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# IAEA 26 February 2016 Iran Inspection Report Summary

Oded Brosh, February 29, 2016

On Friday, 26 February 2016, the IAEA issued its periodic (February, May, August / September & November) report on the “Verification and Monitoring in the Islamic Republic of Iran in light of United Nations Security Council Resolution 2231 (2015)”<sup>1</sup>, for the upcoming 6-9 March 2016 IAEA Board of Governors meeting. The report updates the information provided in the special inspection report of 16 January 2016, which verified that Iran had concluded implementing its commitments under the provisions of the JCPOA, thus facilitating the declaration of “Implementation Day” effective immediately. The January report highlighted that Iran had reduced the number of centrifuges installed down to the ceiling allowed it in the JCPOA; had dismantled, or “removed”, the remainder, including their associated operating equipment for continuous monitoring by the Agency; had exported out of Iran (to Russia) its entire stock of enriched uranium in excess of the 300 kg allowed by the JCPOA (from almost 12 tons); and had dismantled the core of the Arak heavy water reactor and taken the steps outlined in the JCPOA to make it irreversibly unusable (by filling it with concrete). The gist of the current report is that Iran continues, since the 16 January 2016 report, to be in full compliance with its commitments to the JCPOA.

By complying with the nuclear provisions of the JCPOA, Iran stands to gain the benefits embodied in the agreement, and salient additional aspects not specified in the JCPOA itself but resulting from its implementation. In the immediate future – the next year or two or three years – Iran will enjoy hundreds of billions of dollars of assets unfrozen, earnings from resumed oil exports, investments and unfettered trade previously severely constrained by the sanctions regime in effect, especially since April 2012 until “Implementation Day” in January 2016. Projecting forward for the fifteen years of the more stringent limitations imposed by the JCPOA, Iran’s gain may well measure in trillions of dollars’ worth of economic benefit. It may therefore be assumed that Iran will, at least for the first two or three years of the JCPOA, emphasize economic reconstruction, and will additionally and significantly devote some of the gain to investment in infrastructure of direct and indirect strategic significance too, while avoiding putting the JCPOA at risk by grossly violating it.

Moreover, adherence to the JCPOA will gradually allow Iran access to conventional weapons, with no quantitative or qualitative restrictions. Although nominally the arms embargo is to remain in effect for five

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<sup>1</sup> A new title to replace the one regularly used until the 18 November 2015 inspection report; previously the reports were titled “Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran”.

years from implementation of the JCPOA, it is evident that arms suppliers eager to guarantee now options for significant future income (Russia now, perhaps European suppliers later) are already negotiating the sale of state-of-the-art weapons systems to Iran, especially Air and Air Defense assets. A future Iranian capability to intercept and thwart a potential preemptive strike against its strategic facilities or assets (nuclear, missile or other) – could, and probably will, invalidate the notion that “all options on the table now will be available in the future too”, if the cost-benefit matrix of such action undergoes a debilitating fundamental revolution. It is highly likely that the Iranian negotiators considered this aspect of the agreement in reaching the conclusion of the JCPOA. If Iran acquires capabilities for discovery and interception of preemptive and punitive strikes by stealth, cruise and ballistic missile, it will have imposed a fundamental change in the strategic environment regionally and beyond.

Furthermore, the JCPOA sets out that – assuming continued Iranian compliance with its nuclear provisions, and the IAEA issuing a report confirming that all of Iran’s nuclear activities are peaceful – “Transition Day” is to occur eight years subsequent to implementation. “Transition Day” will involve a removal of missile sanctions, i.e. recognition of Iran’s ballistic and cruise missile programs, thus allowing Iran to acquire state-of-the-art technology for the production of ballistic and cruise missiles, and ballistic missile defense technology, unrestricted in quantity or quality. Some observers believe that the date for this happening could be moved forward significantly, if the IAEA issues such a confirmation sooner; so that therefore this might actually come to pass in three, four, or five years, and it may be expected that Iran will lobby forcefully for the enactment of these provisions at the earliest possible time. This would open up for Iran a horizon of establishing a potent survivable retaliatory capability, perhaps akin to second strike. Immunity to preemption, to punitive action and to retaliation to Iranian-initiated strikes, merged with such missile capabilities, could lead to concern regarding the potential for a perceived – rightly or wrongly – Iranian first strike capability, additional to the deterrent effect of a capability akin to second strike.

