(COPY)

Altenwalde, Aug 28 1945.

To: Major TARGETT.

Concerns Technical reasons for my proposal to visit the camp C. personally, in order to clear, with Dipl.Ing. ZANGL, Dipl.Ing HELLER, Ing.BIPPART and Werkmeister KONIG, questions which have to guarantee the security of function of the rockets, built by us.

In every rocket, there exist parts tuned upon and adjusted with each other, as f.i. burner, turbine, vapour unit, pipes assembly. The pressure losses of the single parts determine the diameter of the fuel and oxygen restricting plate. As the documents of the parts and spares in this place are not at all complete, certain parts have to be exchanged and no expedients (tables and formulas) for computation are available, I have to refer to the experience of Dipl.Ing ZANGL in this matter, in order to ascertain these values. That is not possible by a written communication, but has to be performed by personal contact.

There have to be cleared similar questions with respect to the fuel what, if it should be useful for the exercise "BACKFIRE", were to be done by personal contact.

To gain information, if and how far the turbines and pumps under consideration are safe, it will be necessary to take to pieces each pump and turbine. For the critical examination, a discussion and, in this case, even the presence of Werkmeister KONIG is urgent.

What regards the rigidity of the whole body frame, a critical consultation of Ing BIPPART is necessary. This, too, is not possible by letter, as such a matter can be handled much more successful by a personal discussion.

(Sgd) LINDENBERG.

REPORT ON MEETING HELD IN BRITISH
TECHNICAL OFFICE, KRUPPS, on 30 AUGUST 1945 p.m.

Present:	Lt Col	GOODYEAR
	Major	TARGETT, LR
	Mr	WORTLEY
	Lt	MEYER
	Herr	LINDENBERG
	Herr	HELLER
	Herr	BAURAT von GOTTBERG
	Ltn	KOPP

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The meeting was held to discuss the properties of fuels, particularly as applied to those fuels and chemicals which are at present on the grounds at KRUPPS.

T STOFF.

1. The first question raised was the concentration, specific gravity, temperature chart for T Stoff obtained from KIEL. It was agreed that this graph from KIEL could be used to determine the concentration of the T Stoff on site.

2. The second question asked was "What are the limitations of concentration within which T Stoff may be used?" When accurate firing of the rocket is demanded, the concentration of the T Stoff must lie between 78.6 and 80%, but allowing certain depreciation in the range of the rocket, a concentration of 75% would serve for the working substance. Lower concentration will cause corrosion and rapid deterioration of the steam generator and turbine. This only, however, if the turbine should be used intermittently, e.g. test run before the final firing.

3. The question of pre-heating the T Stoff was raised and it was stated that no warming device need be used until the outside temperature reached -20° C.

4. Protective clothing. The question was raised as to whether natural rubber was sufficient protection. The answer was "Yes", provided it is washed after immediate contact with T Stoff. German troops used MIPOLAM clothing.

5. The question of the quality of aluminium used for various vessels was raised, and this material it was stated must be an aluminium alloy containing NO copper. Where, however, a steel container is used, as in the steam unit itself, the interior surface of this tank must be coated with a waxlike compound, namely CERISIN, which is a pure hydro carbon.

6. The question of deterioration of concentration was raised and the reply was that in a properly constructed aluminium tank the T Stoff only deteriorated 1 to 2% in 12 months.

7. On the question of the purity of the T Stoff on the site, it was agreed specific gravity was the only test that need be made.

8. The question of sufficient supplies of 80% T Stoff from KIEL was raised and it was agreed that if necessary supplies could be arranged at short notice.

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Z STOFF

9. It was stated that sodium-permanganate must be used. Calcium Calcium does not catalyse the T Stoff as rapidly as the sodium and its use is to be avoided.

10. The concentration of the Z Stoff should be about 27.4%. Tolerance of about 1% was thought to be allowed in the specification. No specifications for these chemicals are available at present.

11. HELLER could not give us the exact specific gravity relative to this concentration, but perhaps if specific gravity of the stocks of Z Stoff here were measured, then perhaps this would strike some note in his memory. It was specially mentioned that the sample measured should be made from a sealed can.

12. The question of purity of Z Stoff was raised and HELLER mentioned it was practically chemically pure.

13. Contamination of the Z Stoff was raised and HELLER stated that if any sediment or undisolved crystals were present these must be filtered out before using Z Stoff.

14. The question of crystalisation of Z Stoff was raised, and HELLER stated that crystalisation did not materialise until a temperature of -5° C was reached, but as a precaution Z Stoff should not be used at a lower temperature than +5° C. Should temperatures be below zero then the Z Stoff must be heated to a temperature of 60° C before filling into the rocket.

15. It was agreed that the Z Stoff in store was suitable for use.

A STOFF

16. Losses during delivery of liquid oxygen were quoted and HELLER could apparently raise no objection to these figures.

17. The question of a test run with the oxygen tanks on site was raised and it was stated that this test run would be made as soon as possible.

18. The question of purity was raised and this it was stated should never be below 98%.

19. HELLER was asked whether he knew of any electric drive on a liquid oxygen pump and the reply was in the negative.

B STOFF

20. The specific gravity of the B Stoff on hand was stated to be 0.815 at 17° C and HELLER, from memory, reckoned this to be 96% alcohol. This 96% alcohol must be diluted to give 75%/25% mixture alcohol and water. It was stated from memory that the specific gravity of this mixture should then be 0.86 at 15° C.

21. The question of the water for this mixture was raised and it was doubted whether ordinary town water should be used. The Germans previously used a water softener to remove the salts from this water before mixing. It was agreed that in this neighbourhood the water is reasonably soft and ordinary town water could be used to mix with the alcohol.

J R Targett

30 Aug 45

(Sgd) LR TARGETT Major.

J Wortley

(Sgd) J WORTLEY (C.T.A.)

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