

Accounting for Regulated Industry in Korea

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Abstract: *An asset recognition issue recently arising from accounting treatment of transactions in the government-regulated energy industry has evoked strong interest among accounting practitioners and academicians in Korea. A public enterprise importing and supplying gas (or generating and supplying electricity) is not free to reflect in the rate (price) of its product the provision costs due to the government's regulation policy in Korea. The issue was whether the un-reflected portion of the costs should/can be recognized as an asset if it is probable to be reflected in the selling price in the future. When the price (rate) is regulated to be set below the costs, arises a delicate accounting problem: whether the regulated less-than-cost price can be regarded as a normally acceptable price. If not, the seller's revenue may have to be measured at a value higher than the regulated price, which includes a differential component to be recoverable in the future. Otherwise, the seller's revenue has to be measured at the regulated price and the differential component should not constitute sales revenue, but in this case still remains a question of what accounting treatment of the differential component should be made. Regarding these issues, this study will examine theoretical perspectives and similar cases in other countries, consider several alternatives and suggest the most reasonable approach.*

Keywords: *Recognition, Regulated Assets, Rate Regulation*

1. INTRODUCTION

1.1 Background and Purpose of the Research

In general, a government implements price (rate) regulation on social necessities by maintaining their prices at desirable levels, often below their costs and having the cost-price differential recovered directly or indirectly later in the future (sometimes recovered in advance before the costs are incurred). Due to this kind of government's regulation policy in Korea, a public enterprise importing and supplying gas (or generating and supplying electricity) is not free to reflect in the rate (price) of its product the provision costs. Recently, an asset recognition issue arising from transactions in the energy industry under government's rate regulation evoked strong interest among accounting practitioners and academicians in Korea. The issue was whether the enterprise is permitted to recognize as an asset the un-reflected portion of the costs of importing and supplying gas when it is probable to be reflected in the selling price in the future.

When the price (rate) is regulated to set below the costs, arises a delicate accounting problem: whether the regulated less-than-cost price can be regarded as a normally acceptable price. If not, the seller's revenue may have to be measured at a value higher than the regulated price, which includes a differential component to be recoverable in the future. Otherwise, the seller's revenue has to be measured at the regulated price and the differential component should not constitute sales revenue, but a question of what accounting treatment of the differential component should be made still remains in this case.

Regarding these issues, this study will examine the theoretical perspectives and foreign cases and consider several alternatives in order to suggest the most reasonable approach.

1.2 Research Composition

The remainder of the paper is constructed as follows. Part 2 examines the regulated industry in other countries. Part 3 describes the raw material cost-based pricing and cost-reversing system in Korea and related accounting practices and issues. Part 4 summarizes accounting standards related to the regulated assets. Part 5 discusses alternative accounting approaches and proposes the most reasonable one. Part 6 summarizes the research.

2. REGULATED INDUSTRY IN SEVERAL COUNTRIES

This part describes some important and relevant aspects of the regulated industry in countries other than Korea: the nature and objectives of rate regulation (i.e. restrict prices, or influence the level of supply or demand), the rate setting mechanism in which those objectives are reflected (i.e. the rate mechanism designed to give a fair rate of return), the mechanism for tracking the recovery or reversal of costs, and the related accounting principles. Significant portion of this part is abstracted from the information expressed in the letters of regulators and related entities to IASB on its request for information on rate regulation in 2013.

2.1. United Kingdom

The rate of an entity's output is regulated via central independent bodies depending on the nature of the goods or services provided. An entity's exclusive right to operate is set by license with the regulator having powers to enforce compliance with the license and legislation. The regulator generally can terminate a license but with 25 years notice. The rate setting mechanism is normally a price or revenue cap with revenue caps being set every 5 years, based on forecast operating and capital expenditure. Revenue is normally linked to inflation. The objective of the rate setting mechanism is for an entity to over-deliver on customer service targets and outperform both the operating and capital expenditure targets (i.e. 'incentive based').

This kind of characteristics is largely due to Directive 2003/55/EC of European Commission (concerning common rules for the internal market in natural gas) that requires EU member states to establish national regulators who fix or approve tariffs in the gas utility market. The main goal of this governmental intervention is to ensure low prices and high quality supply simultaneously. The most common system used by national regulators to achieve this goal is the incentive-regulation (e.g. in UK, France, Germany, Italy, Spain and Belgium). Incentive-regulation refers to price or revenue caps in combination with an efficiency component (Pierk and Weil 2014).

The gas and electricity markets in Great Britain (GB) are separated into transmission, distribution, supply and generation activities as required by directives issued by the European Commission. Only transmission and distribution are subject to rate regulation by the Office of the Gas and Electricity Markets Authority (OFGEM). Its principal objective is to protect the interests of existing and future consumers in relation to gas conveyed through pipes and electricity conveyed by distribution or transmission systems, by promoting competition, monitoring and enforcing consumer protection rules, and regulating monopoly network companies. The rate-regulated electricity and gas distribution entities have a GB-wide license, so they may build and operate distribution networks anywhere. The price control is set based on forecast costs of operating, maintaining and replacing fixed network infrastructure assets. The regulator imposes a maximum revenue cap rather than unit price caps, based on a recently introduced new form of RIIO: revenues + innovation + incentives + outputs (OFGEM, 2013).