Thus, Iran has exceedingly strong motives to comply with the nuclear provisions of the JCPOA for many years to come, and not to risk its tremendous advantages. It is therefore assessed here that Iran will indeed comply with the nuclear provision of the JCPOA for years to come; certainly for as long as the current leadership which negotiated the agreement is in office – Khamenei, Rouhani, Zarif, Salehi and Araghchi,<sup>2</sup> and no substantial infraction of the nuclear commitments is to be expected during their tenure. The current leadership appears to have collectively decided that Iran will neither possess nuclear weapons, nor actively seek or make significant strides forward to acquire them during their tenures in office. This having been stated, the options have been left open for a future generation of decision-makers to decide whether to

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<sup>2</sup> All of whom, excepting Khamenei, have Doctoral degrees from British or U.S. universities.

actively seek nuclear weapons, to violate or abrogate the JCPOA, or to continue to abide by it and enjoy the truly infinite advantages – economically speaking, and even more so strategically – which it embodies. It would be patently irrational for any Iranian leadership to act in a manner which would undermine the JCPOA and its unprecedented advantages for Iran.

The 26 February 2016 inspection report details the IAEA's findings as follows:

**Natanz (underground) Fuel Enrichment Plant (FEP):** as of "Implementation Day", 16 January 2016, Iran retains at FEP, as agreed in the JCPOA, 5,060 IR-1 centrifuges in 30 operational cascades. Thus, the number reported by previous inspections has been reduced from 15,420, in 90 cascades, or a reduction of 10,360 IR-1 centrifuges "removed", including their associated operating equipment, from FEP Production Hall A to Production Hall B for ongoing IAEA monitoring. Additionally, all 1,008 IR-2m model centrifuges previously installed at FEP Production Hall A have similarly been dismantled / removed, including their associated operating equipment, to Production Hall B for IAEA ongoing monitoring and verification.

The current report states that Iran resumed, on 23 January 2016, after a hiatus of several months (since 28 October 2015), enriching uranium to the 3.67% level in the (allowed retained) operational FEP cascades. Notably, this is an illusion, because due to the 300 kg ceiling on LEU which the JCPOA allows, Iran cannot retain possession of any of the LEU newly produced (assuming compliance, of course), or in any case cannot add it to the retained stocks: it must downgrade back to the natural uranium level or export out of the country any excess beyond the 300 kg stipulated, whether from prior existing stocks or from the newly produced LEU, and it may be expected that this will indeed be done from time to time. Therefore, in spite of the international commotion about the number of remaining centrifuges allowed Iran by the JCPOA, and the legitimization of its continuing enrichment activity in contradiction of six United Nations Security Council resolutions (those are now rescinded) – the bottom line is that Iran's net enrichment allowance or capability under the JCPOA is zero (for fifteen years – after that enrichment may be resumed unrestricted, and the 300 kg limit will be lifted).

**Quantities of LEU produced:** previous IAEA periodic inspection reports regularly detailed the quantity of LEU produced and stockpiled in Iran. The new format of the report allows for the fact that Iran is restricted to a ceiling of 300 kg of LEU in all forms. Prior to "Implementation Day", Iran reduced its overall stocks of LEU from about 12 tons to less than 300 kg, by shipping the excess to Russia. The current report also specifies that the 300 kg ceiling in which the Iranians are found to be in compliance includes 20-40 kg of enriched

uranium that Iran has stated are recoverable from the process lines at the Enriched UO<sub>2</sub> Powder Plant (EUPP) at Esfahan – so Iran has 260 kg or less of LEU in UF<sub>6</sub> form as of the current report (in November 2015 Iran had 8,305.6 kg of LEU in UF<sub>6</sub> form, and up to 12 tons including other forms – including oxides at EUPP – altogether).

**Natanz (above ground) Pilot Fuel Enrichment Plant (PFEP) Production area:** not mentioned in the current report. The two cascades (IR-1 type) previously producing 20 percent enriched uranium, from January 2010 until January 2014, and subsequently LEU only – in compliance with the interim agreement JPA, were stopped on 10 October 2015, and are not expected to resume production – the JCPOA stipulates that the only site at which enrichment will continue is FEP.

**Advanced model centrifuges at PFEP R&D area:** previous reports detailed the number of each type of centrifuge installed or operating at PFEP R&D, but the current report in its new format only states blandly that “Since Implementation Day, Iran has conducted its enrichment activities in line with its long-term enrichment and R&D enrichment plan, as provided to the Agency on 16 January 2016 (para. 52)... Since Implementation Day, no enriched uranium has been accumulated through enrichment R&D activities, and Iran’s enrichment R&D with and without uranium has been conducted using centrifuges within the limits defined in the JCPOA (paras 32–42).” Typically, the R&D inventories have always consisted of a number of single centrifuges to small cascades of ten or twenty centrifuges at most – never full production scale cascades, and no enriched uranium has ever been produced or collected in these.

