



ACTS OF THE ZAPORIZHZHIA NPP · AUGUST 1999 – MAY 2000

2VM4-27/9 compressors: output increased, plant extended the treatment

Zaporizhzhia NPP, a separate division of SE NNEGC Energoatom, compressor sections AKS and OSK · acts approved by the technical director — chief engineer of the plant and by the deputy director for power unit repairs

Ukraine · treatment 03.08.1999, act 01.09.1999 · fleet treatment May 2000, act 30.05.2000

PRODUCT	TEST OBJECT	DOCUMENT TYPE
XADO RVS repair-and-restoration compound by XADO LLC · treatment without disassembling the compressor	2VM4-27/9 air compressors piston group of both cylinders and the crank mechanism	Two plant acts with signatures and stamps

COMPRESSOR	TREATMENT	OBSERVATION	ACT
OUS30D01, OSK section	03.08.1999 — piston group and crank mechanism	264 h of operation in various modes, measurements before and after	01.09.1999
AKS and OSK compressors, including OUS30D01	May 2000 — both sections	assessment of mechanism operation by the plant commission	30.05.2000

Unit OUS30D01 was treated twice: in August 1999 and again with the rest of the fleet in May 2000.

Key results

↑ 16 % output of compressor OUS30D01, filling of 20 m³ from 4 min 39 s → 4 min	↓ 19-40 % oil temperature in the crank mechanism system, 80 → 48-65 °C
---	---

Compressor OUS30D01 — 264 hours of operation after treatment

PARAMETER	BEFORE TREATMENT	AFTER TREATMENT
Output — time to fill a 20 m ³ air receiver from 0.2 to 8 kgf/cm ²	4 min 39 s	4 min — output up by 16 %
Oil temperature in the crank mechanism system	80 °C	48-65 °C in various operating modes
Oil pressure in the crank mechanism lubrication system	dropped as the oil heated up	stabilized

Oil temperature fell while the ambient air temperature was rising: the compressor has no oil cooling system.

Treatment of the plant compressor fleet, May 2000

SECTION	TREATED COMPRESSORS
AKS	US71D01 · US72D01 · US76D01 · US77D01 · US79D01
OSK	OUS10D01 · OUS20D01 · OUS30D01 · OUS40D01 · OUS50D01 · OUS70D01

The plant commission recorded a drop in temperature at the friction points with its subsequent stabilization, and restoration of output to the rated values.

Conclusions of the plant acts

Act of 01.09.1999 on compressor OUS30D01: «The compressor output was determined by an indirect method. The time to fill an air receiver of $V=20 \text{ m}^3$ from a pressure of 0.2 kgf/cm^2 to 8 kgf/cm^2 was 4 min 39 s before treatment with the technology and 4 min after treatment, i.e. an output increase of 16%». Over **264 hours** of operation in various modes the oil temperature in the crank mechanism system fell from **80 °C** to **48-65 °C** and the oil pressure stabilized — and this with no oil cooling system, against a rising ambient air temperature. In May 2000 the plant treated the compressors of both sections, including the same unit OUS30D01, and the Zaporizhzhia NPP commission stated in the act of 30.05.2000: «The commission notes an overall improvement in the operating conditions of the compressor mechanisms after treatment with the XADO compound : a drop in temperature at the friction points and its stabilization, restoration of output to the rated values».



© XADO. All rights reserved.

The results relate to 2VM4-27/9 air compressors at the compressor sections of the Zaporizhzhia NPP; with other machines and operating modes the figures may differ. The originals of both acts, with signatures and stamps, are published in full and available for download. RVS is an obsolete XADO designation for zero-generation compounds; the current product generation is revitalizants.