

■ Vol.6 ITOCHU's Australian Coal Supply Chain: Coexisting with Natural Environments



ITOCHU's Australian Coal Supply Chain: Coexisting with Natural Environments

Documentary Report Project on Supply Chains

for Products Handled by ITOCHU Corporation

This year's report, the sixth in the series, covers ITOCHU's supply chain for Australian coal, from the extraction at the mine to the shiploading at the port.

From the perspective of using sustainable resources, the report introduces how management gives consideration to environmental conservation and a safe working environment.

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Prologue



In the Hunter Valley, New South Wales (N.S.W), Australia, which is located about 150 kilometers north of Sydney, there is a coal mining area producing high-quality coal. The Hunter Valley is famous for its wine, and as I traveled through the region's grasslands dotted with pastureland and vineyards, I came to the coal mining site.

In March 2014, I visited Ravensworth North (RVN), which belongs to the Ravensworth Complex owned by Glencore Coal Assets Australia(*), a resource major. During my visit, I was able to confirm the operational status of the site and the related CSR activities. ITOCHU owns 10% of RVN through a local subsidiary.

* A group company of Glencore Xstrata, a major resources company.

Consideration for the Environment at the Site of the Coal Mine

Operations began at RVN in May 2012, with initial mine production achieving 3.0 million tonnes per annum (Mtpa) of run of mine (ROM) coal by the 31st December 2012. Throughout 2013 and 2014 the mine has progressively grown by the introduction of additional equipment. By 2015, production is scheduled to be about 11 million ROM tonnes, which equates to 7.8 million tonnes (clean coal). Coal reserves at the site total 280 million ROM tonnes and the mine life is more than 20 years. The mine manager said that this is the latest large-scale, high-grade coal development project in the Hunter Valley. The start-up of the RVN mine required an investment of approximately AUD1.4 billion to expand the coal handling and preparation plant, relocate roads and power transmission lines, and purchase giant mining equipment including off-highway trucks and hydraulic excavators.

Over the four years from 2010 to 2013, 493 hectares of land were disturbed for RVN development and coal mining activities, while rehabilitation of 396 hectares in the Ravensworth Complex was performed. In mining coal, soil and waste rock over and between coal seams are removed prior to mining, which is known as stripping. The topsoil is directly placed on prepared rehabilitation areas or stockpiled and later used in the rehabilitation of the mine site. The overburden is placed in nearby emplacement areas. Mined coal is transported to the coal handling and preparation plant, where coal tailings and rejects, associated soils and minerals in coal seams, are removed from ROM coal and later used to fill up the ex-open cut void. Plans call for the site to be rehabilitated back to the typical landscape of the Hunter Valley, with woodlands and grasslands, through a series of planting and other rehabilitation initiatives.

In its operations, RVN is paying special attention to the impact on the environment caused by dust generation and blasting vibration. Air and water monitoring is conducted at several locations on and off the site. Water is sprayed on roads using a water truck, and automatic water sprinkling equipment is installed in the conveyor transfers, dump hopper, and crushing plants. In addition, the site also continues to use and trial other dust minimization technologies such as fogger and water cannons. Moreover, RVN restricts or ceases dust-generating activities on extremely windy or dry days. RVN has had positive results with these measures. In 2013, there were three complaints regarding blasting vibration from nearby residents, and the person in charge responded immediately in accordance with site procedures. The maintenance of good relationships with local communities is an essential element of mining operations, and the entire Ravensworth Complex is taking steps to sustain those relationships. For example, comprehensive operational and environmental reports are issued several times a year.



The world's largest off-highway trucks and hydraulic excavators are in use at the RVN site.



Hunter Valley, N.S.W., Australia.

Protecting the Health and Safety of Employees

RVN is also working hard in training employees. For example, on the road to the RVN offices there is a series of signs with nine safety provisions. At the main entrance, a monitor is used to give employees and guests an induction comprising questions about safe behaviors and operations. There is also a device used to conduct breath tests to check blood alcohol concentration. On the mining site, the huge off-highway trucks used to carry coal, which are dozens of times larger than passenger vehicles, move back and forth at a rapid pace. Directly viewing this scene in person impressed upon me the importance of ensuring that machinery is operated correctly.



