that relationship. Thus he finds evidence for the argument that the military elite did not increase its influence by virtue of the fact that "the military representation in the (party's) Central Committee has remained rather stable in terms of proportions"[52]. But membership in the Central Committee alone is not evidence of the extent of political influence on the decision-making process in the Soviet Union.

In reality, the party leadership itself, regardless of its distrust of the military elite, is the best advocate of the interests and goals of the Soviet Armed Forces. "The CPSU is not obligated to support the corporative interests of the military establishment; instead, it is guided by an understanding of the military-bureaucratic requirements for rule over the Soviet Union. It does not perhaps politically dismiss the corporative interests of the military establishment; instead, it stresses military might in order to be able to cope with its political realities."

"Thus the Soviet Union is dominated by military policy but not by the marshals"[53].

The party leadership itself is the most eager advocate of military interests; it shares the nationalist feelings of the military establishment and promotes the latter's elitism and professional progress. At the same time, the party bureaucracy exercises the severest control over the military elite. Not even the political officers and the entire political military apparatus are exempt from this mistrust on the part of the Soviet leadership toward the military elite. That would seem to explain why the chief of the Political Main Administration usually is not made a deputy defense minister although "the party" is in charge of the actual direction of the Soviet Armed Forces. This situation likewise probably does not help clarify the otherwise perhaps mysterious way in which Stalin appointed himself as generalissimo and the way in which Brezhnev was made a marshal of the Soviet Union. The idea was to indicate that the party's secretary-general is the highest authority in military matters, that he extensively identifies his tasks with the goals of Soviet military might, that the party bureaucracy--and not the military leadership--determines Soviet military policy.

The above-outlined relationships between the party and the military elite of course do not mean that the military leadership cannot in any way influence the political and economic development of the USSR. But it can do so only within the framework of the guidelines spelled out by the Politburo and especially by the secretary-general. Whenever representatives of the military attend SALT negotiations, that does not mean that the military establishment increasingly determines Soviet policy; it only means that the party leadership seeks the technical advice of the military. The fact that Soviet defense expenditures over the past two decades increased, does not mean that the party leadership was forced by the marshals to pursue a more aggressive policy; instead it means that the Politburo for political reasons decided to steer a more emphatically militaristic course.

But within the context of the Soviet party leadership's military policy, the influence of military doctrine and strategy--as drafted by the General Staff--is manysided and profound. Above all, this influence determines the scope and structure of defense expenditures, something which is not only of economic but also of political significance. Military doctrine and strategy contribute decisive factors to planning, they determine the place and type of new industrial centers and installations, the construction of roads and bridges, the size and structure of government reserves, the orientation and tempo of research and development. That might suffice to show that the military influence in the Soviet Union is extremely significant.

Nevertheless, the military leaders cannot organize "pressure groups" against the Politburo's policy and they will probably not be able to do so in the future either. When it comes to the key political decisions, their voice does not carry any decisive weight. Only the Politburo is responsible for policy and it tries to secure itself against "outsiders" with all possible administrative and ideological means.

FOOTNOTES

1. Sovetskaya Voennaya Entsiklopediya (SVE), Vol V, Moscow 1978, pp 295-296.

2. Ibid., cf. also SVE, Vol 1, Moscow 1976, p 588.

3. Arthur J. Alexander, Decision-Making in Soviet Weapons Procurement, Adelphi Papers No. 147-148, International Institute for Strategic Studies, London 978/1979, pp 14-16; Michael Checinski, A Comparison of the Polish and Soviet Armament Decision-Making System, RAND-Report, September 1980, pp 55-68; David Holloway, Decision-Making in Soviet Defense Policies, in: Prospects for Soviet Power in the 1980's, Part II, Summer 1979, pp 24-26.

4. Ibid.

5. A. A. Yepishev, Some Aspects of Party-Political Work, Progress Publishers, Moscow 1975; KPSS--organizator sashchity sotsialisticheskogo otechestva, Voyenizdat, Moscow 1977, pp 305-311. Grechko speaks about the Politburo only in connection with the Party Central Committee: "... The Central Committee and CPSU CC Politburo constantly direct the activity of the political organs and Party organizations of the Armed Forces..."; cf. Marshal A. A. Grechko, The Armed Forces of the Soviet State, translated and published under the auspices of the US Air Force, Moscow 1975, Washington, p 293.

