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DIRECTORATE OF INTELLIGENCE

26 September 1986

**Prospects for Indonesia's Nuclear Power Program--Political
and Economic Considerations** [redacted]

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Summary

US-Indonesian cooperation in nuclear energy will be high on Indonesian Minister of State for Research and Technology Habibie's agenda during his 26 September - 31 October visit to the United States. Indonesia, a signatory of the Nuclear Nonproliferation Treaty, is preparing an ambitious nuclear program to help meet growing energy needs and free more oil for export. Habibie's ministry controls the program, and is now in the process of forming a nuclear power agency. Personnel and budgetary constraints are delaying final decision on the construction of a nuclear power plant, however, and we believe it is unlikely that Indonesia will meet its goal of an on-line plant by the year 2000. Furthermore, the program's future depends upon the strong backing of President Soeharto, who in our judgment might divert Jakarta's already limited development funds to more immediate social and economic concerns. Without Soeharto's support, we doubt Habibie could sustain the momentum of the nuclear program. [redacted]

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This memorandum was prepared by [redacted] Office of East Asian Analysis, [redacted] Office of Global Issues, with contributions from [redacted] Office of Scientific and Weapons Research, and [redacted] Office of Leadership Analysis. Information available as of 26 September 1986 was used in its preparation. Comments and queries are welcome and may be directed to the Chief, Islands Branch, Southeast Asia Division, OEA, [redacted]

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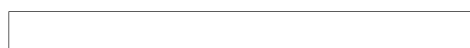
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Jakarta's Commitment is Strong So Far...

Minister of State for Research and Technology Habibie [Redacted] is the driving force behind Indonesia's nuclear program and the country's efforts to organize and absorb a wide array of advanced technology. Habibie advocates industrial development based on high technology, and has stated publicly that nuclear power will help provide the energy and technology transfer such a development strategy requires.¹ [Redacted]

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Habibie's close personal relationship with Soeharto has enabled him to secure the political and financial backing necessary to gain control over Indonesia's nuclear power program. Soeharto's support for the nuclear program has become more tangible since early 1986. [Redacted]

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[Redacted]

Soeharto also recently approved a plan that, in our judgment, will effectively institutionalize the nuclear power program under Habibie's control. According to US Embassy officials, Habibie will establish an intergovernmental committee to explore forming an independent agency to oversee nuclear electricity generation. The agency would assume most of the relevant responsibilities of the state electrical company, PLN, a past critic of nuclear power. PLN would be limited to distributing electricity bought from the new agency--which will also be open to foreign investment, possibly as a joint venture project. We believe the formation of this agency would formally establish nuclear power in the Indonesian bureaucracy and realistically address the problem of funding the project. [Redacted]

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Despite Soeharto's strong support for the nuclear program, acceptance of nuclear power within the government is not unanimous. Minister of Population and Environment Salim, for one, has repeatedly criticized the safety of nuclear power. [Redacted]

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...but Some Questions Remain

Availability of qualified manpower will be, in our judgment, a serious constraint to Indonesia's nuclear power program. Indonesia has the unskilled workers needed to construct a nuclear plant, but lacks competent managers and engineers from various disciplines such as nuclear, civil, mechanical, and electrical engineering to operate and maintain a nuclear facility. Foreign suppliers will probably construct the first power plant on a turn-key basis, and provide the Indonesians with the training in construction and operation to support the facility. [Redacted]

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Jakarta has instituted training programs--including technical exchanges, grants, and academic fellowships with both France and West Germany--to increase its pool of skilled manpower. [Redacted]

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[Redacted]

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[Redacted] In our view, however, these programs are unlikely to have a substantial impact on the level of nuclear energy related expertise in Indonesia before the end of the century. [Redacted]

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In addition, in our judgment, economic difficulties caused by the recent plunge in world oil prices will severely limit resources available for Jakarta's ambitious nuclear plans. Oil revenues account for about 70 percent of Indonesia's total export revenues, and slightly more than half of the national budget. The \$6 billion in current annual oil revenues are used mostly to service foreign debt, and leave Jakarta with little foreign exchange to finance a nuclear development program heavily dependent on imported capital equipment. Moreover, the 31 percent devaluation of the rupiah against the US dollar earlier this month makes imports even more costly. [Redacted]

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Declining oil revenues have forced Jakarta to cancel or cut all major development programs, and this year's budget--already the most austere since the early 1970s--has been cut 7 percent. The Minister of State for National Development Planning recently stated that Jakarta believes low oil prices will persist for at least the next two years, implying possible further budget cuts. In our judgment, energy diversification projects such as the nuclear plant and coal-fueled electric power plants will be slowed not only as a result of cutbacks in spending, but probably because the government will find it necessary to divert a larger share of funds to more immediate social and economic needs to head off social unrest. Even in the unlikely event that oil prices do rebound soon, Jakarta would probably first restore funds to on-going development programs before allocating funds to long-range programs in the early stages of development such as the nuclear program. As a result, we believe that budget constraints alone

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could thwart Indonesia's goal of having an operating nuclear power plant by the year 2000.² [Redacted]

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Beyond financial constraints, we believe the economic benefits of nuclear power may be less than Jakarta anticipates. For one thing, we believe manpower shortages and technical problems will probably produce construction and operating costs higher than Jakarta's current estimates. In addition, IAEA studies show that for nuclear power to be economical for Indonesia, Jakarta must commit to a plant of at least 900 MW--but Jakarta's current plans call for a facility of only 600 MW. In our judgment, this suggests that nuclear power might not be economically viable, especially because since oil costs Indonesia only \$3 to \$3.50 a barrel to produce, according to industry estimates. We believe that energy economics suggest Jakarta should first develop and consume more of its abundant conventional energy resources--oil, natural gas, coal and hydropower--before investing in nuclear power. [Redacted]

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Outlook

Jakarta seems willing to support, at least in the preparatory stages, the considerable time, effort and investment that building a nuclear infrastructure takes. In the near term at least, we expect the nuclear program to continue under its own momentum if only because of international prestige considerations. Over the longer term, we believe the key to the program is Soeharto and his continued strong support for Habibie. On this score we are not sanguine because we believe Soeharto will--in light of the country's severe financial constraints--respond to growing public disaffection at the expense of longer term development needs. [Redacted]

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In our judgment Habibie's political power would dissipate quickly without Soeharto's support, thus jeopardizing the nuclear energy program. Habibie's capital-intensive approach to development is already at odds with Indonesia's more conservative economic technocrats who favor labor-intensive economic growth to alleviate serious and growing unemployment. [Redacted]

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² Indonesia will experience zero or negative economic growth this year, according to some Indonesian technocrats. Even under optimistic conditions, we estimate that economic growth will average no more than 3 to 4 percent annually for the remainder of the decade, and soft world oil prices will continue to hamper economic growth into the early 1990s. [Redacted]

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