For network operators, there is a mechanism for the retrospective recovery or reversal of under- or over-recoveries of allowable costs/revenues. Under the mechanism, under- or over-recovery of allowed revenues in one year is allowed to be made up, or reduced, in the next year if the amount is within set parameters. If the amount is outside the set parameters, interest penalties may be applied, which are applied to future revenue allowances. There is also a Totex incentive sharing mechanism whereby an under- or over-spend is shared with customers and the licensee is allowed to recover only a part of the over-spent amount and share a portion of any under-spent amount. Ongoing revenue allowances are reduced or increased accordingly. NWOs are required to report annually by 31 July details of their costs and revenues to enable OFGEM to monitor the outturn of costs and revenues against allowances set at a price control. OFGEM also monitors specific performance obligations and incentive mechanisms. On an annual basis, the under- and over-

recovery of balances for allowed revenues has not been increasing or decreasing significantly. Most annual variations are due to the operation of the various incentive or quality of service mechanisms and are not material. There is no specific trend and it has not resulted in a specific net debit or credit position in NWOs due to constraints imposed by the license.

Under UK GAAP, the principle framework for unlisted companies and their subsidiaries, there is no specific accounting standard for rate-regulated entities. All cost, assets and revenues are reported in accordance with UK GAAP, which, from 1 January 2015, is derived from IFRS for SMEs. There is no identification of the regulatory asset base or regulatory depreciation, as distinct from fixed assets and statutory depreciation, in UK financial reporting; nor is there recognition of other differences between the basis of setting revenues and the statutory reporting of costs; i.e. rate regulated balances. IFRS has become one of two acceptable frameworks for preparing financial statements in the UK since 2006. It is mainly applied by listed companies and their subsidiaries, while UK GAAP is the principle framework for unlisted companies and their subsidiaries.

2.2.U.S.A.

The legal basis for utility rate regulation in the USA is a statutorily-imposed arrangement, generally referred to as the regulatory compact. Under this compact, the government effectively grants the utility a monopoly franchise over the provision of service within a defined territory, with an obligation to serve all customers within that territory. In exchange for such franchise, the utility is allowed to have an opportunity to charge to and recover from customers the prudent costs incurred in fulfilling the obligation, and to earn a reasonable return on its investment. The objective of the rate regulation is to set “just and reasonable” rates or prices in the absence of competition and balance the economic interests of rate-regulated utility entities and the customers in their exclusive franchise so as to provide reliable and non-discriminatory public access to electricity, natural gas, and water in the most economically efficient manner. Regulation of retail rates is via the individual state regulators in the majority of cases although rates for wholesale and most transmission services are established by a federal regulator.

There are mechanisms for a utility to recover prudently incurred costs and other mechanisms requiring the refund of over-recoveries of allowable costs. A predominant form of cost recovery for utilities in the U.S. is base rates, a cost-based mechanism. The base rates act as a surrogate for market pricing: They are designed to recover approved operating costs including a fair return on investment used in utility service and balance the economic interests of the rate-regulated entity and the customer in the absence of a competitive market (EEI and AGA, 2013).

If costs significantly exceed revenues or vice versa, either the rate-regulated entity or others may seek to reset rates. Base rates, for the most part, are established through an adjudication process, in which the rate-regulated entity proposes an increase or decrease in current rates, supported by evidence of its costs for a representative twelve-month test period. The entity’s proposed rate change is subject to investigation, audit, critique by interested stakeholders, and approval by the third-party regulatory authority. In general, the regulator typically allows for the recovery of prudently incurred costs irrespective of shifts in demand that may have occurred since those costs were incurred. The regulator also determines the time frame over which a utility may recover its allowable costs to ensure that current customers pay the full cost of current service and that future customers are not unduly burdened by costs related to historical operations or unfairly benefit from favorable timing of cost recognition (“inter-generational equity”).

Base rates, established following the process described above may only be changed prospectively. Thus, when a utility requests a base rate adjustment, there is no examination of whether prior rates turned out to be reasonable. Retroactive ratemaking is not allowed. This key feature distinguishes base rates from rates that are established to recover specific costs (referred to as “trackers”) which is discussed below, are typically subject to periodic reconciliation. Since rates are set based on historic or projected cost levels and an expected return on investment, the entity has risks and opportunities as actual costs and revenues differ from amounts estimated in the rate setting process. In many cases, regulators allow certain elements of costs (for example, fuel and purchased power costs) to be tracked and actual costs incurred are billed through the use of frequent billing adjustments.

These trackers also are a predominant form of cost recovery in the U.S. Trackers are usually narrower in scope, providing recovery of a specific category of costs, such as fuel costs, and are reconciled, i.e. “trued-up”, on an annual or periodic basis as the costs incurred may vary widely. Under or over collections of tracked costs are collected from or refunded to customers through automatic rate adjustments. In addition to reducing the administrative costs associated with adjudicatory proceedings, trackers are also intended to enhance the timeliness of recovery and mitigate the risk of volatile costs, such as purchased power, or significant, one-time costs, such as those occasioned by a major storm or hurricane. The use of trackers is consistent with the regulatory compact by virtue of their application in situations where the base rate model poses an unreasonable potential for under- or over-recovery of costs.

