

Secret

Dear Robert:

This is another lengthy long hand letter with copies to no one. Unfortunately the only means of communication with you in which I have any real confidence are these personally delivered letters. All significant developments here which are reportable by telecon have been so reported. Nevertheless it is clear from the messages we have received from Y that these reports are not being forwarded to Y from Washington. In one case we received a number of questions from Y almost all of which were answered in three separate telecons which were transmitted three, four, and five days respectively, earlier than your questions. Two of these messages were explicitly addressed to you. If it should become necessary to continue our operations, it is in my opinion essential that communication between here and Y be drastically improved, preferably with direct unencumbered transmission of messages being authorized. I apologize for the failure of information from here to reach you, but both Pison

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surprising if the 509th lost the Green
Hornet C-54's now that the war is over
and transportation is ^{so} jammed. Without
these we would probably ~~not~~ have to
wait quite a while for even a boat.
Also some people are worried about reservation
of moving vans away from site. ~~Y. points~~

Our experience in ^{the} delivery of the
fat man has convinced almost all of
us of the importance of one much
needed improvement. It is ⁱⁿ my opinion
essential that any atomic bomb to be
used in any fair quantity must be
capable of being completely protected
against even a slight possibility of
a nuclear explosion being detonated
by fire in take off of the aircraft.

This ^{will be} particularly true later when atomic
bombs are available in sufficient quantity
that one can not safely gamble the safety
of the base on merely the low probability

of a fire on a single takeoff and when
one can afford even a small loss
of reliability to insure the protection of
the home base. Only twice since I have
been out here have I been even slightly
worried or nervous ~~and~~ ^{but} both of these times
the intensity of my worry made up for
the relative calm of the other periods. One of
the bad times was during the two hour interval
between the scheduled ^{time of the} report from Ashworth on the
Nagasaki raid and the time of the actual report.
However, the worst period was that between
the time the B-29 engines with the first
man were cranked up and the time the
plane was well clear of the island.

The night before this takeoff four planes
in succession crashed ^{in takeoff} at the other end
of the island ~~to~~ - in fact the situation got
so bad a mission of 100 planes was
cancelled after only 30 got off the ground.
Since I have been here I have watched
several fires resulting from ~~the~~ crashes. By

actual timing, ~~was~~ a very intense
gasoline ^{fire} continuous for over twenty minutes.
Six or eight fire engines working on such a
fire don't even make a dent. After
witnessing such fires and after leaving
sweated out one ^{FM} atomic bomb take off,
I can't urge too strongly the importance
of complete nuclear safety in take off for
future models. The only sure ways I have
been able to think of is a trap door model
with a cylindrical plug through the HE
so that the active material can be inserted
or the insertion of inertial material or absorbent material in the open space of a non-Chisty
in flight. I realize the difficulties of this ^{idea}
with a non Chisty model. However, I feel
that this feature is so important that with
future greater abundance of active material even
~~at~~ a loss in efficiency ^{and reliability} to achieve it is
justified. The one FM take off has been my
most unpleasant experience since joining the
project.

I also think that serious thought should

be given to the means whereby from now on the United States can remain in a state of readiness in which an atomic bomb could be delivered to any place in the world on a moments notice. To ~~re~~establish a base similar to our present one at Tinian would take a long time. My own preference would be to have the main base in the United States with all equipment necessary for establishing a forward base being ~~is~~ air transportable and being held in reserve along with the necessary air transports at the U.S. base. This would be especially applicable if the unit could be made completely safe against a possible nuclear explosion resulting from a crash. In this case I would strongly recommend assembly and loading at the U.S. base with only staging occurring at the advanced base. As more material becomes available we could afford a sacrifice in reliability to achieve this and could even avoid the need for a loading pit at the advanced base by having all

planes including the spare ones carry units.

Le May and Tibbets have been preparing some post war Air Force proposals to send to Eaker. You'd better make sure that these are properly coordinated with future bomb development plans before the Air Force plans go to far. At present their proposals (which I believe have not yet been sent in) call for the establishment of an atomic bomb wing ~~station~~ based in the Palm Springs - Victorville ^{area} and capable of delivering atomic bombs to any place in the world. This location would be all right if Y move to Pasadena but I at least have heard nothing official on such a move. I suggest that you watch out that the tail does not wag the dog and that the ^{future} location of Project Y is not determined by an Air Force action.

