

Summary:

In this June 11th issue of NAATBatt's Advanced Battery Weekly, we highlight the major news events that occurred within the North American advanced battery industry over the past week.

Over the past week, the NAATBatt, U.S. and Asia Battery Indices all declined modestly, by less than 1%. The S&P 500 and Russell 2000 declined 3.5% and 1.9%, respectively.

In "Executive Director's Notes", Jim Greenberger discusses the NAATBatt Policy Committee meeting in Washington, D.C. on June 10 and its conclusions concerning how best to grow the grid-level energy storage market in the United States.

On June 21st, NAATBatt will host a free Webinar program entitled: "*Community Energy Storage: A New Paradigm for the Grid*". For program information and registration, please see the "North American Industry Announcements and Calendar" at the end of this newsletter.

Key Highlights:

- A Canadian subsidiary of **Johnson Controls** has taken a 3.4% equity stake (21 million shares) in **Azure Dynamics**. Azure has a contract to supply a hybrid electric powertrain to **Ford Motor** for use in the all-electric version (all-EV) of its Transit Connect van.
- **Porous Power** announced a cooperative agreement with **Chisso** to develop new separators for the Japanese lithium-ion (li-ion) battery market. The two companies are teaming to produce new variants of the SYMMETRIX[®] battery separators for use in the automotive industry.
- **CNano Technology Limited (CNano)** announced has launched carbon nanotube (CNT) based super conductive paste products for use in li-ion battery applications. The CNT paste is being introduced the products for the Japanese market.
- **BioSource Solutions** is forming an electric scooter division. The company is leveraging its national and international retail contacts as well as the company's warehouse and marketing infrastructure to move forward with this specialized division.
- **Madison Gas and Electric (MGE)** is receiving a \$5.5 million grant from the **U.S. Department of Energy (DOE)**. MGE will use the grant to install smart grid technologies to boost efficiency, enhance service and improve reliability for customers.
- **Japan Oil, Gas and Metals National Corporation (JOGMEC)** is investing \$4,000,000 in **American Lithium Minerals' Borate Hills Project**. The Borate Hills Project is a large co-product lithium and boron deposit located 20 miles west of the only producing lithium mine in North America.
- **Nissan Motor** is considering increasing domestic production capacity for its **Leaf** electric vehicle (EV) if demand grows. The company stated that pre-launch orders in Japan for the Leaf reached the full-year domestic sales target in 2 months. Orders for the electric hatchback, which debuts in December, have risen to 6,000 vehicles since April 1, the company said.
- **The Hawaii Department of Business, Economic Development and Tourism** stated that \$3 million is available under its grant program to prepare the state for EVs. The program is intended

to help Hawaii establish the infrastructure needed to support vehicles that are expected to begin arriving later this year.

- EVs from automakers including **Nissan, Ford, Toyota** and **Mitsubishi** should be widely available to Canadian consumers by 2012. Toyota expects there will be 8 to 12 types of all-EVs available. Currently, only **Tesla Motors** and a few smaller companies offer EVs.

A Few More Details:

A Canadian subsidiary of Johnson Controls has taken a 3.4% equity stake (21 million shares) in Azure Dynamics. Azure develops and manufactures hybrid electric and electric components and powertrain systems for commercial vehicles. The company has a contract to supply a hybrid electric powertrain to Ford Motor for use in the all-electric version of its Transit Connect van.

Source: The Business Journal of Milwaukee

Porous Power announced a cooperative agreement with Chisso to develop new separators for the Japanese lithium-ion (li-ion) battery market. The two companies are teaming to produce new variants of the SYMMETRIX[®] battery separators for use in the automotive industry. SYMMETRIX is reported to increase the life and high-power capacity of li-ion batteries by minimizing waste heat which effectively increasing cell capacity. This allows it to operate at safer temperatures with fewer external cooling requirements.

Source: Porous Power Technologies

CNano Technology Limited (CNano) announced that it has launched carbon nanotube (CNT) based super conductive paste products for use in li-ion battery applications. The CNT paste is being introduced the products for the Japanese market. The company has commissioned the world's largest CNT production facility with annual capacity of 500 tons.