Trackers tend to automatically adjust for changes in demand given their more routine reconciliation and rate adjustment process. Further, some trackers explicitly provide for the recovery or refund of a specific dollar amount of revenues and are authorized to be discontinued when that threshold has been achieved. Over time, such balances have tended to increase and decrease based upon the specific nature of the items subject to recovery as well as discrete events that may give rise to new variance amounts. There are numerous items that will cause the variance amounts to increase or decrease over time, such as: Increases/decreases in the underlying cost of service (for instance, natural gas costs) or in sales volume over relatively short time periods. These movements will cause corresponding increases/decreases in variance amounts. For example, unusually mild or hot weather can drive increases or decreases over relatively short time periods with corresponding increases/decreases in variance amounts. Another example was when new accounting guidance was issued under U.S. GAAP related to the recognition of post-retirement benefit obligations, pursuant to which many entities and their regulators deferred the initial recognition costs and reflected them in customer rates over 15 years (in general).

The U.S. GAAP (SFAS 71) allows a rate-regulated utility to recognize regulatory assets and liabilities because they are deemed to meet the general definitions of assets and liabilities under the FASB’s Conceptual Framework. Assets arise for a rate-regulated utility when the actions of its third-party regulator provide reasonable assurance of the existence of an asset. This generally results when a utility has incurred a cost but the regulator’s actions make it probable that the incurred cost will be recovered in a future period. As a result, the utility is entitled to recover costs through future rates – i.e., rates will be increased from what would otherwise exist so that the value of the expected increase in cash flow will equal the unrecovered costs. Liabilities arise for a rate-regulated utility when the regulated utility has a present obligation pursuant to the regulatory treatment afforded to the item (e.g., the gain on sale) to make expenditures or decrease future rates from what would otherwise be allowed. The position of SFAS 71 will be described in more detail in Part 4.

2.3. Canada

Generally, rate regulation happens at the provincial level and is aimed at electricity and natural gas transmission and distribution. These industries tend to create “natural monopolies”. Given this situation, one objective of rate regulation is to protect consumers by setting rates for transmission and distribution that are “just and reasonable”. Another objective is to allow utilities a reasonable opportunity to recoup costs and earn a fair return for the significant financial investment they make in order to supply and deliver energy to consumers. While the approach varies by jurisdiction, one common approach is to establish base rates for each distribution utility through a comprehensive review of the utility’s costs as detailed in its rate application. This review occurs periodically (e.g., every four to five years). In the intervening years, the regulator provides for inflationary increases adjusted by a productivity measure. Rates are set through a quasi-judicial process that requires utilities to present evidence to justify rate increases.

The entities that are subject to rate regulation usually have a monopoly over the service they provide in a particular region. The rate regulated utilities are licensed. The regulator routinely inspects and audits the utilities it has licensed for compliance and financial viability. The regulator has powers to take enforcement action against utilities, including revoking licenses.

The recovery of or reversal of costs is only achieved with permission of the regulator. This permission may be implicit (e.g., based on the nature of the cost, such as commodity price

variances) or explicit (e.g., for more unusual types of variances). Costs that are allowed by the regulator as recoverable or returnable are tracked as variance or deferral accounts by the utility and recovered or returned to customers over the period prescribed by the regulator. Sometimes they are recovered/reversed in the next year. In order to avoid rate shocks, larger amounts will be recovered over a longer period as prescribed by the regulator. However, it should be noted that not all cost variances are automatically recoverable or returnable so there is no “ensuring” that all variances will be trued up.

The Canadian Accounting Standards Board (“AcSB”) and the Canadian Public Sector Accounting Board (“PSAB”) specify the accounting standards that apply in Canada. The AcSB requires all “Publicly Accountable Enterprises” to apply IFRS as their financial reporting standard, on or after January 1, 2011. However, four extensions to the mandatory IFRS adoption have been granted by the AcSB to rate-regulated entities (The current extension date granted is to January 1, 2015). Publicly Accountable Enterprises include reporting issuers or entities that list their debt or equity securities on a public exchange such as the Toronto Stock Exchange. The PSAB requires that all Government Business Enterprises (“GBEs”) also apply IFRS. Rate regulated utilities owned by the government (federal, provincial and municipal) are considered to be GBEs and are required to adopt IFRS.

The lack of recognition of regulatory assets and liabilities under IFRS was a significant issue reflected in the majority of applications to securities regulators, and has resulted in significant divergence in practice. There are now at least four different forms of accounting methodologies employed in Canada by rate-regulated utilities: IFRS, Canadian GAAP, United States GAAP, and in limited circumstances, IFRS amended by government regulations to explicitly require the recognition of regulatory assets and liabilities. Further, for those entities that have adopted IFRS, there is disparity in practice as to how regulatory assets and liabilities are recognized.

In the case of the province of Ontario, the Ontario Energy Board (OEB) is the rate-regulator of electricity (its generation, transmission, and distribution) and natural gas (its distribution and storage). The OEB has employed incentive regulation (IR), including formula-based and cost-based rate-setting. Under this approach, the OEB uses one-year forecasted cost and revenue (i.e. demand) information to determine a base revenue requirement (i.e., total costs covering operating expenses, depreciation, cost of capital including a return (via a method known as the rate base treatment) and the associated income taxes) and the “base” rates that are set to recover that revenue requirement. The revenue requirement approved includes a rate of return approved by the OEB based on a fair return standard, with the normal risk of fluctuating demand being taken into account. In subsequent years, those base rates are adjusted annually according to an OEB approved formula that includes components for inflation and the OEB’s expectations of efficiency and productivity gains (OEB, 2013).