6. Roman Kolkowicz, The Soviet Military and the Communist Party, Princeton University Press, Princeton, New Jersey, 1967; Timothy J. Colton, Commissars, Commanders, and Civilian Authority. The Structure of Soviet Military Politics, Harvard University Press, Cambridge, Mass. and London, England, 1979; John N. Hazard, The Soviet System of Government, fourth edition, revised, The University of Chicago Press, Chicago & London, 1968, Chapter 10, pp 154-168.

7. Ibid., esp. Colton, ibid., p 24.

8. "... Particular attention is paid to securing the Communists' leading role in strengthening military discipline, setting the ranks an example and influencing

them strictly to abide by the oath, observe regulations and carry out orders..., to improve the Party work done to strengthen discipline and enhance the combat readiness of Army and Navy units...," writes Yepishev about the role of the party and the political army apparatus; cf. Yepishev, ibid., p 138.

9. "... It is in this author's personal knowledge that the "think-tanks", or institutes, do employ a few dissenters in the true sense of the word; individuals who not only have inclinations or preferences differing from those of the establishment, but whose very fundamental philosophical outlook is alien to the guardians of that establishment. These are individuals who would probably not survive as professionals outside the confines of the institutes...," maintains Jacobsen. See also C. G. Jacobsen, Soviet Strategic Initiatives. Challenge and Response, Praeger Publishers, New York 1979, p 144. Tatu writes the following on this: "...Not only is a leader precluded from identifying himself with a 'tendency' (if he does, he is almost instantly demoted), but political leaders are supposed not even to deliberate outside the appropriate precincts. If two or three members of the Politburo meet apart from the others, Brezhnev must as a matter of course be informed..."; Michel Tatu, Decision Making in the USSR, in: Richard Pipes (ed), Soviet Strategy in Europe, Crane, Russak & Company, Inc., New York, 1976, p 46 (emphasis supplied by author).

10. Hazard, ibid., p 161.

11. Colton thinks that, in critical times, "there is nothing to suggest that political officers would be more immune than commanders to radicalization of such issues...," Colton, ibid., p 225.

12. See also M. J. Deane, Political Control of the Soviet Armed Forces, Introduction, Crane Rusak & Co., Inc., New York 1977.

13. Colton, ibid., p 245; William E. Odom, The Party-Military Connection: A Critique, in: Dale R. Herspring and Ivan Volgyes, Civil-Military Relations in Communist Systems, Westview Press, Boulder, Colorado; Dawson, Folkestone, England, 1978, p 40.

14. See footnote 5.

15. Jan Jaroslawski, "Soziologie der kommunistischen Partei" [Sociology of the Communist Party], Campus Publishers, Frankfurt, New York, 1978, pp 294-295; see also the statement by Armstrong (quoted by Jaroslawski): "... In spite of its past record as an instrument for the attainment of personal dictatorship, there is no reason to think that the Party's institutional pre-eminence depends on the existence of personal rule..."; J. A. Armstrong, Ideology, Politics, and Government in the Soviet Union, New York, Washington, London, 1967, p 51.

16. Henry Kissinger, The White House Years, Boston, Toronto, Little, Brown & Company, 1979, p 526; Jaroslawski, ibid., p 389.

17. Kissinger, ibid., p 526.

18. Jacobsen, ibid., p 146.

19. THE NEW YORK TIMES of 12 April 1980 writes the following: "... General Yepishev is a close political ally of Mikhail A. Suslov, the ideologist on the Politburo who is also reported to be the leader of hard-line forces believed to be dominating policy since the move in Afghanistan..."; see also Kissinger, ibid., pp 121-122.

20. Tatu, ibid., p 45.

21. Ibid., p 52.

22. Alexander, ibid., pp 28-29.

23. See footnote 19.

24. Tatu, ibid., p 62.

25. Jacobsen, ibid., p 146.

26. SVE, Vol II, p 114.

27. Odom writes as follows: "... Intramilitary interest conflict may be more significant for policymaking than are interests uniting the military as a whole...," ibid., p 41; see also Odom, "A Dissenting View on the Group Approach to Soviet Politics," World Politics, No. 28, July 1976, p 560.