Source: CNano Technology

BioSource Solutions is forming an electric scooter division. The company is a manufacturer of biodegradable, biological, botanical consumer cleaning products with products available in major retail outlets nationally. BioSource is planning to leverage its national and international retail contacts as well as the company's warehouse and marketing infrastructure to move forward with this specialized division. The bikes create no emissions and reflect the company's commitment to "green friendly" environmentally responsible policies.

Source: WSJ


Madison Gas and Electric (MGE) is receiving a \$5.5 million grant from the U.S. Department of Energy (DOE). MGE will use the grant to install smart grid technologies to boost efficiency, enhance service and improve reliability for customers. The stimulus grant will help fund the following projects that will begin next month in:

Advanced metering infrastructure – Installation of meters capable of two-way communication for all large commercial and industrial customers. The equipment monitors and analyzes customers' energy consumption patterns on an hourly, daily and seasonal basis.

Plug-in hybrid electric vehicles (PHEVs) support - MGE will also install a network of up to 18 public and 25 residential charging stations for EVs. The company will assess the impact of vehicle charging on the electric power grid and on home energy use and demand.

Distribution management - MGE will also install new distribution/management capabilities. During an outage, MGE system operators will be able to quickly identify the best options for restoring and rerouting power to reduce outage times.

Source: WSJ



Japan Oil, Gas and Metals National Corporation (JOGMEC) is investing \$4,000,000 in American Lithium Minerals' Borate Hills Project. The Borate Hills Project is a large co-product lithium and boron deposit located 20 miles west of the only producing lithium mine in North America. JOGMEC's investment will fund completion of an economic pre-feasibility study for the project, which features a very large deposit of relatively high grades of 2750 ppm lithium (0.275%) and 10,000 ppm boron (1%). The Nevada, United States location is strategic for the concentration of US manufacturing requiring lithium, including automobiles, power storage and consumer electronics.

Source: The Daily Yomiuri

Nissan Motor is considering increasing domestic production capacity for its Leaf electric vehicle (EV) if demand grows. The company stated that pre-launch orders in Japan for the Leaf reached the full-year domestic sales target in 2 months. Nissan is planning to open a plant in Japan later this year with a capacity of 50,000 Leafs a year, and a factory to produce 65,000 batteries a year. Nissan has received orders for 13,000 Leafs in North America. The Leaf will be rolled out in the U.S. and Europe in December, and globally by 2012.

Production is scheduled to commence in October at the Oppama plant in Japan with planned production of 50,000 units. Production will begin in 2H12 at the Smyrna, Tennessee plant in the U.S., followed by the UK Sunderland plant in 2013. The li-ion battery produced by Automotive Energy Supply Company (Nissan's joint-venture with NEC) is targeting annual battery production capacity of 65,000 units including 54,000 units for EV. However, AESC plans to increase annual battery production capacity for EV to 90,000 units by 2011 due to indications of an upward trend in future demand.