Regulatory deferral and variance accounts are part of this regulatory framework that underpins fair and reasonable rates, and is a generally accepted regulatory “tool” designed to allow a utility to recover prudently incurred costs and earn a fair return and to ensure the utilities’ customers pay no more than is required for receiving the service. Rate regulation allows a utility to defer its incurred costs or earned revenues in deferral or variance accounts in one accounting period to be recovered or refunded in a subsequent accounting period(s). OEB’s ratemaking decisions provide rights and obligations to both the utility and its customers in terms of when deferred amounts are included in the rates charged to the utility’s customers. The recoveries/refunds arising from the approval of deferral and variance account balances are included in the rate orders issued by the OEB to the utilities. The rate orders have designated “rate riders” to recover/refund the approved balances over a specified period.

At the end of the rate rider(s) period, the net of the approved deferral and variance account balances and the recovered/refunded amounts may result in a “residual” debit or credit balance, which utilities are allowed to recover but required to refund to their customers. This tracking mechanism ensures that the utilities have rights/obligations to recover/refund the full amount of their approved account balances. There is a recent trend whereby the debit balances in the variance amounts have increased. This is not due to changes in demand, but rather due to cost increases attributable to a smart meter multi-year conversion program initiated by the Ontario

government in 2006. The overall costs for the installation of about 4.7 million smart meters over several years were recorded in OEB approved deferral accounts (OEB, 2013).

2.4. Australia

The rate regulation often occurs in Australia when there is deemed to be insufficient competition in an industry. In such circumstances it is considered that there is a risk there could be no market restraint of price in the absence of rate regulation. The objective of the rate regulation is to protect the interests of customers and to set fair prices and a certain level of service standards so as to help ensure the customer is not 'overcharged' for the service provided by the entity. A general criterion for regulation is typically whether it is difficult for other entities in the industry to duplicate the services provided by the entity subject to the regulation (i.e. high barriers to entry). A further objective of some rate regulation is a matter of social policy such that services are provided to everyone at affordable rates (e.g., postal services).

Regulation is via the individual states or a national regulator depending on the nature of the rate regulated activity. The enforcement of regulated entity obligations arising from price regulation at a federal level is via the Australian Competition Consumer Commission (ACCC). Australia's energy market is regulated by the Australian Energy Regulator (AER). Both are independent authorities of the Australian Government. There are also a number of state-based regulators. Entities are generally licensed to provide the goods and services and can choose to stop providing goods and services by relinquishing their license. There are circumstances where an entity may be the sole operator of a rate regulated asset, and there are restrictions or conditions on relinquishing the operating license. Such terms may prevent simply relinquishing the license. National and state regulation can be enforced in courts of law against alleged breaches of regulation.

There are three broad types of rate regulation in Australia: 1) *Access undertakings*: arrangements (including prices) between two parties that may be approved by a regulator, or negotiated between the parties. For example, a mining entity may build a railway to a mining tenement. A second mining entity may wish to be granted access to the railway. If the parties are not able to negotiate a pricing arrangement for access to the railway, a regulator may need to step in to provide a price for the access; 2) *Access arrangements*: arrangements in which the regulator is the arbitrator. In these cases the regulator sets standard prices that are regulated (i.e., Pharmaceutical Benefits Scheme prices for medicine); 3) *Access regimes*: arrangements in which the regulator regulates standard terms and conditions in addition to the price. Prices are set within constraints and are applicable to all customers. Access regimes may be price capped or revenue capped.

Most rate regulation in Australia of an 'access regime' type is price capped: Entities are able to charge a maximum average price for the period. If volume changes, total revenue also changes, and therefore the business takes volume risk. The maximum average price is based on asset depreciation costs, return on capital investment, cost of tax, operating and maintenance expenditure ('Building Block Approach'). These costs are projected out over a period of time, say five years, present valued and prices are then determined. Prices are usually set in a way that results in a smooth increase over time. An example of this form of regulation in Australia is water regulation. Water regulation is on a 'cost plus' basis. Regulation is for a period of five years with a submission prepared to the regulator based on prediction of future expenditure. There is no 'look back' to true-up based on previous experience. The biggest impact on prices is the volume of water taken/expected to be taken; however, cost is also influenced by the source of the water (a water storage dam or a desalination plant). A further example of this is electricity supply in the Australian state of Queensland. This regulation is based on retail operating costs (ROC: the cost of services provided by a retailer to its customers), plus a retail margin. The retail margin represents the reward to investors for the retailer's exposure to systematic risks associated with providing customer retail services. The retail margin is set on earnings before interest, tax, depreciation and amortisation (EBITDA) basis. The same margin is used for all retailers and is applied on the applicable cost pass through component (e.g., fixed network cost plus fixed retail cost, or variable network cost plus variable energy cost). Adjustments for cost of transmission and distribution to make up for under-recovered revenue in earlier years due to lower than forecast consumption are included in the network costs and treated as a pass through (AASB, 2013).

Current rate setting mechanisms include local enforcement to prevent overcharging although reforms are underway in some areas to move towards a UK model where tariffs are based on a rate of return on operating and capital expenditure which is already used by some industries (i.e. network operators).