28. Thomas W. Wolfe, The Soviet General Staff, Problems of Communism, Jan.-Feb. 1979, p 54.

29. Ustinov's appointment to the position of defense minister is considered by Lange to be a solution to the problem "which obviously resulted from the drive of the military establishment, which was gaining power and significance, the drive in other words to extend its influence also to decisions of general political significance...," see Peer H. Lange, "The Soviet Defense Establishment, 1974-1976," BERICHTE DES BUNDESINSTITUTS FUER OSTWISSENSCHAFTLICHE UND INTERNATIONALE STUDIEN, No 35, 1977, p 15; Kolkowicz writes the following: "Another aspect of the military's unique role in the Soviet State derives from the perpetual tension in its relationship with the Party leadership. The military has the greatest reservoir of 'organized violence' in the Soviet Union, and it thus represents an inherent challenge to the absolute power of the Party elite..."; Roman Kolkowicz, Interest Groups in Soviet Politics: The Case of the Military, in: Dale R. Herspring and Ivan Volgyes, ibid., p 22.

30. "Edinonachaliye" means individual leadership, sole command, or "unification of (military and political) command authority in one person." West German Defense Ministry, "Vorlaeufiges Woerterbuch. Wehrwesen-Wehrtechnik. Russisch-Deutsch" [Provisional Dictionary--Military Affairs and Defense Equipment, Russian-German], Bonn, 1961, p E-1, quoted by Lange, ibid., pp 12-13.

31. Jaroslawski, ibid., p 397.

32. SVE, Vol V., pp 295-296; cf. Odom, The Party-Military Connection, p 40.

33. Ibid., and Colton, ibid., pp 23-26; SVE, Vol. II, p 274.

34. Colton, ibid., p 29; Hazard, ibid., pp 161-162; also personal information from the author of this study.

35. See footnotes 19 and 29.

36. See Checinski, ibid.

37. Ibid.

38. "...There is a core of truth in the aphorism that 'the USA has a military-industrial complex, the USSR is a military-industrial complex;'" write Mikhail Agurskiy and Hannes Adomeit, The Soviet Military-Industrial Complex, Survey, No 2 (107), Spring 1979, London, pp 107-108.

39. See Lange, ibid., p 70 (Col Gen G. S. Sidorovich), USSR: Ministry of Foreign Trade. A Reference Aid, CR 79-10007 (supersedes CR 77-13114), May 1979, CIA, National Foreign Assessment Center, Washington; Checinski, ibid.

40. Ibid.

41. Checinski, ibid.

42. Dr. John Hardt, Transportation and the Military Significance of Regionalization. The Military-Economic Implications of Soviet Regional Policy, in: Regional Development in the USA. Trends and Prospects. NATO Colloqium 25-27 April 1979, Brussels; Oriental Research Partners, Newtonville, Mass. 1979, p 235-253; Lange, ibid., p 21.

43. The Effects of Nuclear War, Office of Technology Assessment, Congress of the United States, Washington 1979; Maj Gen A. S. Milovidov and Col V. G. Kozlov (eds.), Problems of Contemporary War, Moscow, 1972, pp 240 and 244; English translation under the Auspices of the US Air Force; information supplied by author of this issue.

44. Checinski, ibid.

45. Colton, ibib., pp 29 and 90; Kolkowicz, ibid., pp 38, 82, 44, 46, 49.

46. Ibid.

47. Odom, The Party-Military Connection, ibid., p 40.

48. Kolkowicz, The Soviet Military, ibid., p 21.

49. Kolkowicz, Interest Groups, ibid., p 10.

50. Kolkowicz, ibid.

51. Odom, The Party-Military Connection, ibid.

52. Ibid., p 40.

53. Ibid., pp 44, 45 and 48.

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CIVIL DEFENSE

BOOK DISCUSSES URBAN EMERGENCY CIVIL DEFENSE OPERATIONS

Moscow AVARIYNYYE RABOTY V OCHAGAKH PORAZHENIYA (Ustroystvo, ustoychivost', avariynyye raboty na gorodskikh kommunal'no-energeticheskikh sistemakh) in Russian 1980 (signed to press 29 Dec 79) pp 2-5, 28, 97-98, 105-106, 135-139, 150-151, 161, 183, 190-191, 204-208

[Title page, annotation, table of contents, foreword, introductory portions from chapters 1-9 and bibliography from book "Emergency Work in Centers of Destruction (Organization, Stability and Emergency Work on Urban Municipal Utility Systems)", by Yu. Yu. Kammerer and A. Ye. Kharkevich, Voyenizdat, 100,000 copies, 208 pages]

[Excerpts] This book briefly characterizes the municipal utility systems of cities and industrial enterprises and discusses their stability and potential breakdowns in centers of destruction. It provides information concerning the organization and performance of urgent, priority emergency restoration operations. Special attention is devoted to water supply systems; brief recommendations are offered concerning reserve water supplies and the protection of water sources.