**Fordow Fuel Enrichment Plant (FFEP):** the current report states that “Since Implementation Day, 1044 IR-1 centrifuges have been maintained in six cascades in one wing of the facility at the Fordow Fuel Enrichment Plant (FFEP) (para. 46). Iran has not conducted any uranium enrichment or related research and development (R&D) activities at FFEP, nor has there been any nuclear material at the plant (para. 45).”

To recall, FFEP was used to enrich uranium to the 20 percent level from January 2012 until January 2014, when production was shifted to LEU only – in compliance with the interim agreement JPA. Iran has now removed 1,666 IR-1 type centrifuges at Fordow, for IAEA monitoring at Natanz FEP Production Hall B (although notably neither of the last two reports specify that they are at Natanz), including their associated operating equipment, leaving, as specified in the JCPOA, 1,044 centrifuges at Fordow, none of which are to be used to enrich uranium for the next fifteen years. 348 are to be used for the production of stable

isotopes, in a project jointly undertaken by Iran and the Russian Federation, and the other 696 will remain idle, for fifteen years.

**Esfahan Uranium Conversion Facility (UCF); Fuel Manufacturing Plant (FMP);**

**Fuel Plate Fabrication Plant (FPFP); Esfahan Enriched UO<sub>2</sub> Powder Plant (EUPP)**: previous reports routinely went into great detail regarding activities, inventories and inspections at all of these; the current report, in the new format adopted as of 16 January 2016, does not do this. It only blandly states that “Since Implementation Day, Iran has not operated any of its declared facilities for the purpose of converting fuel plates or scrap back into UF<sub>6</sub>, nor has it informed the Agency that it has built any new facilities for such a purpose (para. 58).” Seven previous IAEA reports (issued between May 2014 and November 2015) all stated that Iran no longer has any stocks of 20 percent enriched uranium in UF<sub>6</sub> form – as it complied with the interim agreement JPA’s provisions that it either downblend to LEU level (half of the 20 percent enriched stock remaining when the JPA took effect in January 2014) or process into U<sub>3</sub>O<sub>8</sub> oxide (the other half) for further use in the making of fuel plates for the Tehran reactor (TRR), and it is to be assumed that there is no change to be noted.

**Heavy water related projects**: the current report states that “Iran has not pursued the construction of the existing Arak heavy water research reactor (IR-40 Reactor) based on its original design. Iran has not produced or tested natural uranium pellets, fuel pins or fuel assemblies specifically designed for the support of the IR-40 Reactor as originally designed, and all existing natural uranium pellets and fuel assemblies remained in storage under continuous Agency monitoring (paras 3 and 10).” A footnote adds that “The calandria was removed from the reactor and rendered inoperable during preparation for Implementation Day and has been retained in Iran.”

Regarding heavy water, the current report affirms that Iran is compliance with the limitation of 130 tons of heavy water – intended for use in the re-designed future Arak reactor – the remainder of the previous stock of approximately 200 tons having been shipped out of the country (destination unspecified – Russia?).

**Reprocessing activities** – the report routinely states that Iran has not carried out activities related to reprocessing at the Tehran Research Reactor (TRR) and Molybdenum, Iodine and Xenon Radioisotope Production (MIX) Facility or any of the other declared facilities. The new format omits the prior custom of signifying at what dates IAEA inspectors conducted a DIV and other verifications at these sites.

**Bushehr Nuclear Power Plant (BNPP)**: the current report does not mention any inspection at Bushehr, which is unusual; during an inspection conducted by the IAEA at BNPP on 16 November 2015, BNPP was found to be shut down for refueling (in previous reports, the reactor was either operating at 100 percent of its nominal power, or shut down, or operating at 70% of its nominal power, which led to the conclusion that it was operating erratically).

**Additional Protocol**: The current report states that “On 16 January 2016, as notified in its letter to the Director General of 7 January 2016, Iran began to provisionally apply the Additional Protocol to its Safeguards Agreement in accordance with Article 17(b) of the Additional Protocol, pending its entry into force, and to fully implement the modified Code 3.1 of the Subsidiary Arrangements to its Safeguards Agreement.”

**Clarification of Unresolved Issue (“Possible Military Dimensions”)**: the current report states that “On 2 December 2015, the Director General, in line with the Road-map for the clarification of past and present outstanding issues regarding Iran’s nuclear programme (Road-map), provided a report to the Board of Governors on the final assessment of all past and present outstanding issues, as set out in the Director General’s report in November 2011. On 15 December 2015, the Board of Governors adopted resolution GOV/2015/72, in which, inter alia, it noted that all activities in the Road-map had been implemented in accordance with the agreed schedule and that this closes the Board’s consideration of this item”. To recall, the IAEA indicated in December 2015 that Iran had not clarified satisfactorily all of the unresolved issues, but that no further action in this regard was in order, and that therefore the file was closed unless and until new developments warranted investing additional energies in its pursuit. This was due to the understanding by the parties to the JCPOA (the P5+1) that no further Iranian disclosure of past nuclear weapons related activities would be forthcoming, and that the order of the day was to ensure that the JCPOA is satisfactorily implemented for the future, rather than undermine it by trying to get Iranian confessions regarding the past, in some cases the distant past, or information anyway long since known to Western intelligence and the Agency (the IAEA), much of it set out in the 8 November 2011 inspection report annex.

