BRITISH NUCLEAR FUELS plc, SELLAFIELD MOX PLANT: ACCOUNTING AND OTHER PERSPECTIVES

By Michael McDermott

PREFACE

It is a flaw, indeed an aberration of process, that a company may speculate, in excess of £400M, on an industrial plant for which they hold no authority to operate. When that company is wholly owned by the U.K. Government ("HMG"), with the shares, therein, vested, all but one, in the personage of the Secretary of State for Industry - adjudged to be a Shadow Director thereof, the eminence grist pulling the strings - the position becomes bizarre. That situation is rendered even more ridiculous when the final authority, to operate the plant, lays firmly in the hands of the

Ministers of State of two other HMG Departments - Environment, Transport & the Regions ("DETR") and Health ("DoH"), with the former appearing to be the lead. The Sellafield MOX Plant ("SMP") farce has been on the boil since 1996, expending real money, over and above the cost of the plant, which could have been deployed to better use elsewhere.

Logic would appear to dictate that a single process of approval for a plant would be the most appropriate and cost-effective format to be used. However, in the case of British Nuclear Fuels plc ("BNFL"), this would require all the cards on the table at the outset, thereby lengthening the odds against approval of a project. In the case of THORP, the cost projection given, to the public inquiry, in support of the case for the project, was £300M, but a total concomitant cost of circa £5,000M later emerged to be involved. Would Parliament, as opposed to HMG, have gone-along with THORP had they been fully aware of the true cost implications of the same. Would they have so readily allowed BNFL loose on such a project.

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In the case of the UK NIREX Ltd ("NIREX") deep waste disposal project, with £500M spent and approval sought for a further £800M of expenditure, it was nowhere disclosed, by NIREX, to the public inquiry, that the ultimate cost of the venture would be in the range £25,000M to £35,000M depending upon the financial model to be adopted. Still less was it disclosed, that at the end of the day, High Level Nuclear Wastes might be deposited in the facility, that would be for a later, much later, day.

In this instance, approval was originally given to build SMP against cost and operational parameters of £50M and 50 tonnes per annum output respectively. The current position is that SMP has costs set against it, in the BNFL accounts, of £462M, and rising, and output is given as 120 tonnes per annum.

The stratagems, deployed by BNFL, to get projects off-the-ground constitute a form of empire building by stealth, not to say one of commercial blackmail. The extent to which HMG may be complicit in these matters stands not proven, however, the obverse of complicity is that the Department of Trade & Industry ("DTI") have been grossly deficient in their over-sight of their ward, BNFL. Complicity would indicate the pursuit of policy by stealth, with HMG acknowledging that both Parliament and public would otherwise reject such.

Does that situation predicate the validity of consideration, by the respective Ministers of State, in the matter of final approval, has such in the past been a foregone conclusion. Generally that has been the case, with one notable exception, that of former Secretary of State John Gummer refusing permission for the NIREX project to proceed. That decision was notable in that NIREX was carrying circa £600M of liabilities, within its balance sheet, against which were set only notional assets. NIREX shares are 74.5% controlled by BNFL.

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Of his own direct experience the Minister of State at DETR, Michael Meacher, has been forewarned of the duplicities in such matters as these. In order to clear the final hurdles relative to the commissioning of THORP, BNFL made great-play of a report by accountants Touche Ross, which was alleged to underwrite the commercial efficacy of the plant. It has been reliably reported that, upon taking-up office, the Minister of State called for a copy of the said report - only to find it did not exist. Once bitten, twice shy: presumably that ploy will not be played-out on this occasion and all reports will have been disclosed, as with their full content.

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General

Key elements of the financial equations, relative to support of the BNFL case for SMP, have not been disclosed, thereby to frustrate any serious assessment of their claims. The reason for the said non-disclosure is that of "commercial confidentiality", coupled to assertions of heavy competition in the field, namely from COGEMA. It is also not proven that such competition is genuine, though latterly there has been a leak that Japan has turned to COGEMA for assistance relative to their own production plans for MOX fuel. That however arises not from the element of competition, but due to dissatisfaction with the attitude adopted, by BNFL, to their Clients. Further, it was at one time the position that a joint marketing company existed, United Reprocessors GmbH, an equally held joint venture by Britain, Germany and France - COGEMA is French Government owned. The current status of that company is not disclosed, as was before, but the indication would tend to be that a sharing of the available work was the order of the day, not competition. MOX fuel, inextricably linked to reprocessing, would fall within the ambit of the joint venture. Perhaps BNFL should be called upon to demonstrate the fact of competition in the field of reprocessing and MOX production, though it is acknowledged that such does exist relative to the supply of other fuels. BNFL have lost business for the supply of fuel to even U.K. reactors.

