国立研究開発法人
新エネルギー・産業技術総合開発機構

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Outcome report details

Control number	20160000000621
title	* Heisei 20 - Year Intermediate Annual Report Energy · Environmental New Technology Leading Program Phenomenological Analysis and Control Technique of New Thermal Reaction between Metal Hydrogen
release date	2016/7/15
Report year	2015 - 2015
Name of contractor	Technoba Nissan Motor Co., Ltd. National University Corporation Kyushu University National University Tohoku University
Project number	P 14004
Department name	Innovation Promotion Dept.
Japanese summary	
English summary	Interim Report for the period of H - 27 (2015) to H - 28 (2016) on R & D Subject: Advanced Research Program for Energy and Environmental Technologies / Phenomenology and Controllability of New Exothermic Reaction between Metal and Hydrogen Outline of Project: This NEDO - MHE (metal hydrogen energy) project aims at verification of the new exothermic reaction of nano - metal hydrogen gas systems and clarification of development subjects for the next stage national project, by the following works: 1) Installation of a new precise calorimetry system in Tohoku University and confirmation of the new exothermic reaction by it. 2) Evaluation of the new exothermic phenomena between nano-metal and hydrogen gas from various analysis angles of co-operating experimental works of 6 collaborated parties (Technova Inc., Nissan Motors Co., Tohoku U., Kyushu U., Nagoya U, Kobe U.). 3) Feasibility study on realization of commercial energy devices and status study on world-wide works. 4) To hold the leading R & D committee in every two months to discuss status results academically and strategically. Brief Summary of Implemented Works: 1) A design was made for new MHE calorimetry facility by improving / improving temperature sensor, heat flux estimation, and oil cooling parts to the basic Technova-Kobe MHE experimental system, aiming at more precise calorimetric evaluation of proposed MHE sample runs. Reported period, we have finished ordering necessary components / parts, and some have been already already delivered to Tohoku University for the first time in April 2016.

	2) By using the existing MHE experimental system at Technova - Kobe U in Fukae Campus, examination works have been done with two typical MHE samples (PS3 = nanoPd / mesosilica and PNZ3 = Pd1Ni7 / ZrO2) to carry out multi - angle analyzes on excess Heat phenomena which are difficult to explain by ordinary chemical reactions. Discussion has been done for preparing next samples for MHE examination. Kyushu University and Nagoya University are making making own designed nano-metal samples. These samples will be tested in May and July 2016. 3) Survey works on world-wide works on anomalous excess heat phenomena by various methods are underway, for understanding current status of technological developments. 4) Leading R & D Committee meetings: The first LRDC meeting was held at Technova on February 5 2016 with attendees from 6 parties, NEDO members and an external science monitor. LRDC will be held held every two months after experiencing some of the discussions were exchanged on experimental data and future planned works. .
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