Source: WSJ and The Asahi Shimbun

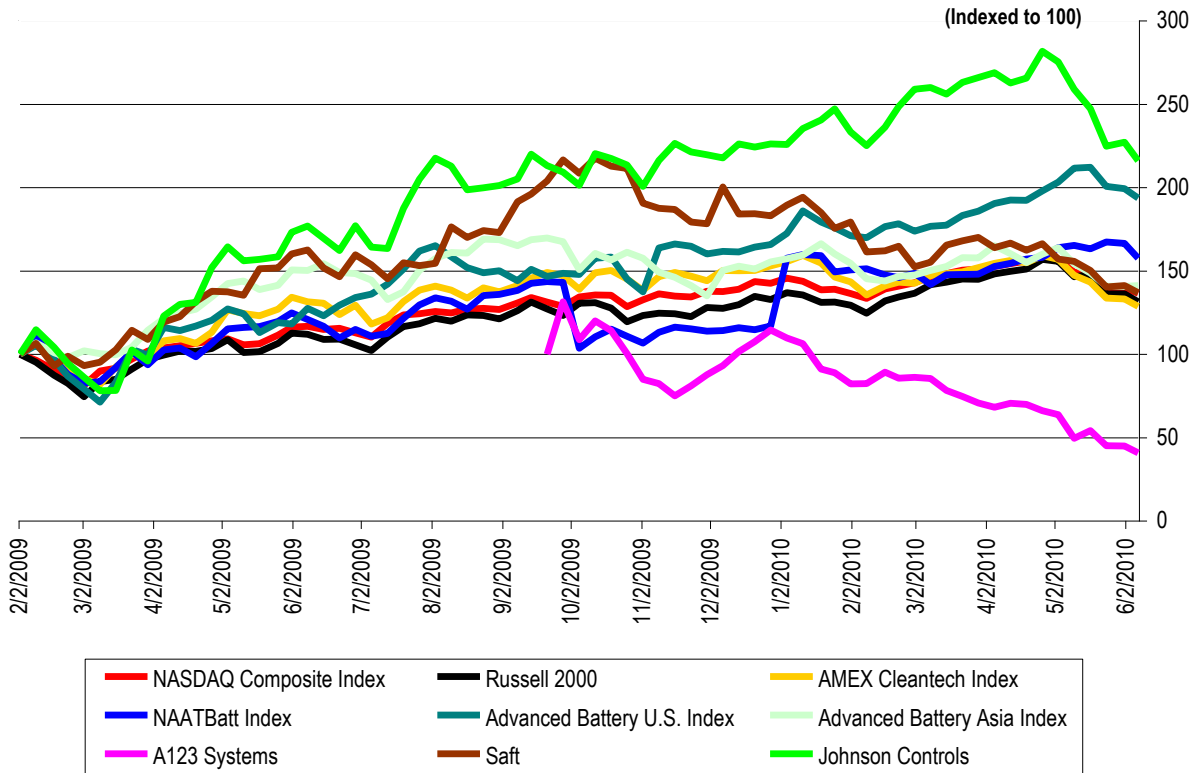
The Hawaii Department of Business, Economic Development and Tourism stated that \$3 million is available under its grant program to prepare the state for EVs. The program is intended to help Hawaii establish the infrastructure needed to support vehicles that are expected to begin arriving later this year. The money comes from federal stimulus funds specifically dedicated for use with Hawaii's energy program.

Source: Associated Press

EVs from automakers including Nissan, Ford, Toyota and Mitsubishi should be widely available to Canadian consumers by 2012. Toyota expects there will be 8 to 12 types of all-EVs available. Currently, only Tesla Motors and a few smaller companies offer EVs. However, none of the manufacturers are ready to disclose what their electric vehicles would sell for in Canada,