What appears not to have been openly considered in the matter of SMP, is any cost-benefit analysis relative to the non-conversion of the plutonium, arising from reprocessing, into MOX fuel. Nor, apparently, has there been any cost-benefit analysis relative to the total MOX fuel cycle, that is, including efficiency of use and subsequent treatment of the spent fuel, as also to its final disposal.

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Likewise, the position has not been touched-upon relative to MOX fuel being fabricated but not sold, what then of the ramifications of such a situation. Then again, if MOX fuel is fabricated only in line with firm orders, two factors come into play: there are costs involved in the longer term storage of the unused plutonium, and, SMP may well be operating at well below optimum levels of production, incurring, thereby, irrecoverable costs. The problem is circular, bringing one back to the lack of a sufficiently robust cost-benefit analysis.

The foregoing questions are largely rhetorical. The likely situation is, regardless of BNFL exhortation to the contrary, that MOX fuel is merely a trojan horse related to the immobilisation of the plutonium, which is accruing inter alia, as a result of spent fuel reprocessing. That may also constitute the most appropriate medium for the return of the plutonium to its original spent fuel customer source. The merry-go-round will continue so long as both BNFL and HMG refuse to admit to the truth and that no real case exists for SMP. The U.K. generators, AGR and PWR, have disclaimed any intention to the use of MOX fuel in their reactors - assessing the fuel as being uneconomic in use. Hence, only foreign Clients appear to be included in BNFL's alleged business plan. The issue, also arising, but wisely ignored by BNFL, is that which is to transpire in respect of the plutonium accruing from the reprocessing of U.K. spent fuel: Magnox, AGR and PWR, these must all have a bearing upon the overall inclusive financial equations relative to SMP.

It appears to be a matter of record that the ultimate amount of plutonium to be held by BNFL, from the various sources, will be of the order of 120 tonnes. Plutonium is believed to be a 5% to 6% constituent part of MOX fuel, therefore, the total of MOX fuel production would be of the order of

2,000 tonnes to 2,400 tonnes. With a plant output of 120 tonnes per annum, the total production period would be 17/20 years.

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Within the "Public Domain Report - March 2001", BNFL, in an act of self-endorsement, state: "..Formal approval of the economic case was also sought, and received, from the BNFL Executive Committee and Board of Directors." (para 1.2). Later, BNFL confirm that the basis of assessment treats SMP costs, currently £462M, as sunk. They go on to state: "This is a standard economic approach." (para 2.6.1.). Nowhere have BNFL set-out the rationale for the decision to treat the £462M as sunk, nor have they demonstrated that such does, in fact, constitute "a standard economic approach". The BNFL Board of Directors would appear to have been somewhat foolhardy in their endorsement, which they could not, in any event, avoid, of such spurious economics and insupportable claims.

The Ministers of State might give consideration to a joint approach to the issue, thus:

a) seeking, from their advisory consultants, in this matter, a view upon the exclusion from the Du Pont formula of the capital costs aggregating to SMP and if such exclusion constitutes a perversion of the principles thereof, and, is such exclusion standard practice within industry.

b) seeking, from BNFL Chairman, Hugh Cullum, if in his previous employment, at Smith Kline Beecham, he would have agreed to the development of a new product line, wherein, the capital cost, thereof, was excluded from the commercial assessment upon which the project go-ahead was to be authorised.

c) seeking, from BNFL, how they are to deal with the patent conflict between the basis for their SMP business plan and the exigencies of their balance sheet, viz: having treat SMP cost as sunk in the former, are they also to write-off the said costs in the latter.

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d) seeking, from BNFL, pro-forma balance sheets indicating, therein, the application, relative to SMP, of the annual depreciation to be taken against that plant, in the event of the same not being written-off.

The four questions are simple to answer and will not involve an great management time to produce, they are, however, fundamental to the open conduct of this Consultation process.

As BNFL have laid claim to a financial justification for SMP, it is they who have opened that door and it is incumbent upon them to justify their arguments. No figures of a "commercially confidential" nature will be involved, as the same will became apparent from subsequent published accounts, unless yet further obfuscation is deployed.