The book is intended for technical and engineering personnel of municipal utility services for urban areas and industrial enterprises and for personnel of civil defense engineer formations.

Foreword

The Soviet Union has categorically come out for a ban on nuclear weapons, the most destructive weapon of mass destruction, but the imperialist states continue to upgrade and stockpile nuclear missiles.

The rapid development of modern weapons and means of destruction poses a number of urgent and complex civil defense tasks to the end of protecting the population and preserving the country's industrial and economic potential.

A large place in the program of civil defense measures is devoted to the organization and conduct of operations to rescue the population finding itself in potential centers of destruction. Emergency restoration operations will play an important role. The complexity and variety of these operations are functions of the specific features of the layout and development of a city, of the pattern in which its municipal utility systems have expanded as well as of general conditions in which these operations have to be carried out.

Today's systems of technical public-service facilities (municipal power systems and other facilities) in urban areas and at industrial and other installations are complex

and ramified. They comprise the numerous pipelines of city and industrial water-supply systems, sewer systems, gas networks, heating systems, electric cable lines etc. as well as the various associated buildings and structures.

Successful accomplishment of emergency restoration operations requires advance technical preparation of city and facility municipal services, enhancement of their capacity for sustained operational stability and the ability rapidly to arrive at the proper decisions concerning the organization and conduct of these operations. The latter comes with the training of the population and civil defense formation personnel to perform skillfully and efficiently under the difficult conditions prevailing in centers of nuclear destruction.

The present book provides a general description of municipal utility systems, the stability of these systems, the most common types of damage which could possibly be inflicted upon them by present-day weapons and of methods of carrying out urgent and a number of follow-up emergency restoration operations.

There is a discussion of centers of destruction produced by not only nuclear, but also by conventional weapons: high-explosive and incendiary bombs, artillery shells etc.

In characterizing the effect of the destructive factors of modern-day means of destruction upon municipal utility systems and facilities use has been made of data from the book "Deystviye yadernogo oruzhiya" [The Effect of Nuclear Weapons] (translated from the English), Voyenizdat, 1969, as well as of certain material on the experience of the Great Patriotic War.

Chapter I

Rescue and Emergency Restoration Operations in Centers of Destruction

Present-day enemy weapons of mass destruction which could be employed in strikes on cities and industrial enterprises include conventional weapons widely used during World War II--improved high-explosive and incendiary bombs (FAB and ZAB)--as well as new types of weapons--nuclear weapons.

The characteristic features of the destructive factors of both nuclear explosions and FAB and ZAB have already been presented in sufficient detail in the literature on the subject; the present book therefore provides only a brief description of the special characteristics of the effect of a shock wave on the structures and lines of an urban municipal utility system and of the general conditions prevailing in a center of destruction in which formations will be operating.

Chapter II

Emergency Restoration Operations on Water-Supply Systems

Many, and large, fires will inevitably break out in a center of nuclear destruction. Under these conditions rescue operations will be primarily concerned with localization and extinguishment of fires, that is, will require the use of large quantities of water. Certain quantities of water will also be needed in a center of destruction to meet the need for drinking water as well as the sanitation requirements of the people, for decontamination and degasification of grounds, structures and equipment, for needs connected with the work of medical formations as well as for other purposes. Success in extinguishing fires and, accordingly, in conducting rescue operations in centers of destruction depends to a great extent upon the functioning of water-supply systems under wartime conditions.

Chapter III

Emergency Restoration Operations on Sewer Systems

1. Sewer Systems

Urban areas require the removal of large volumes of waste water, which consists of one result of the activities of city life and of atmospheric precipitation: human and other domestic waste, industrial waste and waste water from the atmosphere. A system of mains and facilities, the sewer system, serves to remove waste water beyond the city's boundaries as well as to purify it.

The external sewage system consists of outdoor household or internal block lines, the street main with line facilities, branch sewers, mains and purification facilities.

Waste water from several street lines or industrial plant systems are collected via large-diameter sewer lines and branch sewers into main sewers (or conduits), through which it is carried to purification facilities.