Source: Winnipeg Free Press

**Exhibit 2: Indices Performance
(From February 2, 2009)**

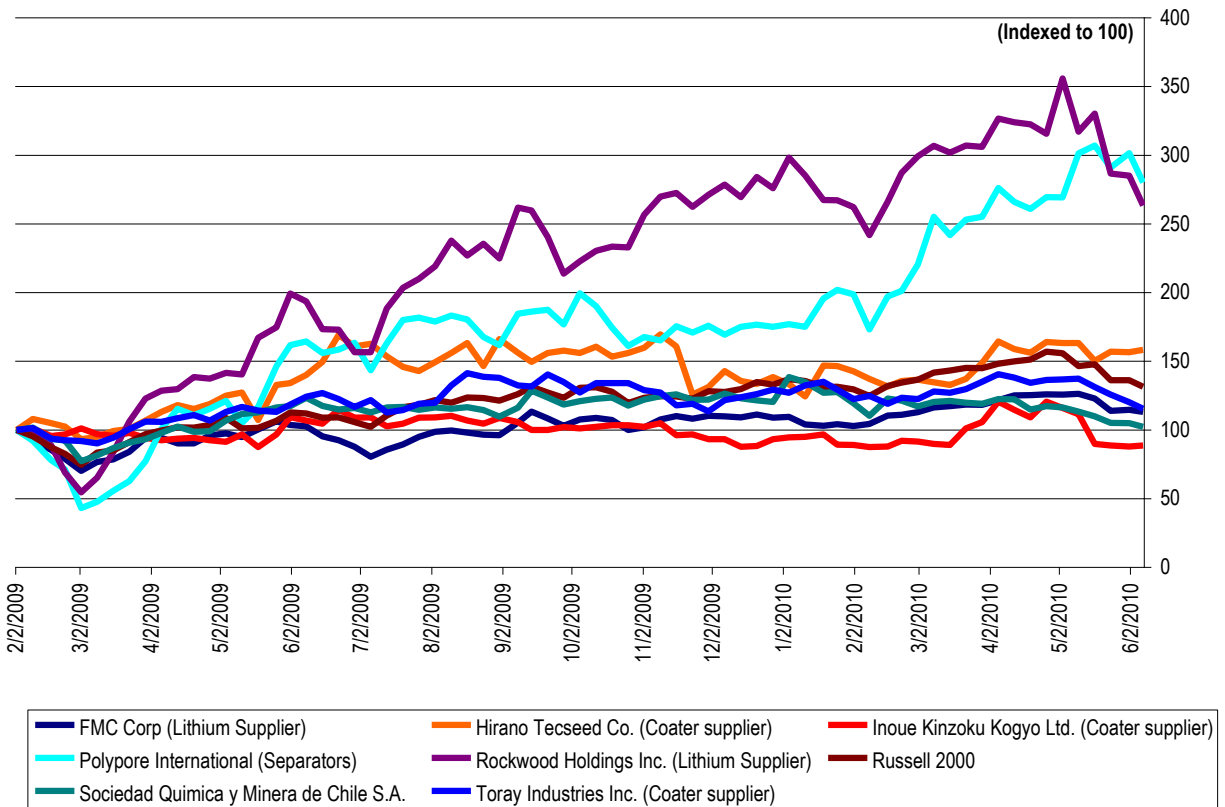


Index	Close on 6/7/2010	52-Wk High	% of 52-Wk High	Performance		
				LTM	YTD	Week
Dow	9,816.5	11,309.0	86.8%	12.1%	(5.9%)	(2.1%)
S&P 500	1,050.5	1,219.8	86.1%	12.0%	(5.9%)	(1.9%)
NASDAQ	2,173.9	2,535.3	85.7%	18.3%	(5.3%)	(2.2%)
Russell 2000	618.5	746.0	82.9%	17.0%	(1.5%)	(3.5%)
AMEX Cleantech Index	893.8	1,112.5	80.3%	(2.7%)	(16.2%)	(3.3%)

Source: Bloomberg and ThomsonOne

Note: The select NAATBatt Index is a market-value-weighted average and includes ALTI, BASF, COP, ENS and XIDE. The Advanced Battery U.S. Index is a market-value-weighted average and includes HEV, MGA, MXWL, UQM and VLNC. The Advanced Battery China Index is a market-value-weighted average and includes BYD, CBAK, GS Yuasa, LG Chem and Panasonic.

Exhibit 3: Supplier Performance
(From February 2, 2009)