## ASSESSMENT

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It is the legitimization of Iran's access to advanced weapons, and of its missile program, which lead to the assessment that Iran will be complying strictly with its nuclear commitments to the JCPOA in the years to come, less perhaps some very minor deviations of no substantial consequence to the purpose of the JCPOA. In addition to economic and diplomatic rehabilitation, it is the access to state of the art weaponry (already evident in preliminary stages in regard to Russian willingness to supply advanced systems to Iran), and to state of the art ballistic and cruise missile technology, including possibly ballistic missile defense technology, which are assessed to appear to be the very essence, on Iran's part, of the JCPOA. In other words, Iran designed an agreement with which to comply, not to violate, in order to gain strategic – in addition to economic and diplomatic – gains of the most dramatic consequence. They will allow Iran, within a few years, to gradually gain immunity to pre-emptive military intervention to thwart a later breakout to nuclear weapons, by imposing a fundamental alteration of the cost-benefit calculations with respect to limited military strikes against Iran, as their cost escalates commensurate with the increase in Iran's both defensive, and survivable offensive retaliatory capabilities – so that Western decision-makers will be deterred in the first place from contemplating preemptive and/or punitive military action against Iran. And, they will empower Iran in striving to acquire what could become to be perceived disabling first-strike and survivable retaliatory second-strike capabilities, before resuming a zero-warning-time nuclear breakout option with international legitimacy, when the restrictions of the JCPOA expire in fifteen years' time.

Then, in ten years' time, Iran will be permitted by the terms of the JCPOA to begin production of advanced centrifuges capable of enrichment at several times the rate of the antiquated 1960s technology IR-1 currently in use, or even of the 1970s technology IR-2m model, which in ten years' time could well join the IR-1 as no more than a quaint museum item.<sup>3</sup> In fifteen years' time, the JCPOA stipulates that Iran will be allowed to enrich uranium without restrictions regarding quantity or levels of enrichment, and will be allowed to construct heavy water reactors and to reprocess plutonium, thus becoming an internationally legitimized nuclear threshold state. Formally and nominally, the JCPOA asserts that Iran will still not be allowed to pursue, produce, or have nuclear weapons, for as long as it remains committed to its NPT vows – but it will be allowed to move into a position of a zero-breakout-warning-time or “turn-of-the-screw-away” from nuclear weapons.

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<sup>3</sup> As of the end of year 8, i.e. as of the beginning of year 9, Iran will be allowed to produce 200 advanced centrifuges per annum, but without rotors. At the end of year 10, i.e. as of the beginning of year 11 of the JCPOA, Iran will be allowed to produce them with the rotors. But Iran will be allowed to use them to enrich uranium only as of the end of year 15, i.e. as of the beginning of year 16. Until then Iran is limited to the use of IR-1 type centrifuges only (all assuming compliance, of course).



The criticism of the agreement, regarding its un-verifiability by the IAEA inspection regime in the event that Iran violates the JCPOA by launching a parallel covert program, out of view of the IAEA, is mis-focused and misleading: the assumption is not that the IAEA will discover covert activity – it never has and was never expected to. Rather, the Iranians must, and most very probably do, take into account that any gross violation of the JCPOA will be discovered by intelligence, as it has in the past – all of the currently salient safeguarded facilities were discovered by intelligence, not the IAEA, and were subsequently reported to the IAEA for investigation, especially Natanz and Fordow, as well as others, including Lavizan, Parchin, the UCF, Arak, and other weaponization activities detailed in the 8 November 2011 IAEA inspection report annex. The working assumption is that the Iranians will not want to risk this kind of discovery of gross violation of the agreement particularly any more so than IAEA discovery and that therefore the two scenarios are virtually nigh synonymous.

The bottom line is that Iran can be expected to continue what is signaled in the current IAEA inspection report: to fully comply with its commitments to the nuclear part of the JCPOA, unless an irrational political mood prevails inside Iran leading to its gross violation – and thus a forfeiting of the dramatic strategic benefits built into it, subject to Iran complying with its provisions for many years, including a strategic transformation regionally and beyond to allow Iran to gain the position of dominant, and perhaps dominating, regional superpower – which was all along the goal.