I am sure that by now you have been

the full story on the Hiroshima mission, but in case you have not been fully informed about the Nagasaki one, I shall summarize it. Our original schedule called for take off on the morning of ~~the~~¹¹ August local time (10 August Washington time). However, on the ~~9th~~ evening of 7 August we concluded that we could safely advance the date to 10 August. When we proposed this to Ziffeta he said it was too bad we could not advance the date still another day since good weather was forecast for 9 August with at least five days of bad weather forecast to follow. We agreed to try with the understanding we might miss our schedule since we were unwilling to speed any operation which might conceivably affect either safety or reliability. Finally at 11 PM on 8 August the unit was in the plane and completely & thoroughly checked out. Take off was at about 3:00 AM. We all aged ten years until the plane cleared the island. We were scheduled to receive a strike report at 10:30 AM 9 August, but all we

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heard until until 12³⁰ was the very worried
 query from the escort ship, "Did the strike
 plane abort?" Finally we received the message
 from Asworth that the secondary target had
 been bombed largely by radar and that at
 least technically the raid functioned even better
 than Hiroshima although there was some doubt
 as to the location of the bomb. ~~Interruption~~
~~of all our ~~missions~~~~ We learned later
 that the strike plane had its first trouble in
 making its rendezvous with the escort plane.
 Although it was supposed to wait not over fifteen
 minutes at the rendezvous point at the coast
 of Japan it kept seeing approaching B-29's
 on another mission each one of which it would
 think initially was the escort plane. In this
 way the strike plane actually lost 50 minutes.
 It then made three attempts to bomb the primary
 target, but on each occasion a cloud interfered.
~~It then went to Japan~~ This took another fifty
 minutes. As its fuel was then getting low
 it then went to Nagasaki, making a necessary

shortcut which carried ~~the~~^{it} over enemy territory
~~the entire~~^{most of the} way instead of over the usual
water route. ~~It was then clear that there was~~
~~enough gas for only one run and not enough~~
gas to carry the unit on to Okinawa (air was
closed in with bad weather). It was therefore
decided to drop either by radar or visually.
A radar run was made ~~and~~ in the course
of which the bombardier got one visual
check. The bomb was released & hit apparently
approximately over the Mitsubishi steel
works. However, it was days later, before
the weather cleared enough for good photo recon
pictures to be taken so that we could learn
what a really lucky shot it was. The bomb
was far away from the aiming point but
was at ~~an almost better~~ probably an even better
position than the aiming point since at the
time of the ~~drop it was~~ selection of
the aiming point it was not ~~certainty that~~
certain that the extent of the destruction would
be as great as that actually obtained. The bomb

apparently detonated somewhat north of the Mitsubishi Steel and Arms Works. All other factories and buildings on the Urakami River from the Nakajima Sawa River through the Mitsubishi ~~the~~ Urakami Ordnance Plant were destroyed. The distance from ^{the} northernmost factory that was destroyed to the southern boundary of complete destruction was about three miles and damage might have occurred north of the Urakami Ordnance Plant if any buildings had been there. Although only 44% of the city was destroyed by the official record this is due to the unfavorable slope of the city and not to the location of the bomb detonation. The most conspicuously factory section of the city was the section destroyed. Good pressure records were obtained on this mission and copies of these curves are being forwarded to you by Alvarez. ~~That~~ No further pictures were obtained due to the failure of that plane to make its rendezvous. The factory film from Hiroshima is being forwarded by Waldman for post.

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study at Y. A complete set of photo recon-
pictures of both Hiroshima and Nagasaki before
and after the strike is being forwarded to you
by Baker (directly I hope but Kirkpatrick may
insist that your set go through Groves first).
That Nagasaki picture is of very poor
quality since the original negative is now in
Washington. The extent of the damage is much
clearer on prints made from the original
negative.

~~The best summary~~

I think that on the whole things here
have gone remarkably well. Up to 19 Aug
this was the most successful and best running
field party that I have ever seen or heard
of. Everyone did a really excellent job and
the whole organization worked beautifully as a
unit. Unfortunately, the orders requiring us to
stop on 20 August made a bad anti-
climax. However, since then we have tried to
make the best of a sad situation. I hope

that you can do something to get us home.
Everyone deserves at least this much of
a reward.

I'm sorry that ~~this~~ this letter has
been so tediously long.

Sincerely,
Norman