Depending upon the nature of the waste water involved, a sewage system may be either of the combination type, when all urban fluid wastes are carried by a single network of lines regardless of their nature and source, or separate, in which household and highly contaminated industrial wastes are carried by one system, rainfall run-off by another.

As a rule, sewer lines are laid so as to be nonpressure, gravity-flow systems, which requires that the pipes be laid at the necessary gradient.

Economic considerations dictate that when sewer systems extend for great distances and the surface of the earth lies at low gradients, sewage pumping stations be built to pump waste from deep-lying sewers into purification facilities or into sewer lines lying at lesser depths.

Purification plants purify and decontaminate sewage from the organic and inorganic contaminants, bacteria and chemicals it contains. Mechanical, chemical or biological sewage purification methods are employed depending upon the degree of contamination involved and the public health requirements imposed upon the treatment process.

Chapter IV

Emergency Restoration Operations on Gas-Supply Systems

Natural gas is one of the most abundant and promising fuels to satisfy both the needs of industry and the domestic requirements of the population.

The Soviet Union disposes of large proven reserves of industrial reserves of natural gas. They are growing continuously and now approach 20 trillion m^3. Gas's share of country's fuel balance exceeds 20 per cent and continues to increase. As a rule, it is even greater in large cities. More than 80 per cent of our cities and large settlements and 70 per cent of our villages and rural centers are supplied with gas. Most of the country's population--160 million people--use this cheap and convenient fuel.

The use of gas in industry is on the rise. The production of 88 per cent of our steel, 86 per cent of our pig iron, 61 per cent of our cement etc. involves the use of gas. The demand for gas in the chemical industry is rising sharply.

Gas is being produced at increasing rates: gas production for the national economy exceeded 400 billion m^3 in 1979; by the end of the Tenth Five-Year Plan it will be approaching 435 billion^3.

The longest gas pipelines in the world have been brought on line: Bukhara-Urals, Central Asia-Center, Northern Caucasus-Center-Northwest and Siberia-Center. The system of large underground main gas pipelines already exceeds 170,000 km.

The USSR Unified Gas Supply System, which will combine the existing separate regional systems into a single unified system, has essentially taken shape and is being continually improved. The unified system, which constitutes an interconnected complex of gas fields, main gas pipelines, underground reservoirs, gas processing plants and distribution systems, permits switching the supply of gas from various sources, which substantially increases the reliability of the country's gas supply.

The near future will see gas supplied to every city.

Chapter V

Emergency Restoration Operations on Urban Electric-Power Systems

Cities and industrial enterprises preceive their electric power from their own internal sources--electric power plants or high-capacity power systems.

A group of electric-power stations interconnected via power-supply systems with each other and with electric power consumers comprise what is referred to as an electric power system. An electric-power system joins together electric-power stations varying in nature and capacity (thermal, hydraulic and atomic) and operating via a common line system comprising electric-power transmission lines, transformer substations and other facilities.

Regardless of the distances between the electric-power stations comprising it and the area covered by the system, an electric power system constitutes a whole, unified by the common nature of the operating conditions involved and the continuity of the power generation and distribution process. Electric-power systems permit fuller and more economical utilization of power-station resources and capacities taking into account the nature of the operations in which electric-power consumers are involved.

In operation in the USSR in 1977 were regional electric-power systems with a combined power-plant capacity of more than 200 million kW. The Moscow, Kuybyshev and a number of other are the largest of these. A Unified National Electric-Power System is now being created. It will join together the electric-power systems of Siberia and Central Asia with that of Europe. Main electric-power transmission lines will be carrying 500, 750 and 1150 kV of alternating current and up to 1500 kV of direct current. The Unified Electric-Power System already joins together 900 power plants with a capacity of 160 million kW. It operations in conjunction with the electric-power systems of the member countries of the Council on Mutual Economic Assistance and is controlled from a single automated center located in Moscow.

Completion of the unification of the regional systems into the Unified Electric-Power System will make possible the transmission of electric power to different regions of

the country, from the western borders to the Far East. Because of the time-zone differences involved, this system will permit the most efficient utilization of capacities and sequential cuts in maximum loads within individual electric-power systems. The Mir electric-power system has also been created, which unifies a number of the electric-power systems of the European socialist countries.

Electric-power systems and facilities may be divided into two categories--power plants and facilities designed for system purposes and electric-power facilities and systems designed for general use.

