SUMMARY OF NARRATIVE

Subject:	Gen.-Col. Igor' V. Illarionov
Position:	Following Ustinov's death in 1984 worked with Marshal Sokolov in Ministry of Defense; from 1976-84 Ustinov's Aide on special assignments in Ministry of Defense specializing in Air Defense, Rocket Forces, Aviation; from 1965 Aide to Ustinov at Ministry of Defense Industries, Council of Ministers, Central Committee, MoD
Location:	Institute for Defense Studies (INOBIS)[49] Offices, Moscow
Interviewer:	INOBIS
Date/Time:	April 1993[50]
Duration:	Approx. 1.5 hrs. total
Language:	Russian
Prepared:	Based on audio cassette tape

During the late 1940s and early 1950s, several Main Directorates for special technologies were created within the structure of the Council of Ministers of the USSR. I was quite familiar with the Third Main Directorate (TGU), which dealt with air defense technology. The Design Bureau-1 (KB-1) was created to design all air defense systems. At first this was a relatively small research organization with its own experimental production plant. Later on it grew into a huge scientific research organization, which developed almost all air defense missile systems. The first project of TGU and KB-1 was to create the Moscow air defense system. This was an enormous fixed-site construction consisting of two large rings designed to combat American "flying forts"—the newest bombers—and to protect Moscow and the Moscow industrial region. This system had a code designation S-25.

During the early years KB-1 had working for it several German specialists who had worked on air defense systems in Germany during the last year of the war. They worked in KB-1 with a small group of our own specialists, chief designers, but all the rest were isolated. The system was very large and expensive, but since we had no experience of this sort, we decided to build it. As a result, several years later the system was built and put in place. The TGU existed for a relatively short time and in the 1950s all of its divisions were turned over to the ministries. It should be noted that TGU employed civilian specialists from all branches of industry who could take part in the development of such a large system, as well as military specialists who later on moved into the Ministry of Defense to work on the operation of the system.

The TGU had considerable rights and the decisions it made were signed by the Council of Ministers without any discussion. It was allowed to use any ministry and any production facility, and use funds from any source. It was not limited in anything and

[49] *Institut Oboronnykh Issledovanii* (Institute for Defense Studies). Scholars from INOBIS assisted in the collection of some of the taped interviews.

[50] INOBIS carried out the interviews resulting in this narrative at various times during the month of April 1993.

this speeded up the development process considerably and created an atmosphere in which work was relatively easy and fast, which cannot be said for the ministries. In the ministries you had to fight with GosPlan, GossNab, and the Council of Ministers every time you introduced any little innovation—a new, relatively simple design. All of this took a lot of time and slowed down work. When the TGU was eliminated, a department called the Military-Industrial Commission (VPK) was formed inside the Council of Ministers there. The task of this Commission was to coordinate all development of military technology, planning and preparation of Council of Ministers decisions on these questions. The VPK played a very important role in directing new R&D efforts, and thus, was responsible for conducting the arms race from the Soviet side. In later years it also worked on questions of arms reductions and prepared materials for our delegation at the arms reduction negotiations, together with the Ministry of Defense and other government bodies.

We were always behind the U.S. in the development of nuclear missiles, and because of this a first strike was not even discussed. I don't know of a single document or discussion in which a first-strike doctrine was adopted. But individual highly-placed officials sometimes stated that if we did not keep up with the U.S. in armaments, then in a crisis, upon observing U.S. preparations for a nuclear strike, we would have to preempt. But I repeat that officially there was no such doctrine in the documents with which I was familiar. During the Khrushchev era and prior to it I was not in the center of international affairs and cannot say that such views did not exist then. The retaliatory-meeting strike doctrine began to be worked out in the late 1960s and early 1970s. Conferences held under the chairmanship of the MoD (Grechko et. al.) and conferences involving the Chief Designers (Ustinov, Riabikov, et. al.) came to the conclusion that at the time we did not have the capability to conduct a retaliatory launch before the enemy's warheads hit our missiles. There were many debates and calculations, but the doctrine was not worked out. One of the most difficult and labor intensive tasks was coming up with a decision at the highest level of leadership. The commander-in-chief—Khrushchev, and after him Brezhnev—did not want to take on the personal responsibility, and a meeting of all of the top-level officials, discussion and taking of decisions would require not minutes and seconds, as would be required by the time of flight of a missile, but hours.