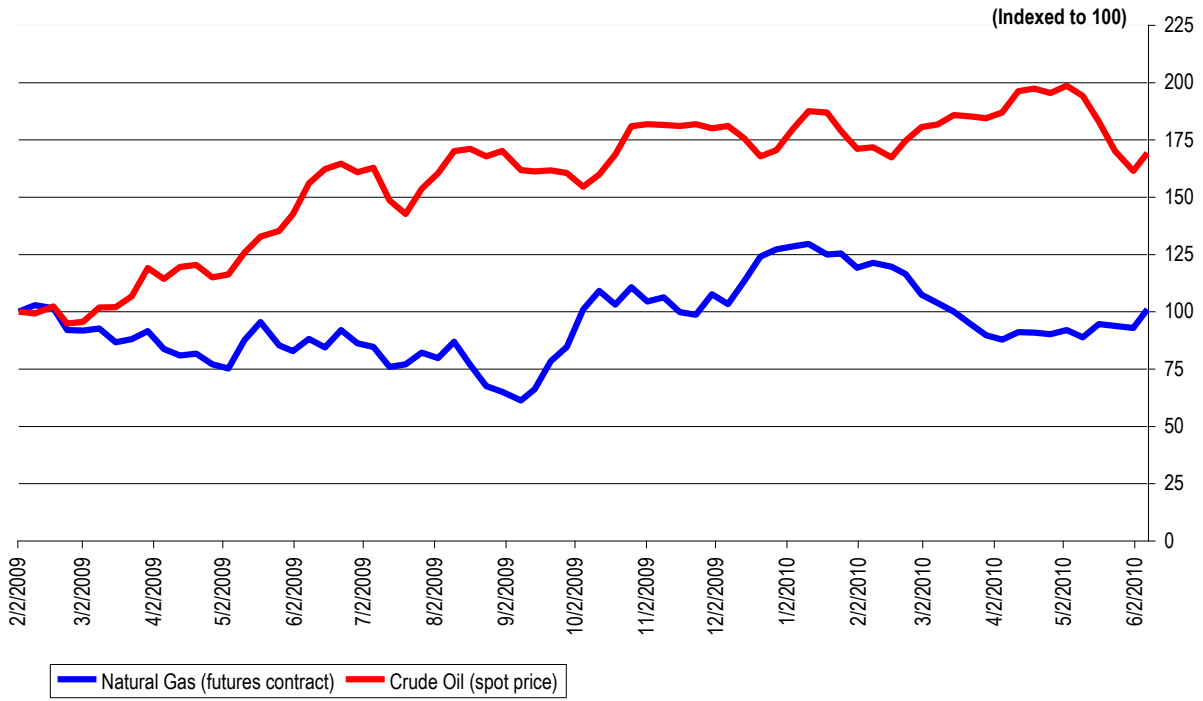
Source: Bloomberg

Exhibit 4: Commodity Prices

Commodity	Price on 6/7/2010	Price on 6/1/2010	Price on 5/7/2010	1 Week Change	1 Month Change
LME Nickel (Cash, \$ per tonne)	18,000	20,500	22,165	(12.2%)	(18.8%)
LME Lead (cash, \$ per tonne)	1,558	1,750	1,978	(11.0%)	(21.2%)

Source: LME

Exhibit 5: Natural Gas and Crude Oil
(From February 2, 2009)



Source: EIA

Executive Director's Notes



POLICY COMMITTEE MEETING OUTLINES STRATEGY FOR BUILDING A GRID-LEVEL STORAGE MARKET

Last Thursday representatives from more than 20 companies met in Washington to discuss a strategy for building a market for grid-level energy storage products in the United States. Attendees represented a broad cross section of potential stakeholders, including automotive OEM's, battery manufacturers, electric utilities, advanced materials suppliers and equipment manufacturers.

Given the diversity of interests around the table, there was a surprising uniformity of view both as to the importance of grid-level storage for the advanced battery industry and as to the steps that will be required to create a viable market for that technology.

Meeting participants agreed to take three initial steps in support of the grid-level storage market. First, it was agreed that education would play a key role in any initiative to improve government and utility support for grid-level storage technology. To that end, participants agreed that NAATBatt would, in cooperation with the California Energy Storage Association, produce a white paper outlining the benefits of grid-level storage with particular focus on community energy storage (CES).

Although grid-level storage incorporates a wide range of applications, the sense of the meeting was that NAATBatt's initial effort should focus on community energy storage (CES). The attraction of CES is that it potentially provides the most direct benefit to automobile OEM's and to the advanced battery manufacturers and related businesses that hope, at some level, to service the EV/PHEV market. CES may provide a cost effective way for utilities to accommodate on a distributed basis the new demands that will be placed on the grid and on local distribution systems by the deployment of EV's and PHEV's in large numbers. In addition, CES potentially offers a suitable secondary application for retired advanced automotive batteries. The redeployment of retired automotive batteries into CES systems may provide an important way that automotive OEM's can reduce the cost of EV's and PHEV's to American consumers and that the United States can decrease its dependence on petroleum.

The second area of focus will be trying to achieve regulatory parity between storage assets and peak generation assets and between storage assets and transmission assets. It was noted that the less favorable treatment of storage assets relative to generation and transmission assets (which to some extent perform the same function as storage) has seriously impeded the growth of the storage market. Although the ultimate battle for regulatory parity will be fought at the state and local level, obtaining FERC's support for parity would be a helpful, and perhaps necessary, prelude to those fights. Fighting and winning that first battle at the FERC will be a focus for NAATBatt going forward.

Finally the meeting resolved better to engage and incorporate the views of the electric utility industry in NAATBatt's grid-level storage initiatives going forward. As one participant from a utility company aptly noted, when efforts in support of storage center only on imposing mandates on utilities, their lack of enthusiasm should be expected. It was resolved that NAATBatt and certain of its key members should sit down with representatives of the utility industry as soon as possible and find a way to make storage work for the utilities as well as for battery companies and automobile makers.