The networks and facilities of power-supply systems include large electric-power plants (hydraulic, thermal, atomic), electric transmission lines with voltages of 110 kV and more and all the line structures and facilities associated with them. Electric power from these plants is supplied to a power system and large consumers.

General-use electric-power facilities and systems are designed to supply urban consumers, including small industrial enterprises, with electric power received from an electric-power system or generated by their own power plants. They comprise transformer substations, distribution points, cable (less commonly overhead) lines and other facilities which convert the electricity to 10 kV-380/220 V and supply it to consumers. Urban general-use systems also include traction substations and the contact power systems of trolley-bus and streetcar lines.

Figure 55 [not reproduced] is a line diagram of an urban eletric-power supply system. Power-supply sources, the various types of power plants 1, generate 6.6-10.5 kV of electricity, which is stepped up to 35-110 kV and higher at step-up transformer substations 2 and can then be fed via electric transmission lines 3 over long distances to an electric-power system or to step-down reference substations 4 located within a city's boundaries, which then reduce the voltage to 6-10 kV.

Switching equipment at the step-down reference substation, to which city or facility power-supply systems are connected, is referred to as a power-supply center (TsP). Power-plant generator-voltage switching equipment is also a power-supply center. Branching out from step-down transformers to various points around the city are the power-supply cables 5, as a rule laid underground. Efforts are being made to replace high-voltage overhead lines within city boundaries with cables, since overhead lines hamper urban development and pose a danger to the population.

Power-supply cables lead to distribution points 6, which receive and then distribute incoming electricity without conversion. Branching out in various directions from these points are distribution cables 7, each of which is connected with a transformer point 8, where the voltage is reduced to 380/220-220/127 V. Distribution cables 9 run directly from the transformer points to the consumers.

Main-circuit systems provide for connection of power-supply lines with two independent power sources. A breaker installed in each cable line insures automatic disconnection of a damaged sector; the main power-supply circuit can then switch the full load for supply via another line.

Street car and trolley bus contact systems should be considered integral components of urban electric-power systems. Contact systems are supplied with their electric power directly from a city power plant or from step-down substations of the electric-power system. Electricity is supplied via underground cable from power-supply points to consumers. Figure 56 [not reproduced] is a diagram of the power supply to street car contact systems.

Being major consumers of electric power, industrial facilities may have a complex and highly ramified power-supply system, depending upon the volume and type of production output, the area involved and other factors.

The great diversity in capacity and mode of operation of the power receivers located within the limited area of an enterprise and the constant tendency for total enterprise loads to increase because of continuous plant expansion and rising levels of the electrification of production processes are special characteristics of these electric-power systems. Power-supply systems for industrial enterprises are constructed such that all their components are continuously on load, which reduces electric-power losses and increases the reliability of the power supply.

Chapter VI

Emergency Restoration Operations on Heat-Supply Systems

Great amounts of thermal energy--hot water, heated air, steam--are required to heat homes and satisfy the needs of industry, transport and construction.

Thermal power is generated by burning fuel in different types of furnaces, boiler facilities and central heat and power plants (TETs). The efficiency of fuel burned in grouped boilers, especially in TETs, is substantially higher than burned in local facilities. Heat supply for cities and industrial enterprises is therefore developing along the lines of what is referred to as centralized heating supply, in which thermal energy is generated in large facilities and then supplied to consumers via heat-carrying systems.

Thermal energy consumers may be divided into two basic groups: municipal and industrial.

More than 800 cities and large settlements were centrally heated in 1977, while the capacity of Minenergo [Ministry of Power and Electrification] turbines exceeded 55 million kW.

Municipal consumers (residences, schools, hospitals and public and other buildings) require heat for heating, hot water and hot air for room ventilation.

In addition to these purposes, industrial consumers require great amounts of heat to meet production needs: preheating, drying, preserving, boiling etc.

Centralized heat supply involves the construction of boiler facilities or TETs, which can supply heat to large numbers of consumers. There are two types of centralized heat supply: central heating and regional heating supply. Central heating is understood to refer to centralized heating supply from city TETs, which generate both thermal and electric power simultaneously. In the absence of TETs, centralized boiler facilities are constructed to serve individual regions of the city; this is referred to as regional heating supply.

Water or steam boilers installed in boiler facilities serve as thermal power sources in central-heating as well as in regional heat-supply systems. The heat of generated steam from TETs turbines supplies the heat in central heating systems.