During this time development began of the second generation of ICBMs with MRVs[51] as a counterweight to the American Minuteman II missile. In consideration of the special importance of this system, Ustinov and Smirnov, on the instructions of the Ministry of Defense, assigned the preliminary development to two design bureaus—those of Iangel' and Chelomei. Both designs were completed and discussed at a meeting of the Defense Council. There was a difference of opinion: the MoD backed the Chelomei design, while the VPK (Ustinov, Smirnov) and the Academy of Sciences (Keldysh) preferred the Iangel' missile. [Sergei Aleksandrovich] Afanas'ev, the Minister of General Machine Building, sided with the MoD, but inside his ministry the chief of the head Scientific Research Institute (NII)[52] Mozzhorin, and the First Deputy Minister Tiulin did not go along with him. The meeting of the Council was held in the Crimea, in the mountains overlooking Yalta in a forest clearing near a small cottage. The people who lived in the cottage had been temporarily moved out and replaced by workers of the Ninth Main Directorate of the KGB. The number of participants in the meeting was quite large: ministers of the branches of defense industry, the top-ranking military men,

[51] MRVs — Multiple reentry vehicles as distinct from Multiple Independently Targetable Reentry Vehicles (MIRVs) which were developed later. MRVs fall in a "footprint" determined by ballistic momentum once released over the target area by the last stage of a missile. Each warhead on a MIRV is guided independently to a specific target once released by its missile "bus."

[52] NII — *Nauchno-issledovatel'skii institut* — Scientific Research Institute.

general and chief designers, heads of the Central Committee and Council of Ministers apparatuses, academicians from the academies of science of the USSR and UkrSSR. In all there were at least 50 - 60 people.

The meeting of the Defense Council was chaired by Brezhnev. The Secretary of the Defense Council, M. M. Kozlov, played a passive role, kept a thick folder full of documents and took notes. Seeing this, Ustinov sat me and the head of the Defense Department of the Central Committee down next to Kozlov to take careful and accurate notes, and to make sure that Kozlov did the same.

Iangel' and Chelomei made their presentations. Chelomei was usually very self-congratulatory, always exaggerating the capabilities of his designs. By contrast, Iangel' and Piliugin, who designed the missile's control system, were cautious and always gave themselves a margin for error. Chelomei, knowing that Brezhnev and Grechko were predisposed towards him, as Khrushchev and Malinovskii had been before them, lavishly praised his brainchild. Iangel' emphasized the innovations of his design: survivability, etc. Although he did not state it directly, it became apparent that Chelomei considered protection of missiles and silos against nuclear blast to be superfluous. The uniformed military did not pay particular attention to the details of the presentations and focused instead on the quantitative characteristics. Iangel' had four MIRVs,[53] and Chelomei had six.[54] Most of those who spoke and who depended on Grechko and Afanas'ev for one reason or another supported their position. Mozzhorin, the chief of the leading NII[55] of the Ministry of General Machine Building gave a detailed comparative analysis of the two missiles which clearly showed that the Iangel' design was preferable. The president of the USSR Academy of Sciences, Keldysh, touched on questions of doctrine, as well as technical questions. He proved that all debates regarding missiles stemmed from questions of doctrine—first strike vs. retaliatory strike—and that certain circles still held on to the vain hope of destroying the opponent with a single strike. Instead, he argued, we should use all of our technical capabilities to guarantee a retaliatory strike, as this is the only way to deter the U.S. from first use of ICBMs. Afanas'ev declared with pride that the Ministry had carried out the instructions of the Party and government, had developed both missile designs, and had begun preparations for production. He took the side of Chelomei saying that he supports the position of the Minister of Defense because most of the specialists had spoken in favor of this missile. For the first time he spoke against Ustinov. He said to Brezhnev, "Unfortunately, Leonid Il'ich, Dmitrii Fedorovich has become an opponent of Chelomei and greatly hampers our efforts." Before this meeting he had always sworn allegiance to Ustinov and was fond of saying, "Dmitrii Fedorovich, you are our teacher and we—your students."

Tensions were very high. Despite the tents that had been set up, the July sun had made it very hot. Brezhnev announced a 20-minute recess. We all got up and split up into groups, continuing the discussion in the shade of the trees. Brezhnev called Ustinov and Grechko over to him and talked to them in a fairly loud and agitated way. I could hear phrases like, "What kind of position have you put me in? Why was it not possible to discuss these questions beforehand?" They replied that they had discussed this problem many times, but were unable to reach consensus. Epishev came over and said to Brezhnev, "Leonid Il'ich, since when have the industrialists begun to dictate to us in the military what kind of weapons to buy? We know better than they what we need." I could not hear the reply to this of the others, but it seems that he was ignored.