As I indicated in my column last week, the key to building a viable market for grid-level storage products in the United States is building a coalition of major stakeholders, all of whom see a benefit for themselves in grid-level storage. The utility industry is one, and very possibly the most important, of those stakeholders. The grid-level storage market will thrive in the United States when that market becomes a win-win-win proposition: A win for the battery companies, a win for the automobile makers, and a win for the utility companies. Our goal must be to win the Trifecta of grid-level energy storage. NAATBatt will be the horse that does.



James J. Greenberger
Executive Director

North American Industry Announcements and Calendar

- **Next Webinar Program: Community Energy Storage--Repurposing Retired Automotive Batteries.** The NAATBatt Webinar series continues on Monday, June 21, 2010, with a program entitled "*Community Energy Storage: New Paradigm for the Grid*". The program will examine community energy storage, an advanced battery application that may lie at the intersection of automotive and grid-level energy storage. The speakers at the program will be Dr. Gilbert Weiland of Oak Ridge National Laboratory's Computing and Computational Sciences Directorate, and Thomas Walker, P.E., Principal Engineer at American Electric Power. The program will begin at 2:00 p.m., EDT, and continue for approximately 60 minutes. To register, click on the following link: <http://events.meetingbridge.com/Register/?06123175845>. Registration for the June 21 program is complimentary.
- **Southern Growth Policy Center Conference:** A conference of Southern governors, automobile executives and economic development officials outlining strategies for continuing the development of the automobile industry in the South will be held in Lexington, KY on June 7-8, 2010. NAATBatt is a supporting organization of the conference. For more information about the program, entitled *Driving the Next 20 Years: Creating the New Southern Automotive Industry*, visit: <http://www.southerngrowth.com/conference/conf.html>.
- **Automotive News Green Car Conference/Exhibition:** The *Automotive News Green Car Conference/Exhibition* will be held at the Rock Financial Showplace in Novi, Michigan on June 16, 2010. Information about the conference can be found at: http://www.autonews.com/Assets/html/10_angc/default.htm
- **44th Power Sources Conference:** The 44th Power Sources Conference will be held on June 14-17 at the Riviera Hotel in Las Vegas. The conference will examine developments in a wide variety of battery chemistries. Information about the conference can be found at: <https://www.powersourcesconference.com/>
- **The 15th International Meeting on Lithium Batteries:** The 15th International Meeting on Lithium Batteries will be held in Montreal, Canada on June 27-July 2, 2010. The meeting will honor Prof. John Goodenough of the University of Texas. Information about the meeting and registration information can be found at: <http://www.imlb.org/#>
- **Storage Week 2010:** Storage Week 2010, sponsored by Infocast, will be held on July 12-15, 2010 at the Rancho Bernardo Inn in San Diego, CA. The conference will focus on grid level storage with separate tracks on bulk storage and grid services. NAATBatt is a supporting organization of the conference. Information about the conference can be found at: <http://www.infocastinc.com/index.php/conference/storage10>.
- **The Battery Show 2010:** The Battery Show, a conference and exposition focused on multiple battery chemistries and applications will be held in San Jose, California on October 5-7, 2010. Information about the show can be found at: <http://www.thebatteryshow.com/index.php>
- **Battery Power 2010 Conference:** Battery Power 2010 will be held in Dallas, Texas on October 19-20, 2010. NAATBatt is a supporting organization of the conference. Information about the

conference and registration for it may be found at: http://www.batterypoweronline.com/bppt-conf10/bp10_supportingorg.php

- **U.S. National Electric Vehicles Safety Standards Summit.** The U.S. National Electric Vehicles Safety Standards Summit, a joint program of the National Fire Protection Association and SAE International, will be held on October 19-20, 2010, at the Cobo Convention Center in Detroit, Michigan. Information about the event can be found at: http://www.nfpa.org/newsReleaseDetails.asp?categoryid=488&itemId=46997&cookie_test=1
- **NAATBatt Membership Information.** NAATBatt is taking applications for 2010 membership from well qualified industry participants and supporters. Membership in NAATBatt is a great way to keep abreast of developments in advanced technology batteries and to support the growth of a market for products that could change the world. Your support for NAATBatt programs, newsletters, committees and the upcoming roadmap project is essential to the success of our organization and our industry. To inquire about membership, please complete the following inquiry form: <http://naatbatt.org/membership-inquiry/>. NAATBatt will respond with additional information about membership.



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