Title (en)

Steam turbine overspeed protection

Title (de)

Dampfturbinen-Übergeschwindigkeitsschutz

Title (fr)

Protection contre l'excès de vitesse d'une turbine à vapeur

Publication

EP 2466077 A1 20120620 (EN)

Application

EP 10195773 A 20101217

Priority

EP 10195773 A 20101217

Abstract (en)

A steam turbine (10) comprises an overspeed control system (16) for responding to the deloading of the steam turbine (10). The steam turbine (10) has a control system (16) with: a control system fault alert (FA) for identifying a fault in the control system (16); a trigger event (TE) defining the point of deloading of the steam turbine (10); a control feature (12) configured to achieve a control state (CS) in response to the deloading; and a predetermined control time (CT) providing an expected time interval between the trigger event (TE) and the point in time at which the control feature (12) achieves the control state (CS). The control system fault alert (FA) is configured to initiate if, in response to the deloading of the steam turbine (10), the control state (CS) is not achieved within the control time (CT). In this way, an active alert is provided that may be used as a fault warning and/or steam turbine (10) trip.

IPC 8 full level

F01D 21/02 (2006.01)

CPC (source: EP US)

F01D 21/02 (2013.01 - EP US); F05D 2220/31 (2013.01 - EP US); F05D 2270/021 (2013.01 - EP US)

Citation (search report)

- [XI] FR 2091373 A5 19720114 - KRAFTWERK UNION AG
- [X] US 4080790 A 19780328 - OBERLE ARTHUR
- [X] US 4635209 A 19870106 - HWANG EDDIE Y [US], et al

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2466077 A1 20120620; CN 102536349 A 20120704; DE 102011120692 A1 20120621; JP 2012132447 A 20120712; JP 5535185 B2 20140702; US 2012151922 A1 20120621

DOCDB simple family (application)

EP 10195773 A 20101217; CN 201110425074 A 20111216; DE 102011120692 A 20111205; JP 2011275283 A 20111216; US 201113328169 A 20111216