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[53] The Iangel' missile probably was an early version of the SS-17 (Russian designation RS-16).

[54] Chelomei's design became the SS-19 (Russian designation RS-18).

[55] Mozzhorin's institute, TsNIIMash, employed over forty thousand scientists and engineers.

After the break there were no more speeches, and the chairman stated that objections had been raised to the draft decision prepared by the Council. The problem would need to be reworked by Ustinov, Serbin,[56] Keldysh, and Kozlov. Usually meetings like this ended with a traditional dinner and toasts to the leadership, but I don't think that happened this time. Maybe they had a dinner down in Yalta, as all of the main participants quickly left to go down from the mountain. Ustinov, Keldysh, Alekseev, Serbin, and I stayed behind. We discussed how to prepare the draft decision and what to put in it. Keldysh played the most important part. His suggestions were adopted. He proposed to outline the requirements for a strategic missile system—practically a military doctrine for the country. Also, to write a compromise—to produce both missiles. This decision, which was very harmful to the country's economy, was made because of Brezhnev's indecisiveness and unwillingness to quarrel with his closest friends. The decision was written by Keldysh and Ustinov, and the rest helped. When the signatures were collected, Grechko tried to delay the decision and even hid from Serbin at his dacha when Serbin arrived with the documents. The Marshal left his dacha through the back door and did not return for several hours. Ustinov and Keldysh liked working together very much and switched to the familiar form of address—*ty*—in their conversation.

[56] Serbin, Ivan — Chairman of the Defense Industry Department of the Central Committee of the Communist Party of the Soviet Union in the 1960s and early 1970s.

SUMMARY OF INTERVIEW

Subject:	Gen.-Col. Igor' V. Illarionov
Position:	Following .i.Ustinov;'s death in 1984 worked with Marshal Sokolov in Ministry of Defense; from 1976-84 .i.Ustinov;'s Aide on special assignments in Ministry of Defense specializing in Air Defense, Rocket Forces, Aviation; from 1965 Aide to .i.Ustinov; at Ministry of Defense Industries, Council of Ministers, Central Committee, MoD
Location:	Institute for Defense Studies (INOBIS), Moscow
Interviewer:	John G. Hines
Date/Time:	June 23, 1993, 1:00 p.m.
Language:	Russian
Prepared:	Based on notes

Q: Could you discuss the role of the Military-Industrial Commission (VPK)[57] at the time of the July 1969 meeting of the Defense Council in Yalta and Dmitrii Ustinov's position at that time.

A: The VPK was responsible for the formulation of military-industrial policy. Specifically, the commission had responsibility for defining what weapon systems and equipment were necessary and in what quantities, who would build them, etc. The VPK also was responsible for saving resources on arms building where possible.

By 1969, relations between the Military-Industrial Commission and the military were hostile. There were continuous battles over weapon systems. This was true even though the Ministry of Defense was represented on the VPK by a First Deputy Minister of Defense.

In 1969, Dmitrii Ustinov held no state positions. He was CPSU Party Secretary for military-industrial cadres and armaments where, among his responsibilities, was the definition of the probable enemy and the enemy's present and future capabilities and objectives. Before he assumed the Party position as Secretary, he was First Deputy Chairman of the Council of Ministers, and before that, Chairman of the military committee within GosPlan, the state economic planning agency. For much of his career, up until he became Minister of Defense, Ustinov held the military rank of General-Colonel, but he was not military.

Q: Could you please expand on the nature of the issues and personalities that were debated. Who was on which side of the main issues?

A: The debate concerning intercontinental missile systems focused on the differences between the proposals for missiles by Iangel' and Chelomei. Early in the history of

[57] VPK — *Voennaia Promyshlenaia Kommissiia* — (Military Industrial Commission).

missile development, Chelomei had received Khrushchev's blessing (Chelomei had concentrated on the development of cruise missiles, and Iangel' on ballistic) and such support gave Chelomei an advantage vis-à-vis other chief designers for some time.

Of the two missile systems presented in July of 1969, Chelomei's was the less survivable and less reliable for a retaliatory strike. At the same time, Chelomei's design, which was for a MIRVed[58] system, included six warheads whereas the Iangel' system, admittedly more reliable and systemically more survivable, had only four warheads per missile.

These contrasting characteristics led the participants in the Yalta Defense Council meeting to take sides. The military, especially Minister of Defense Grechko, liked Chelomei's design because it provided more warheads per missile and because Grechko didn't care about survivability. Others on Chelomei's side included the Minister of General Machine Building (MOM) Afanas'ev, his deputy Tiulin.

