

Mining

Keywords – title

- > Talvivaara
- > environmental disaster

Background

Talvivaara Mining Company Plc. established in 2004 and acquired permits to commence nickel mining in the Sotkamo area of Eastern Finland (Figures 1 and 2). Metals production commenced in 2008 and by 2010 the mine had experienced its first pollutant leaks, from the gypsum precipitate pool. This major leak (which also contained uranium) was publicly announced by Talvivaara two days after the incident.

Following the first leak in 2010, two other major leaks released pollutants into the surrounding area. The first of these took place in November 2012, and also involved a leakage from a gypsum waste pond, discharging nickel, uranium and other toxic metals and effluents into nearby surroundings and lakes. As the Kainuu Employment and Economic Development Centre pointed out, the company had used the gypsum for storing waste waters without a permit to do so, prompting the Minister of Environment, Ville Niinistö, to label the leak a "serious environmental crime". Earlier the same year, a mine employee died from hydrogen sulphide poisoning in the area of the mine, and dozens of dead waterbirds were discovered in an open pond. Dust and noxious odours had dispersed over a wide area, travelling as far as 100 kilometres away.

The presence of uranium in the 2012 leakage was highly significant, as Talvivaara had neglected to mention the presence of uranium in its initial Environmental Impact Assessment, and made no mention of intentions to begin extracting uranium to local municipalities or residents before the mine became operational. Yet it was a well-known fact from the 1980s that uranium reserves were present in the area, and the company would have been well aware that the processing of nickel would involve separating uranium from ore. When the company announced the start of its normal mining operations in 2010, it became apparent that Talvivaara plc had managed to commence uranium production through the 'back-door'. This



Figure 1: Talvivaara Source:

<http://www.helladelicious.com/blog/stories-and-news/2012/04/talvivaara-a-finnish-environmental-crime-company/attachment/talvivaara2/#sthash.CYZ2iSjQ.dpuf>

move angered local residents and led to allegations that the company had essentially extracted hundreds of tons of uranium a year without permission. Lawsuits, complaints, and police investigations concerning Talvivaara's operation ensued.

A second major gypsum pond leak occurred at a Talvivaara mine at Sotkamo soon after, in April 2013. Environmental officials estimated that this spill had spewed 7,000 m³ of waste water per hour. Finland's Radiation and Nuclear Safety Authority (STUK) measured high concentrations of uranium in the Salminen pond near the mine, at close to 600 micrograms of uranium per litre (the upper limit for drinking water is 100 micrograms), and ordered the mining company to investigate when and how the uranium had made its way into the pond.

Impact

In its first two years of operations, Talvivaara exceeded permitted effluent levels, officially polluting four lakes beyond normal usage, and water courses within a 100 kilometre radius. Moreover, the expansion of operations at Talvivaara resulted in a large increase in pollutant concentrations in the mining effluents; for example 40 times more sulphate (7000 mg/l) and 20 times more sodium (3000 mg/l). This all happened in spite of the fact that Talvivaara was granted environmental permits on the



Figure 2: Talvivaara Photo:
Str/Lehtikuva
<http://www.finlandtimes.fi/business/2014/06/13/7626/Funding.-environment-issues-dominate-Talvivaara-AGM>



Figure 3 Demonstration against Talvivaara in Helsinki, Finland on November 14th, 2012.
http://en.wikipedia.org/wiki/Talvivaara_Mining_Company

basis of assurances that pollutants would not spread beyond the mine.

The escalation of conflict

The November 2012 leakage spawned a large demonstration on November 12, with local people from Eastern Finland demanding the mine's closure (Figure 3). A petition with some 18,000 signatures was handed over to the Minister of Environment. At the same time a small rally took place in the city of Oulu. Greenpeace called the leak "Finland's biggest chemical catastrophe in history

In May 2013, the Finnish Association for Nature Conservation (FANC) demanded the government close the mine, expressing concerns about environmental monitoring which they argued had been left to business interests. In May 2013, the Talvivaara Mining Company's annual general meeting of shareholders in Helsinki was also briefly suspended after being interrupted by protestors. Five people were taken into custody and held for the duration of the Talvivaara AGM.

Then in December 2013, FANC appeared to have achieved a victory. Their request to the Supreme Court to overturn Talvivaara's permission to continue uranium production, based on the fact that it violated Finland's law on nuclear energy, was granted. The court ruled that so many changes had occurred within Talvivaara that the license was no longer valid. The court then sent the license back to the government for reconsideration.

By February 2014, a report by the Safety Investigation Authority, a government agency responsible for investigation of major accidents was published, as prosecutors considered bringing a case against Talvivaara. The report outlined reasons for the spill and its environmental impact. The report

however, did not take a stand on legal responsibility. It called for better cooperation among authorities in the future and stricter surveillance of mining operations. Talvivaara was subsequently ordered to make penalty payments for poor waste water management.

Much to the dismay of environmentalists Talvivaara received a new permit (by the Northern Finland Regional State Administrative Agency) in April 2014 to extract uranium. However this was subject to an appeals process. In the meantime Talvivaara continued to operate under its previous permit despite ongoing opposition from the public and politicians. According to activists, the Talvivaara company systematically overlooked the faults, harm and pollution it has caused and dismissed health and environmental claims. The

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- Talvivaara – A Finnish Environmental Crime Company
<http://www.helladelicious.com/blog/stories-and-news/2012/04/talvivaara-a-finnish-environmental-crime-company/>
- Talvivaara Sotkamo uranium byproduct recovery project, Kainuu province
<http://www.wise-uranium.org/upfi.html#SOTKAMO>
- Talvivaara mine: environmental disaster in Finland: http://www.nuclear-heritage.net/index.php/Talvivaara_mine:_environmental_disaster_in_Finland

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environmental impact caused by Talvivaara's operation is probably already irreversible. If large-scale uranium production were allowed to proceed it would unleash a whole new set of dangers and toxins upon the Finnish wilderness and people.

Consequences

Despite huge operating losses (some USD\$ 950 million in 2013), and environmental problems it has caused, Talvivaara received a new permit (by the Northern Finland Regional State Administrative Agency) in April 2014 to extract uranium. What now seals the fate of Talvivaara is not so much its environmental record but rather the outcome of the company's reorganization as a result of huge financial losses (some USD\$ 950 million in 2013). Reflecting the company's bad financial position in July 2014 Talvivaara requested its shares to be delisted in the UK. By September 2014 the company was to have submitted a proposal to the District Court of Espoo's appointed Corporate Reorganisation Administrator. However, in November 2014 Talvivaara declared bankruptcy and was bound for liquidation. The question thus has now become one of who will pay the clean-up costs of Finland's worst environmental disaster.



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