If a regulated entity incurs costs greater than forecast (as reported to the regulator) they are generally not able to pass the additional costs through to customers. In addition, businesses are only able to recover 'efficient' cost, not all costs. A current exception to this in Australia is regulation in the electricity industry: The process for determining prices has regard to capital expenditure. If an entity has more capital expenditure than expected during the regulation period (five years) the entity cannot recover the costs during that five years, but it is able to include some of the costs in the cost base for the following five years (Note that the national electricity rules are currently undergoing changes such that potentially the regulator will retrospectively decide whether this expenditure is efficient expenditure before permitting it to be included into the subsequent cost base). In some cases, electricity entities may also benefit from an efficiency carry-over. This encourages utilities to achieve cost savings without eroding the asset base. By way of a simplified example, if the regulator accepts a cost base for a period of \$100 and the entity achieves \$95, the entity will retain (via a formula) part of this saving in the following reset asset base.

3. ACCOUNTING ISSUES AROUND REGULATED ACTIVITIES IN KOREA

3.1. RM (Raw Material) Cost-Based Pricing

Korea Gas Corporation (KOGAS) is a monopoly supplier providing LNG to city gas suppliers (about 30 companies) in Korea. The corporation *normally* reflects in the monopolistic selling price the difference (recognized in the previous year) between the LNG cost applied to the price billed to buyers and the LNG cost actually incurred (differential cost, hereafter), according to the government's regulatory code of RM (Raw Material) Cost-Based Pricing System (effective as of August, 1998; triggered by the price surge of the imported goods due to 1997 Korean economic crisis). But the cost-based pricing is not always honored because it may be suspended due to a government policy aiming at a macro-economic objective such as general price stability and the differential cost may not be reflected in the selling price. When this suspension occurs, KOGAS will recover the differential cost (i.e. RM loss) by reflecting it in the selling price later when the gas price has been stabilized. The gas price per bill will be set at the sum of standard cost (applied) \pm cost recovered (reversed) and margin (including supplying/distribution cost).

3.2. KOGAS's Accounting Practice

The Corporation (KOGAS) had recognized the differential cost as revenue for the year and debited to the accounts receivable account. For example, it debited to Accounts Receivable and credited Sales Revenue for 200 when the LNG cost applied to the bill to buyers was CU800 and the LNG cost actually incurred was CU1,000. The differential cost was to be reflected in the bill of the next year resulting in the cash collection from the accounts receivable due from the city gas suppliers (i.e. KOGAS's customers) and earning interest income for the same period.

The billing price of LNG that KOGAS is supplying to city gas companies consists of the LNG cost and the margin (supplying cost). The imported LNG cost is fluctuating as foreign exchange rate or oil price changes. The differential cost resulting from the changes in foreign exchange rate and oil price is to be recovered or reversed by it being reflected in the next year's billing price (The cost recovery is generally supposed to be made annually, but may not be made on a timely basis for government policy reasons such as general price stabilization). The cost differential occurs every year and KOGAS accounts for it as follows. When KOGAS's LNG cost incurred actually is greater [smaller] than the cost applied (to bill), Gain on Reflection [or Loss on Reflection] is expected and recorded as follows:

i) Gain on Reflection Case:

Dr) Accounts Receivable XXX Cr) Sales Revenue XXX

ii) Loss on Reflection Case:

Dr) Sales Revenue XXX Cr) Accounts Payable XXX

3.3. Events Developed and Issues

However, it became controversial whether such accounting practice of KGS is appropriate as the Board of Audit and Inspection of Korea (BAI, hereafter), which overseas irregularities in budgetary usage and accounting of Korean government offices and governmental corporations, first raised the question to Financial Supervisory Service (FSS), which in turn sent it to Korea Accounting Institute (KAI) in November 2012. In this process, it was known that KOGAS defended itself mainly by showing the government's official document that guaranteed the recovery of RM cost loss (amount accumulated up to the end of 2012).

The issues around accounting for RM cost-related accounts receivable can be summarized as follows (three points). The first issue was whether the economic fact (substance) of the recovery of RM cost loss (or unfavorable cost differential) is i) the sales amount of the delivered gas is settled (fully collected) in subsequent periods, or ii) the excess amount of actual raw material cost over the sales amount of the delivered gas is compensated by an increase in rate (billing price) for the gas delivered in subsequent periods.

The second issue was what the basis is for a potential conclusion that rights or obligations (credit-debt) relationship is established even if additional gas delivery is not made in subsequent periods where credit-debt relationship of the contractual parties is established only when gas supply is made according to "natural gas sales contract" and "natural gas supply contract" between KOGAS and city gas companies. The last issue was whether the unfavorable cost differential can be recognized as an asset.

4. ACCOUNTING STANDARDS ON REGULATORY ASSETS

4.1. U. S. GAAP –SFAS 71 “Accounting for the Effects of Certain Types of Regulation”

Statement of Financial Accounting Standards (SFAS) 71 provides guidance in preparing general purpose financial statements for most public utilities. Certain other companies with regulated operations that meet specified criteria are also covered. In general, the type of regulation covered by this Statement permits rates (prices) to be set at levels intended to recover the estimated costs of providing regulated services or products, including the cost of capital (interest costs and a provision for earnings on shareholders' investments). For a number of reasons, revenues intended to cover some costs are provided either before or after the costs are incurred.

If regulation provides assurance that incurred costs will be recovered in the future, this Statement requires companies to capitalize those costs. If current recovery is provided for costs that are expected to be incurred in the future, this Statement requires companies to recognize those current receipts as liabilities. This Statement also requires recognition, as costs of assets and increases in net income, of two types of allowable costs that include amounts not usually accepted as costs in the present accounting framework for non-regulated enterprises, as follows:

- If rates are based on allowable costs that include an allowance for the cost of funds used during construction (consisting of an equity component and a debt component), the company should capitalize and increase net income by the amount used for rate-making purposes, instead of capitalizing interest in accordance with FASB Statement No. 34, *Capitalization of Interest Cost*.
- If rates are based on allowable costs that include reasonable intercompany profits, the company should not eliminate those intercompany profits in its financial statements.