Supporters of the Iangel' system tended to include those who believed that survivability was an important factor. Most of those who supported Iangel' were from the VPK or people associated with the VPK. This included Ustinov, Smirnov, and Keldysh, the President of the Academy of Sciences. For slightly different reasons, Mozzhorin, the Director of TsNIIMash, the Central Research Institute for MOM, opposed his boss, Afanas'ev, and supported Iangel'.

Q: Was the concept of survivability defended on the basis of any concept of deterrence?

A: No, there was no formal concept of deterrence. If we had accepted a concept of deterrence in which survivability of a smaller number of missiles was the logic we would have to follow, we would be forced to reduce radically the number of missiles in our inventory. We did not formally accept that logic. We did consider survivability, however, including the possibility of missiles launching in time to avoid destruction by an incoming nuclear attack. We called this a "retaliatory-meeting strike" [*otvetno-vstrechnyi udar*] which is what would happen under such circumstances. The July 1969 Defense Council meeting was the first time retaliatory-meeting strikes were discussed seriously as something we might be able to do. It was clear that it would be preferable to simple retaliation where we would absorb a first strike before launch.

I would say, however, that Grechko himself did not really care about survivability. Grechko canceled the mobile ICBM program in 1968 and he prevented the hardening of silos beyond 2 kg/cm^2 [28 psi]. He alone, a simple cavalry officer with very little ability to understand technical and strategic questions, was able to hold back much of the MoD and the technical analytical specialists in the military industries and military-political staff in making progress in improving systems and systems survivability. He overruled many including the Chief of the Strategic Rocket Forces (SRF) who relied for advice on his own military-technical committee [NTK—*nauchno-tekhnicheskii komitet raketnykh voisk*]. We understood that Grechko took such a position because he did not really believe in retaliation nor in retaliatory-meeting strikes. He believed in first strikes even though it violated our official military policy [*Voennaia Politika KPSS*] of not initiating nuclear strikes.[59]

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[58] MIRV Multiple Independently Targetable Reentry Vehicle — Each warhead on a MIRV is guided independently to a specific target once released by its missile "bus."

[59] The *Voennaia Politika KPSS* represented the most authoritative, high-level expression of the will of the Communist Party with respect to issues of defense and state security.

Q: Could you comment on the relationship between Marshal Ustinov and Nikolai Ogarkov?

A: That is a very difficult, uncomfortable question. I would prefer that you ask Ogarkov himself.

Q: Marshal Akhromeev in the book he wrote with Kornienko, which was published posthumously, explained that when he (Akhromeev) left in 1980 to be the representative of the Supreme High Command in Afghanistan, Ogarkov and Ustinov were getting along very well. When he returned in 1982, relations between the two officers were terrible, so bad, in fact, that the work of the General Staff and the Ministry of Defense were very negatively affected. Routine work and decisions would be prepared in the General Staff and never be approved, or not even transmitted, to the Minister of Defense because of the hostility between the two senior Marshals in the Armed Forces.

A: Yes, that sounds like an accurate description of what it was like.

Q: Was it personal or professional?

A: Well, Ustinov liked the high-technology and nuclear strategic systems and strategies, and Ogarkov thought conventional war, the ground forces, and preparation for war in the TVD [*teatr voennykh deistvii*—Theater of Strategic Military Action] were more important. In 1980, Ogarkov even argued for a cut in strategic forces and an increase in conventional forces. But that was not the main problem. The major differences seemed to be personal.

Addendum to June 23, 1993 Interview on July 1969 Crimea Meeting of the Defense Council

The opposing blocs according to Illarionov:

Chelomei design (SS-19):

Favored by Ministry of Defense specialists and uniformed military
Weakly protected/first strike weapon
Six warheads
Principal supporters: Grechko (MoD), Afanas'ev (MOM), Epishev (Deputy MoD for Political Issues)

Iangel' design (MR-100/SS-17)

Favored by VPK/industrialists
High protection, survivability/retaliatory-deterrence weapon
Four warheads
Principal supporters: Ustinov, Mozzhorin (head of TsNIIMash), Keldysh (Academy of Sciences), Serbin (head of defense department of Central Committee), Alekseev, Illarionov (assistant to Ustinov)

Although as a compromise Brezhnev put both types of missiles into production, the Iangel' bloc won the doctrinal argument, leading to the formal adoption of the retaliatory-meeting strike doctrine.