Chapter VII

Emergency Restoration Operations on Damaged Buildings, Transport Structures and Underground Ducts

Priority operations in areas of urban construction suffering possibly mass-scale damage will be directed first toward insuring the safety of those working in the center of destruction. This may require the demolition of partially damaged buildings threatening to collapse or in some instances their reinforcement. It may be necessary quickly to restore partially damaged buildings to provide accomodations for the homeless or to make it possible to bring individual units, groups of equipment or shops of especially important industrial facilities and municipal utility installations rapidly back into operation.

Rapid, temporary restoration of damaged buildings involves the rebuilding of doors and windows, repairing roofs, restoring heating and water supplies and strengthening any partially damaged load-bearing members: walls, columns and ceilings. These operations, which will require skilled labor and large expenditures of materials (glass, roll materials etc.), will be undertaken only in case of extreme necessity or upon completion of priority rescue operations.

Emergency restoration operations on transport structures--tunnels, bridges, junctions--are linked with the need to keep traffic moving within the center of destruction. Heavy damage or destruction of transport structures will require the construction of detours and temporary crossing points.

Chapter VIII

Safety Measures Connected with the Conduct of Emergency Restoration Operations

There will be a great variety of dangers to be encountered by persons working within a center of nuclear destruction. The primary ones might be the following:
- radioactive contamination (injuries from radioactive emissions);
- injuries from demolition or collapse of damaged buildings or individual structures;
- fire burns;
- injuries to be suffered during work on municipal service systems (gas poisoning, injuries from electric current etc.);
- losses due to improper organization or departures from commonly accepted safety procedures in conducting emergency restoration operations.

Effective regulations governing safety procedures associated with methods employed in working with various kinds of machinery, equipment etc. remain in effect under all circumstances and must be followed, as is the case with instructions and regulations governing safety procedures for conducting operations under special conditions: radioactive or gas contamination, fires etc.

Chapter IX

Some Matters Connected with the Organization and Conduct of Emergency Restoration Operations in a Center of Nuclear Destruction

1. Organization of Reconnaissance of an Area of Destruction

Proper and solidly based decisions concerning the conduct of rescue and urgent emergency restoration operations require accurate information on a current situation.

Reconnaissance information provides a basis for determining the amount of work needing to be done, establishing the sequence in which operations are to be performed and specifying methods to be employed in conducting rescue and restoration operations. Reconnaissance operations may be divided into either general or special reconnaissance (engineer, chemical, radiation and bacteriological).

General reconnaissance is conducted to obtain basic information concerning the nature and extent of a center of destruction (contamination levels, damage, the spread of fires) required to formulate rough estimates of the amount of rescue work and the conditions in which it will have to be done.

Special reconnaissance is conducted to obtain more complete and precise information on collapsed protective structures, the condition of the people inside them, the nature of the damage to buildings, structures and municipal utility systems and on the safest and most convenient routes of approach to areas and objects of assigned operations. Engineer reconnaissance groups of civil defense formations conduct this type of reconnaissance on the basis of information obtained from general reconnaissance or in conjunction with it.

Radiation, medical and other civil defense reconnaissance formations simultaneously conduct special reconnaissance to obtain more accurate and detailed information concerning levels of radioactive, chemical and bacteriological contamination and the fire danger presented in one area or another.

Reconnaissance teams are formed within formations of corresponding civil defense services (water-, power-, gas-supply etc.) to conduct reconnaissance of trouble spots within power and municipal utility systems. This reconnaissance should provide a general picture of the destruction and damage to municipal utilities citywide complete enough to enable a service chief to arrive at proper decisions concerning the amount and nature of priority operations.

Special reconnaissance by a reconnaissance formation should be preceded by brief reports on the situation as it has developed up to the time reconnaissance is begun. This will involve the use of information obtained from general reconnaissance, including that gathered from observation posts as well as service-generated data (traffic control reports, for example).

Reconnaissance mission assignments are accompanied by brief situation reports and specify reconnaissance tasks and objectives, starting points, routes of movement, end points, procedures for setting up communications, reporting schedules and safety measures.

Engineer reconnaissance of municipal utility systems involves the use of tools and equipment employed for similar purposes in peacetime and available as part of the equipment of city emergency services and surveying, construction and other organizations.

Reconnaissance subunits should include the most experienced and best-trained specialists.

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