As described before, SFAS 71 allows a rate-regulated utility to recognize regulatory assets and liabilities. Regulatory assets are deemed to meet the definition of an asset under the FASB's Conceptual Framework in that i) there is a future economic benefit because customer rates will be increased in the future to recover the specifically incurred cost; ii) the utility can control the asset or restrict others' access to it; and iii) the transaction or event giving rise to the asset (namely, incurring a cost subject to the regulatory compact) has already occurred.

Liabilities arise for a rate-regulated utility when the actions of that utility's third-party regulator determine that it is probable that the rate-regulated utility will be required to return some benefit to customers in the future either by requiring that the regulated utility make future expenditures or decrease future rates. Also, through provisions in rates for costs not yet incurred and gains to be

deferred and amortized over future periods, a regulator can create a regulatory liability. For example, if a plant that has been devoted to utility service and its costs (net book value) to date recovered through customer rates is sold at a gain, the gain is statutorily required to be deferred and amortized over a period of time as a reduction to the utility's future rates. Because the utility must reduce rates in the future to return that gain back to customers, a regulatory liability results.

Regulatory liabilities also meet the definition included in the FASB's Conceptual framework because: i) the regulated utility has a present obligation pursuant to the regulatory treatment afforded to the item (e.g., the gain on sale) to make expenditures or decrease future rates from what would otherwise be allowed; ii) the settlement of the obligation is expected to result in a reduction in resources embodying economic benefits in the form of a decrease in future cash flow from the sale of regulated services (e.g., the amortization of the gain on sale as a decrease to customer rates); and iii) the obligation is imposed due to a past transaction or event which, as noted above, is the sale of that plant that has previously been devoted to utility service and the gain on which the regulator will require be returned through a reduction of future customer revenues.

If a utility were not subject to rate regulation and all of the terms and conditions of the sale were met, that utility would likely record the gain and not subsequently defer any of that gain as a regulatory liability. However, because of the obligation to share the gain with rate payers, a regulatory liability results for the deferral of the gain.

The assets and liabilities arising from the regulatory process essentially represent timing differences. They arise because a regulated utility either under or over-recovers the costs of providing service in the current period and as a result, the regulator allows the regulated utility the opportunity to recover or return such amounts in periods subsequent to when they would normally be expensed or recognized as income. This timing difference in the cash flows of the regulated utility, and the related rights and obligations associated with the underlying regulation and the regulatory compact giving rise to those differences, reflects the economic impact of rate regulation.

4.2. IFRS Positions Regarding Regulated Assets

IFRS's do not have any explicit accounting standards about the recognition of a regulatory asset when governmental authorities regulate the price/rate of the goods and allow the recovery of provision cost loss and some margin through rate increase of future goods supply. According to International Financial Reporting Interpretation Committee (IFRIC) in 2005, IFRS-applying firms should recognize an asset in reference to Conceptual Framework and the related statements such as IAS 11 "Construction Contract", IAS 18 "Revenue", IAS 16 "Property, Plant and Equipment", IAS 38 "Intangible Assets". This view is not completely consistent with US GAAP, SFAS 71.

In July 2009, the IASB published for public comment the Exposure Draft (ED) *Rate-regulated Activities*. It stipulated that "an entity shall recognize: (a) a regulatory asset for its right to recover specific previously incurred costs and to earn a specified return, or (b) a regulatory liability for its obligation to refund previously collected amounts and to pay a specified return when it has the right to increase or the obligation to decrease rates in future periods as a result of the actual or expected actions of the regulator". After reviewing the responses to that ED, the IASB decided that it could not resolve, in a timely manner, the complex, fundamental issues involved. The IASB suspended the project in September 2010.

Thus, most existing IFRS preparers kept not recognizing regulatory deferral account balances in their financial statements (Regulatory deferral account balances are where "differences between the time at which particular costs or income are recognized for regulatory purposes and when those costs or income are recognized in the statement of profit or loss in IFRS financial statements are tracked in" (Snapshot: *Reporting the Financial Effects of Rate Regulation*, 2015)). Many would-be first-time adopters of IFRS that recognize 'regulatory deferral accounts' in their financial statements, in accordance with their local GAAP, view this practice as a barrier to adoption of IFRS. To reduce that barrier, IASB issued, in January 2014, IFRS 14 "*Regulatory Deferral Accounts*" a temporary (Grandfathering) Standard. IFRS 14 is available only to specified entities that adopt IFRS after IFRS 14 was issued. Using IFRS 14, the eligible first-time adopters are able to continue to apply their previous (local) GAAP recognition and measurement policies

for regulatory deferral account balances until the IASB concludes on the outcome of the Rate-regulated Activities project.