Community Relations

Realizing Communications with Close Ties to Local Communities



RVN is working to achieve continual communications with Federal and State authorities and local communities. For example, in 2013 RVN participated in 26 local activities in such areas as tree planting, school commemorative activities, emergency rescue helicopter training, and fund raising for cancer eradication. Twice a year, a consultative community meeting is held with the participation of local residents and government authorities, and reports are made on a variety of topics, such as the state of operations, results of monitoring, and safety records. The regional support program is also discussed.

Rail Transportation

Rail Transport from the Mine to the Port

Railroad tracks have been laid to the Ravensworth Complex handling and preparation plant, and clean coal for export is loaded onto freight cars and transported by rail about 100 kilometers to the Port of Newcastle. In 2013, about 7.24 million tonnes of coal was transported on 979 trains, with measures taken to prevent the coal from falling off the rail car during transport.



The Railroad tracks from Hunter Valley area to the Port of Newcastle.

Stockpiling • Shiploading

Consideration for the Environment and Safety at the Port

The Port of Newcastle has three coal terminals with a combined annual shiploading capacity of about 200 Mtpa. In 2012, about 134 million tonnes was loaded. Two of the terminals, Kooragang, which has the highest shiploading capacity (120 Mtpa), and Carrington (25 Mtpa), are operated by Port Waratah Coal Services Limited. Investors in PWCS include Glencore Xstrata and other mining companies, Japanese coal users, and general trading companies, such as ITOCHU. Coal from the RVN mine is exported from the Port Waratah terminals to Japan and other destinations in Asia.

Kooragang has four rail receival facilities that automatically unload coal from bottom-dumping wagons of coal trains. Coal is then carried by belt conveyor to open coal stockpile yards. There are four large stockpile yards, each of which is 2.5 kilometers long and 56 meters wide. At the stockpiles, dust is controlled through the sprinkling of water at regular intervals, depending on the weather conditions. When it is time for coal to be loaded, reclaimers are used to collect coal from the stockpiles, and then belt conveyors transport coal to the shiploaders. Port Waratah is actively committed to environmental conservation and its relationship with local communities. Accordingly, despite the recent increase in volume of coal handled, the quantity of dust deposited, as regularly measured at monitoring sites, has generally remained the same.

To ensure the safety of workers, education and training are complemented with a rigorous approach to safe operations based on know-how accumulated over many years.



The rail receival station where coal is unloaded from coal trains onto conveyors.



A large reclaimer in operation as coal is loaded onto belt conveyor.



Loading coal into a vessel at the port.

Japan's Clean Coal Technology for the Earth

In April 2014, Japan's Cabinet decided on the new Strategic Energy Plan. In regard to coal, the plan stated that, "Though coal has a problem – it emits a large amount of greenhouse gas – it is now being reevaluated as an important base-load power supply... It is an energy source that we should use while reducing the environmental load..." Currently, coal accounts for about 25% of Japan's primary energy, and that importance is not expected to change in the future. Globally, electric power is the foundation for economic development, especially in emerging countries, and coal-fired thermal power generation will have an extremely important position. Accordingly, demand for coal is forecast to increase. In terms of efficiency, environmental countermeasures, and facility operations, Japan has the world's most advanced technologies for the use of coal. Moving forward, Japan will have a significant role to play in the development and use of coal resources with consideration for the environment.



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Concluding the Observation Japanese Society and Australian Coal Supply Chain



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Other than steam locomotive enthusiasts, the number of Japanese who have actually seen coal is probably declining. Australia's coal exports have expanded rapidly over the past several years, especially to China, yet Japan is still the largest importer of coal from Australia. The Hunter Valley's coal operations are conducted with awareness of the burden placed on the environment and nature, and of the importance of local communities as coal is exported to Japan. Visiting the RVN mine firsthand left me with a strong impression of how that awareness is incorporated into the front-line coal mining operations that provide Japan with an ongoing supply of coal, as well as the important role that trading companies play in that mission. All of us in Japan benefit from the work that is being done on the front lines and throughout the coal supply chain.