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ACCOUNTING & FINANCE

BNFL's finances are in a precarious state, to such an extent that it may well be an underlying cause of the extremely strained relations between itself and its Clients, facts regarding the same which are only now emerging. Substantial data, relative to BNFL's finances, has been fled with both DTI and Trade & Industry (Select) Committee ("TISC"), currently the said data stands without dispute by

any of the parties - including BNFL. The financial media have recently been briefed, by BNFL, that they are to file losses for the year 2000-01. It should be a matter of note that the leak was published within days of the financial year-end - prior to audit of the figures. Further, that as a matter of, at the least, etiquette, if not Statute, both the Secretary of State and Parliament should have been the first to have such news, not a favoured journalist of BNFL. No doubt in doing so BNFL sought to draw-the-sting in advance of proper publication, later in the year.

On the basis of the 1999-00 balance sheets, if SMP is not approved then upon BNFL's own construction of their accounts: at Company level they will be insolvent to an extent of £248M; and, at Group level to an extent of £150M. With any increasing cost allocation to SMP and the continuation in BNFL's finances, that level of insolvency may well become more acute.

In the DTI endorsement of the BNFL case for SMP, 22nd. March 2001, it is stated that they monitor "all significant aspects of (BNFL) activities, performance and commercial prospects". No doubt the DTI will be able to confirm the veracity of the above analysis, as to BNFL's solvency, in the event of SMP not gaining approval to operate, and also, as to the substantial alternative financial data already in their possession - as yet unchallenged.

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The most likely financial impact upon BNFL, arising from any operation of SMP, will be marginal and that only on the basis of inflation enhanced figures, giving rise to a mere 0.3% return on capital. That position will deteriorate if further costs, capitalisation of losses, become attributable to SMP during the years 2000-01 and 2001-02.

In the light of the above, it must be assumed that there exists no justification, on a financial basis, for the operation of SMP. BNFL Chairman, Hugh Cullum, is on record as stating that if SMP was found not to be financially viable, the project would not proceed but be written-off. The BNFL Board of Directors should justify their endorsement of SMP on the basis of a mere 0.3% return on capital, the same being a standard yardstick in the assessment of projects.

BNFL's projected figures are considered within the Tables included herewith, being 1 to 5 (inclusive).

Tables 1 and 2 deal with BNFL's projections on a simplified basis and are illustrative of the problems facing SMP on the money front. Tables 3 and 4 deal with the projections in a similar manner, but with the projected earnings adjusted for inflation and margin betterment, taken at 4% per annum compound growth. In all cases depreciation of SMP is demonstrated at both 20 year and 40 year straight-line bases of application. The best out-turn achievable is a mere £26M trading surplus, nett of write-off, over the 20 year life of SMP, or, the 0.3 of 1% return on capital.

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Table 5, applies the adjusted projected earnings of SMP to the format of accounts deployed, by BNFL, in regard to depreciation - circa 7.5% per annum on a reducing balance basis. It will be noted that, under this format, SMP takes a heavy depreciation hit in the first 10 years of operation and a reduced hit over the second 10 years, with profits occurring in all instances during the latter. This format gives rise, in respect of the LOW, MEAN and HIGH levels of adjusted projected earnings, 20 year aggregate results thus: £70.75M loss; £31.40M profit and £122.73M profit, respectively. On an averaged annualised basis £3.54M loss; £1.57M profit and £6.14M profit,

respectively. The required book-value write-off, at the end of 20 years, would be £97M, so, in fact, the actual result would be an at best position of £25.73M profit.

If the figures and calculations presented, in the said Tables, are in any way erroneous, they can be readily corrected and filed, by BNFL, as also to the conclusions drawn therefrom.

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TABLE 1
BNFL EARNINGS PROJECTIONS FOR SMP (BASIC) IN RANGE:

	LOW	MEAN	HIGH
Projected Earnings	190	256	315
Annual Average	9.50	12.80	15.75
Plant Depreciation £462M/20 Yrs/Straight Line	(23.10)	(23.10)	(23.10)
Annual Trading Profit/(Loss)	(13.60)	(10.30)	(7.35)
Aggregate Lifetime Profit/(Loss)	(272.00)	(206.00)	(147.00)
Outstanding Book-Value for Write-off	nil	nil	nil

TABLE 2

Annual Average (from above)	9.50	12.80	15.75
Plant Depreciation £462M/40 Yrs/Straight Line	(11.55)	(11.55)	(11.55)
Annual Trading Profit/(Loss)	(2.05)	1.25	4.20
Aggregate Lifetime Profit/(Loss)	(41.00)	25.00	84.00
Outstanding Book-Value for Write-off	231.00	231.00	231.00

N.B. Monies in £1M.
20 year operational lifetime for plant

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TABLE 3

BNFL EARNINGS PROJECTIONS FOR SMP (ADJUSTED) IN RANGE:

	LOW	MEAN	HIGH
Projected Earnings	190	256	315
Adjusted Projected Earnings	295	397	488
Adjusted Annual Average	14.75	19.85	24.40
Plant Depreciation £462M/20 Yrs/Straight Line	(23.10)	(23.10)	(23.10)
Annual Trading Profit/(Loss)	(8.35)	(3.25)	1.30
Aggregate Lifetime Profit/(Loss)	(167.00)	(65.00)	26.00
Outstanding Book-Value for Write-off	nil	nil	nil

TABLE 4

Adjusted Annual Average (from above)	14.75	19.85	24.40
Plant Depreciation £62M/40 Yrs/Straight Line	(11.5)	11.5)	(11.5)
Annual Trading Profit/(Loss)	3.25	8.30	12.85
Aggregate Lifetime Profit/(Loss)	65.00	166.00	257.00
Outstanding Book-Value for Write-off	231.00	231.00	231.00

N.B. Monies in £M.
20 year operational lifetime for plant
Inflation/Margin Betterment Adjustment 4% per annum (averaged)

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ADJUSTED SMP EARNINGS AS APPLIED TO BNFL PROFIT & LOSS ACCOUNT:

FIVE YEARLY ANALYSIS	**LOW**	**MEAN**	**HIGH**
TABLE 5 (A)			
Years 1 - 5 (incl)			
5 Year Adjusted Earnings	53.55	72.09	88.73
Plant Depreciation @ 7.5% Reducing Balance	(149.00)	(149.00)	(149.00)
Trading Profit/(Loss)	(95.45)	(76.91)	(60.27)
Annual Average Profit/(Loss)	(19.09)	(15.38)	(12.05)
Years 6 - 10 (incl)			
5 Year Adjusted Earnings	65.10	87.73	107.94
Plant Depreciation @ 7.5% Reducing Balance	(101.00)	(101.00)	(101.00)
Trading Profit/(Loss)	(35.90)	(13.27)	6.94
Annual Average Profit/(Loss)	(7.18)	(2.65)	1.39

N.B. Monies in £M
20 year operational lifetime for plant

ADJUSTED SMP EARNINGS AS APPLIED TO BNFL PROFIT & LOSS ACCOUNT

FIVE YEARLY ANALYSIS	**LOW**	**MEAN**	**HIGH**
TABLE 5 (B)			
Years 11 - 15 (incl)			
5 Year Adjusted Earnings	79.21	106.73	131.32
Plant Depreciation @ 7.5% Reducing Balance	(69.00)	(69.00)	(69.00)
Trading Profit/(Loss)	10.21	37.73	62.32
Annual Average Profit/(Loss)	2.04	7.55	12.46
Years 16 - 20 (incl)			
5 Year Adjusted Earnings	96.39	129.85	159.74
Plant Depreciation @ 7.5% Reducing Balance	(46.00)	(46.00)	(46.00)
Trading Profit/(Loss)	50.39	83.85	113.74
Annual Average Profit/(Loss)	10.08	16.77	22.75

N.B. Monies in £M.
20 year operational lifetime for plant

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CONCLUSIONS

SMP, an adjunct to THORP, is in part an attempt to create a utilisation for a process which, based upon an earlier strategic rationale, has been overtaken by events and has had its day. BNFL are not big enough to admit to such, at least outside the privacy of their own portals, as to do so would demolish their self-professed omniscience in matters nuclear.

By normally accepted parameters of commercial assessment, there appears to exist no supportable financial case for the operation of MOX manufacture. Indeed the privatised U.K. nuclear generators have stated that use of MOX fuel would be uneconomic and they have, therefore, no intention of using that fuel in their reactors. This view is a contradiction of that which BNFL would have one believe to be the view of their foreign Clientele.

Nonetheless, the plan has been built and costs will continue to roll-up against SMP, increasing to a level well above that last disclosed, in the BNFL 1999-00 balance sheets, of £462M. Such increases, over the base cost of SMP, constitute the capitalisation of losses - which BNFL are not otherwise in a position to carry.

The underlying reason for the continued pursuit of implementation of the MOX manufacturing process would appear, inter alia, to relate to a combination of two factors:

a) a method by which reprocessing Clients can be facilitated the return of their plutonium arisings, with a presumption that use of MOX fuel will, to some extent, defray the costs associated with such return;

b) an otherwise alternative for the immobilisation of the plutonium arising from reprocessing.

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As has been explained, for SMP not to be approved will lead to the necessity for an immediate write-off of in excess of £462M from the BNFL balance sheets, projecting the Group into insolvency. However, the position may be even more serious than that potential calamity, for without the requirement to manufacture MOX fuel, the very raison d'etre for THORP itself will cease.