IFRS 14 requires that all regulatory deferral account balances, and the movements in them, are presented separately from the assets, liabilities, income and expenses that are presented in accordance with other (IFRS) Standards. This requirement for separate presentation was developed because the IASB did not, in developing IFRS 14, express any preliminary view about whether regulatory deferral account balances meet the definitions of an asset and a liability in the *Conceptual Framework for Financial Reporting*. IFRS 14 defines a regulatory deferral account balance as the balance of any expense (or income) account that would not be recognized as an asset or a liability in accordance with other Standards, but that qualifies for deferral because it is included, or is expected to be included, by the rate regulator in establishing the rate(s) that can be charged to customers. IFRS seems to admit rationality of regional GAAP accounting policies recognizing a regulatory deferral account debit or credit balance: the debit balance results “when the entity has the right, as a result of the actual or expected actions of the rate regulator, to increase rates in future periods in order to recover its allowable costs”; the credit balance, “when the entity is required, as a result of the actual or expected actions of the rate regulator, to decrease rates in future periods in order to reverse over-recoveries of allowable costs”.

In September 2014, IASB issued Discussion Paper “*Reporting the Financial Effects of Rate Regulation*” to identify what information about the financial effects of rate regulation is most relevant to users of financial statements in making investment and lending decisions and to determine how best to reflect that information in IFRS financial statements. The Discussion Paper describes a type of rate regulation (termed defined rate regulation) that contains elements of both cost recovery and incentive approaches. As part of IASB’s active research program, the Discussion Paper considers the common features of rate regulation and explores which of them, if any, creates a combination of rights and obligations that is distinguishable from the rights and obligations arising from activities that are not rate-regulated. Instead of including specific accounting proposals, it explores several possible approaches that the IASB could consider when deciding how best to report the financial effects of a defined type of rate regulation.

4.3. U.S. SEC Position Regarding Regulated Assets

Korea Electric Power Corporation (KEPCO), whose stock is listed on NYSE, included regulatory asset of \$350 million (in the account title of 'Receivables') in 2011 financial statements. U. S. PCAOB overseeing KEPCO's audit firm informed SEC of its question about whether the Receivables asset is justifiable. SEC asked KEPCO for detailed analysis on whether raw material cost expected to be recovered of \$350 million had been recognized as receivables and revenue. After several times of KEPCO’s communications with SEC and a negative opinion of a global accounting firm (Deloitte), KEPCO finally eliminated the effect of raw material cost from the assets and the one reflected in the KOGAS share (25%).

A series of the above incidences imply that U.S. SEC’s position seems to be against recognizing regulated assets though it was not clearly put forward, nor publicly known.

5. ACCOUNTING APPROACHES FOR REGULATORY ASSETS

As mentioned before, KOGAS recognizes (records) revenue (creditor) and a receivable (debtor) simultaneously when accounting for an unfavorable cost differential that occurs every year, namely when KOGAS's LNG cost incurred actually is greater than the cost applied (to bill). The main issue is whether the accounting practice can be allowed. The author now will discuss the issue and alternative approaches.

5.1. Recognizability as Revenue

First, we may ask, “Has revenue been earned?”

Because the standards or guidelines set by business model or industry are not provided under the principle-based IFRS, recognition and measurement should be made in reference to Conceptual framework and the reporting standards such as IAS 11 "Construction Contract", IAS 18 "Revenue", IAS 39 "Financial Instruments: Recognition and Measurement".

The five conditions of IAS 18 "Revenue" (Par. 14) should be met for revenue recognition (*Revenue from the sale of goods shall be recognized when all the following conditions have been satisfied*):

- (1) the entity has transferred to the buyer the significant risks and rewards of ownership of the goods;
- (2) the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- (3) the amount of revenue can be measured reliably;
- (4) it is probable that the economic benefits associated with the transaction will flow to the entity; and
- (5) the costs incurred or to be incurred in respect of the transaction can be measured reliably.

There 'exists' a contract between KOGAS and local city gas companies and thus it's evident that there are contractual rights or obligations between the two parties. But, the question is whether the amount that can be claimed for the rights or obligations is only selling price (billed) or the amount including the 'loss to recover'. In order for KOGAS to collect the loss to recover, following both conditions should be satisfied: i) the loss to recover is reflected in the price of LNG to be delivered in the subsequent periods, and ii) LNG will be delivered in the subsequent periods.

After applying the above five conditions to the issue of asset possibility of KOGAS's differential cost to be recovered, the author finds out that conditions (1) and (2) are not satisfied because KOGAS does not have transferred to the buyer the significant risks and rewards of ownership of the goods to be provided in the future because the differential cost to be recovered by government contract will be reflected in the price of LNG to be delivered in subsequent periods, and that conditions (3) and (5) are not relevant because the differential cost to be recovered by government contract will be reflected in the price of LNG to be delivered in future periods. Only condition (4) is satisfied because it is probable that the economic benefits associated with the transaction will flow to the entity since the differential cost to be recovered by government contract is highly likely to be reflected in the price of LNG to be delivered in future periods and the delivery will be certainly continued.

Therefore, it is concluded that KOGAS's differential cost to be recovered should not be recognized as revenue.

5.2. Recognizability as a Financial Asset

Then, has any receivable (financial asset) been obtained?

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity. A financial asset is cash or a contractual right to receive cash or another financial asset from another entity. It is defined not in terms of degree of risk existing in revenue, but in terms of the existence of an unconditional contractual right to receive cash (Par. 11, IFRS 32).

For any loss to recover to be classified as a financial asset, i) there should arise a financial asset of one entity (KOGAS) and a financial liability of another entity (a local city gas company) at the same time, and ii) KOGAS has an unconditional contractual right to receive cash or another financial asset from another entity. However, neither condition is met: A financial asset and a financial liability do not arise to both parties at the same time; and there is no unconditional contractual right to receive cash because the city gas company is not deemed incur any obligation to pay KOGAS the amount equivalent to the current period's loss to recover since the amount and maturity of the receivable is not specified at the time of writing a gas supply contract for the period.

