

SAUDI ARABIAN OIL COMPANY (Saudi Aramco) GENERAL INSTRUCTION MANUAL ISSUING ORG. CONSULTING SERVICES DEPARTMENT SUBJECT: STARTING DUTY ON LARGE MOTORS	G.I. NUMBER Approved 2.701	
	ISSUE DATE 02/24/2001	REPLACES 09/21/1992
	APPROVAL OMN	PAGE NUMBER 1 OF 2

CONTENT:

- * This Instruction outlines the starting duty limitation for coupled motors rated 150 kW (200 HP) and larger, 2300 volts and above, 3 phase, 60 hertz. The instruction is not applicable to motors with reduced voltage starter or adjustable frequency drives. The text includes:

1. Purpose
2. Responsibilities
3. Procedure

1.0 Purpose:

The purpose of this Instruction is to prevent motor failures due to overheating as a result of frequent starting duty.

2.0 Responsibilities

- 2.1 The person assigned by the Plant Operations Manager (Plant Foreman, Supervising Operator, etc.) shall be responsible for ensuring that the procedures outlined in this Instruction are followed properly.
- * 2.2 The assigned personnel shall be responsible for posting a "Starting Duty Limitation" notice (6-1/2" x 3-1/2" metal plate AMS # 17-716-750), when applicable per section 3.0, at, or close to, the startup switch or button location.
- * 2.3 The assigned personnel shall ensure that the repeat-start blocking relay, and other protections and interlock devices (such as multi-function protective relays, blocking relays and interlocks) are properly operated, and have not been defeated.
- 2.4 The assigned personnel shall ensure that reference to this G.I. is included in the Operating Instruction Manual (OIM) of the subject motors.

* 3.0 Procedure

The motor manufacturer shall define the frequency of successive starts.

For motors rated 2300 volts and above, a multi-function protection relay should be used for motor protection in accordance with the Saudi Aramco Material Specification. This protective relay shall be programmed per the motor manufacturers' hot and cold thermal limit data, which defines the starting capabilities of the motor.

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However, if the thermal data is not available, either a repeat-start blocking relay shall be installed in the motor controller and is programmed according to the motor manufacturer's repeated start instructions, or the following frequency of successive starts shall be manually controlled during motor starting, and a "starting Duty Limitations" sign is posted per paragraph 2.2 above:

Maximum Frequency of Motor Successive Starts

Starts Permitted

Motor Status

2

If motor has been idle for at least 8 hours

1

If motor has been running for at least 30 minutes, then shut down

1

If motor has been idle at least two hour

(Note: Minimum of two hour is mandatory between the starts once the maximum number of starts of "2" have been exceeded)

Approved/Concurred by:

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