



Nuclear Services/Repair, Replacement and Automation Services

# High Speed Gear Drive

## Background

As a leading supplier of nuclear safety-related products and services, Westinghouse Nuclear Parts Operations, in alliance with Nuttall Gear, now offers "new" original design high speed gear drives in addition to replacement parts and gear drive refurbishments for CH/SI pumps and other applications.

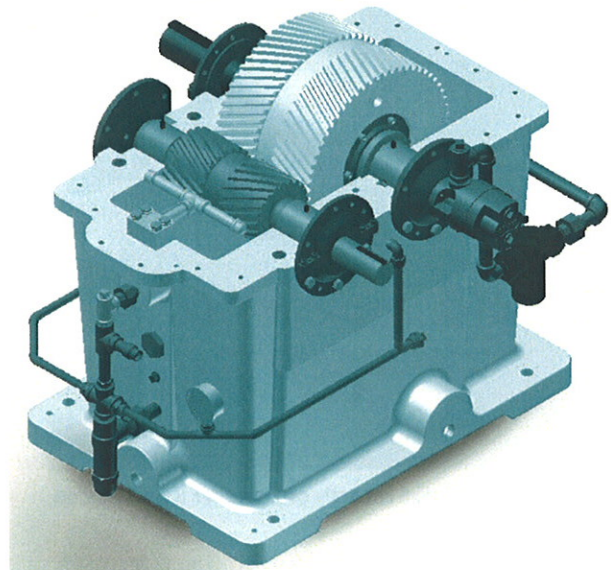
Many of these units have been in service for decades. The basic design has been in existence since the 1940s. Approximately 50 percent of the reactors that Westinghouse built used Nuttall Gear/Westinghouse units. Various model numbers include: SU-1023, SU-12-10X4, SU-1023-8X5, SU-1023-8X5 and SU-10-10X5.

## Description

New gear drives and replacement parts are manufactured by Nuttall Gear in Niagara Falls, N.Y. under the control of the Westinghouse Appendix B program and certified to meet or exceed the original design parameters.

Westinghouse oversight includes:

- Review of design and quality requirements with Nuttall Engineering
- Inspection of all component and quality documentation prior to assembly



SU1023- 8x5 high speed gear unit

- Witness of performance testing
- Final release surveillance

Refurbishment or rebuild of existing gear drives include the following preliminary evaluations:

- Detailed dimensional examination of case to verify correct bearing journal alignment and determine if repair or replacement is necessary
- Mid-Atlantic Area Coordination Group (MAACG) examination of gears to determine if repair or replacement is necessary

## Benefits

Since many of the gear drives have been in service for more than 30 years, the evaluation and rebuilding of existing gear drives at the original equipment manufacturer (OEM) facility is recommended. The availability of the spare unit to facilitate the rebuild is necessary due to the long lead time for this maintenance.



"New" SU1023- 8x5 recently provided for Byron Station

## Experience

Westinghouse has furnished more than 200 original Nuttall high speed gear drives, two new replacement Nuttall high speed gear drives (Byron Station and Vandellós), three gear drive refurbishments (Wolf Creek, Diablo Canyon and Shearon Harris) and more than 1,000 replacement parts for the gear drives.



"New" SU12-8x6 recently provided for Vandellós