

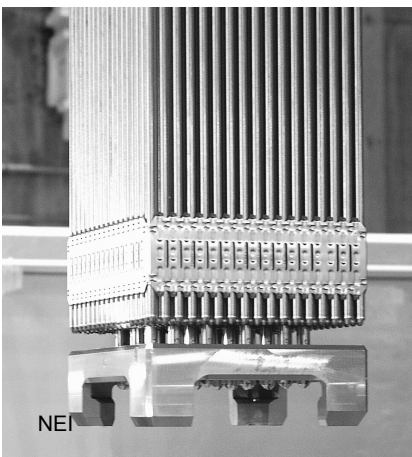


## Nuclear Zirconium Alloy Market

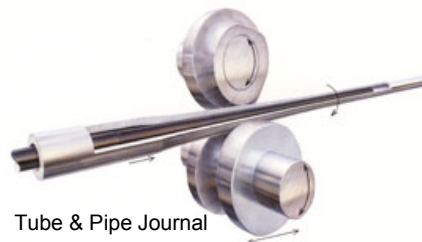
### Analyzing the Future for Zircaloy

The Ux Consulting Company (UxC), a global leader in the nuclear fuel markets, is pleased to present the third edition in its report series *Nuclear Zirconium Alloy Market*. The initial report, issued in November 2008, was intended as a one-of-a-kind snapshot of the contemporary zirconium alloy industry. However, the highly favorable response to that report and to the April 2010 update convinced us that there is an ongoing need and desire for current information on this important topic. In this November 2011 edition, we have updated all of the relevant information to reflect the post-Fukushima nuclear reactor market situation and shifts in the global zirconium minerals markets.

This updated report offers UxC's latest analysis of the various sectors that make up the nuclear-grade zirconium sponge, alloy, materials, and tubing markets. Using proprietary demand modeling and other unique research results, we identify the latest major trends in this industry by analyzing the global and regional supply and demand balances for nuclear-grade zirconium alloy and tubing.



Nuclear-grade zirconium alloys and products are used in the fabrication of fuel assemblies used in the vast majority of current and future nuclear reactor designs around the world. As global nuclear reactor growth continues, many questions about the international nuclear supply chain have arisen. The supply of nuclear-grade zirconium – from zircon mineral sand through the cladding and components used in finished fuel assemblies – has also not escaped this scrutiny. Therefore, the primary objective of this report is to factually and analytically approach the current and expected future direction of the nuclear-grade zirconium market to help formulate clear conclusions about how producers of fuel assemblies for nuclear reactors will obtain necessary zirconium for their finished products.



Tube & Pipe Journal

### What is Included in this Report?

Separate chapters are as follows:

**General Zirconium Overview** provides a broad summary of the zirconium mineral occurrence, resource base, and industrial applications, including the role of zirconium alloy production for the nuclear fuel industry. This helps put the specific nuclear zirconium market analysis in perspective.

**Manufacturing Processes for Nuclear Fuel Cladding** discusses the manufacturing processes and the overall "zirconium cycle" for production of

### Includes Detailed Post-Fukushima Analysis

the materials and components used in nuclear fuel assemblies.

**Nuclear Zirconium Alloy Materials & Product Suppliers** offers updated descriptions of each company involved in nuclear-grade zirconium alloy materials and product supply. This includes all firms in the world involved in zirconium sponge and alloy production and processing through manufacture of tube-reduced extrusions (TRES), as well as separate tubing manufacture.

**Nuclear Fuel Fabricators & Zircaloy Tubing Supply** provides a review of the nuclear fuel fabrication business and processes while indicating where fabricators acquire their zirconium fuel assembly components.

**Nuclear Zirconium Supply & Demand Analysis** offers UxC's proprietary data and analysis of the global supply and demand balance for nuclear fuel-related zirconium alloy products. In addition, this chapter includes regional breakdowns as well as supply and demand analysis based on the different global reactor fuel types.

**Overall Conclusions & Market Analysis** completes our nuclear-grade zirconium market analysis with final thoughts on future market trends and expectations for price developments.

UxC's 2011 Nuclear Zirconium Market report is available for purchase. For information or pricing contact Jonathan Hinze at [jonathan.hinze@uxc.com](mailto:jonathan.hinze@uxc.com) or +1-603-425-1185.

#### Ux Consulting

1501 Macy Drive, Roswell, GA 30076  
770.642.7745 FX: 770.643.2954

[www.uxc.com](http://www.uxc.com)