Because interest is to accrue to the receivable KOGAS recognized for the loss to recover (or the unfavorable effect of raw material cost), there can be a view that it is a financial asset. But the accrued interest seems to be a part of the mechanism for determining subsequent periods' rates to compensate for the loss. More critically, the fact of "interest accrued" alone does not satisfy the

definition of and recognition conditions for a financial asset. Consequently, the loss to recover (or any seemingly receivable due to it) cannot be a financial asset.

5.3. Recognizability as Any Other Asset

The government promises KOGAS to compensate for (recover) an unfavorable cost differential (or the unfavorable effect of raw material cost) by reflecting the amount in the rate of gas supplied in subsequent periods. Does this promise lead to the existence/creation of any asset?

The Conceptual Framework for Financial Reporting defines an asset as a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity (Par. 4.4). Here, past event will mean provision (supply) of LNG for the current period and a result of past events, an unfavorable cost differential.

5.3.1 A resource controlled by the entity as a result of past events?

In a legal sense, it is very hard to say "controlled by the entity because the entity (KOGAS) does not have any extant right to bill individual clients for the future price of the goods not delivered yet, and cannot enforce them to buy the entity's goods for the price and the amount that the entity requests. However, according to Paragraph 12, "although the capacity of an entity to control benefits is usually the result of legal rights, an item may nonetheless satisfy the definition of an asset even when there is no legal control. For example, know-how obtained from a development activity may meet the definition of an asset when, by keeping that know-how secret, an entity controls the benefits that are expected to flow from it".

In addition, IFRS 38 "Intangible Assets" describes that "An entity controls an asset if the entity has the power to obtain the future economic benefits flowing from the underlying resource and to restrict the access of others to those benefits. . . . In the absence of legal rights, it is more difficult to demonstrate control. However, legal enforceability of a right is not a necessary condition for control because an entity may be able to control the future economic benefits in some other way" (Par. 13).

Therefore, if the entity (KOGAS) can obtain the future economic benefits and restrict the access of others to those benefits, an unfavorable cost differential can be a resource controlled by the entity.

5.3.2 Are future economic benefits expected?

Future economic benefits are expected to flow to the entity (KOGAS) from the resource (the cost differential) because it can be recovered by only KOGAS, a monopoly in Korean LNG market, in a legal and institutional aspect, and is expected to be collected through a rate increase in future periods.

Conceptual Framework (Par. 4.38) stipulates that "An item that meets the definition of an element should be recognized if (a) it is probable that any future economic benefit associated with the item will flow to or from the entity; and (b) the item has a cost or value that can be measured with reliability."

In conclusion, the resource (the cost differential) can be recognized as an asset because it meets the definition of asset and satisfies the two asset recognition criteria.

5.4. Recognizability (Capitalizability) of Incurred Cost as an Asset

According to US GAAP (par. 9, SFAS 71), rate actions of a regulator can provide reasonable assurance of the existence of an asset. An enterprise shall capitalize all or part of an incurred cost that would otherwise be charged to expense if both of the following criteria are met:

- a. It is probable that future revenue in an amount at least equal to the capitalized cost will result from inclusion of that cost in allowable costs for rate-making purposes.
- b. Based on available evidence, the future revenue will be provided to permit recovery of the previously incurred cost rather than to provide for expected levels of similar future costs. If the revenue will be provided through an automatic rate-adjustment clause, this criterion requires that the regulator's intent clearly be to permit recovery of the previously incurred cost.

On the other hand, IASB Exposure Draft (ED) *Rate-regulated Activities* (July 2009) stipulates that an effect of applying the requirements for a regulatory asset (liability) is to recognize as an asset (liability) initially amounts that would otherwise be recognized in that period in the statement of comprehensive income as an expense (revenue). Consequently, this [draft] IFRS is not applicable when items related to regulated operating activities have been recognized as assets or liabilities in accordance with other IFRSs'.

Thus, it would be appropriate to capitalize the unfavorable cost differential and expense it as a cost of additional revenue created in the future because it contributes to future revenue-generating activities even though it is not a financial asset.

6. SUMMARY AND CONCLUSION

The study discusses an asset recognition issue recently arising from accounting treatment of transactions in KOGAS (a government-regulated energy industry firm in Korea), whether should/can recognize as an asset the un-reflected portion of the costs in the output price (rate) if it is probable to be reflected in the selling price in the future. The paper focuses on the issue of whether the regulated less-than-cost price can be regarded as a normally acceptable price and whether the seller's revenue should include the differential component recoverable in the future.

After reviewing the objectives of rate regulation, the rate setting mechanism, and the mechanism for tracking the recovery or reversal of costs in the regulated industry in four countries, and the recent positions of FASB and IASB, the paper examined several possible accounting alternatives: 1) The differential cost component constitutes revenue and recognized as a financial asset, 2) The differential cost component constitutes revenue and recognized as a non-financial asset (e.g. intangible asset), 3) The differential cost component should not constitute revenue but can be capitalized and recognized as a deferred asset. Finally the paper proposes the last alternative as the most appropriate accounting treatment, which essentially supports SFAS 71. The author hopes that IASB will adopt this alternative when it promulgates accounting for regulatory assets and liabilities in the near future.

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