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原子辐射的影响

马绍尔群岛原子辐射的影响

秘书长的报告

摘要

大会第 65/96 号决议第 14 段请秘书长利用现有资源，就马绍尔群岛原子辐射的影响问题向大会第六十六届会议提出报告，本报告就是应此要求编写的，其中概述了联合国原子辐射影响问题科学委员会及其他机构过去几十年对此课题开展的评估情况。



1. 2010 年 12 月 10 日，大会通过关于原子辐射影响问题的第 65/96 号决议。在该决议执行部分第 14 段，大会请秘书长利用现有资源并结合联合国原子辐射影响问题科学委员会等公认专家的分析 and 此前发表的相关研究报告，就马绍尔群岛原子辐射影响问题向大会第六十六届会议提出报告。
2. 科学委员会于 2011 年 5 月 23 日至 27 日在维也纳举行第五十八届会议，会上注意到大会的要求并作了相关讨论。科学委员会回顾了过去几十年对马绍尔群岛辐射状况的评估，同意为秘书长向大会提交的报告提供关于这些评估的简短摘要。科学委员会还指出，大会今后可直接向主管此类事项的委员会索要对马绍尔群岛辐射状况的评估。
3. 自 1955 年成立以来，科学委员会定期向大会报告电离辐射、包括马绍尔群岛境内核武器试验所致辐射的等级和影响。本报告附件一列有科学委员会的相关报告和就此议题发表的最重要评价。
4. 除科学委员会持续评价外，马绍尔群岛政府于 1994 年请求国际原子能机构对比基尼环礁的放射性状况进行一次国际独立审查，并审议和推荐环礁重新安置战略。作为回应，原子能机构在其马绍尔群岛技术合作项目框架内召集了一个咨询小组，负责开展该国要求的国际审查。咨询小组成员包括科学委员会和世界卫生组织秘书处的科学代表。国际审查考虑了马绍尔群岛问卷调查产生的所有现成数据以及世界各地科学家进行的大量其他评估。当时有关这个议题的资料在公开文献中已经屡见不鲜。附件二列有其中一部分重要参考资料。
5. 国际审查还考虑了马绍尔群岛使用的辐射防护标准¹以及当时通行的国际辐射防护建议²和辐射安全标准。³咨询小组于 1996 年 10 月 14 日马绍尔群岛已故总统阿马塔·卡布阿正式访问东京期间提交报告，并与总统和时任卫生与环境部长的托马斯·基吉纳作了讨论。此后不久，即 1996 年 10 月 17 日，原子能机构在马朱罗通过提出这一请求的马绍尔群岛外交部，正式将报告提交该国政府。该报告还于 1996 年 10 月 18 日在马朱罗通过基力/比基尼/埃基特地方政府

¹ 比基尼环礁复原委员会，《重新安置比基尼环礁的可行性和满足联邦辐射防护标准的预计费用》，临时报告(1983 年 11 月 23 日)和第一次报告(1984 年 11 月 15 日)。

² 见《1990 年国际放射防护委员会的建议》，ICRP Publication 60, Annals of the ICRP 21(1-3) (Pergamon Press, Oxford, 1991 年)。

³ 国际食品法典委员会，食品法典，一般规定，第 6.1 节，“核事故污染后食品放射性核素的指导值”(罗马，联合国粮农组织/世界卫生组织粮食标准联合方案，1991 年)；国际原子能机构，“放射性核素释放事故情况下的农业对策指南”，国际原子能机构与联合国粮农组织共同出版，技术报告丛书第 363 号(维也纳，1994 年)；联合国粮农组织、国际原子能机构、国际劳工组织、经济合作与发展组织核能局、泛美卫生组织、世界卫生组织，“国际电离辐射防护和辐射源安全的基本安全标准”，安全丛书第 115 号(维也纳，1996 年)；以及国际原子能机构，“辐射防护原则在污染区清洗中的应用”，供发表意见的临时报告(IAEA-TECDOC-987) (维也纳，1997 年)。

办事处提交给比基尼社区。马绍尔群岛政府最终于 1997 年 9 月 18 日通过该国驻美利坚合众国大使给原子能机构的一封信，正式接受了这一报告。1998 年，原子能机构发表题为“比基尼环礁放射性状况：重新安置前景”的报告，⁴ 更加详细地介绍了国际审查的情况。

6. 现有关于马绍尔群岛原子辐射影响的资料相当广泛，考虑到现有资源，在本简要报告中无法全面予以审视。不过，(a) 科学委员会已定期向大会报告马绍尔群岛的辐射等级和影响；(b) 应马绍尔群岛政府的请求，对比基尼环礁的放射性状况已经作了国际评估；(c) 许多公认专家已在经过同行审查的科学文献中发布有关马绍尔群岛的放射性数据。

7. 接下来介绍几个最重要的调研结果。1946 年至 1958 年核武器试验所在环礁的居民已于试验方案开始前搬迁，但 1954 年在比基尼环礁进行的 Castle Bravo 试验是一次异乎寻常的试验，造成大量辐射暴露。在爆炸后数小时内，尘降物就使朗格拉普和艾林吉纳埃环礁(距离比基尼 200 公里)居民所遭受的辐射量达到危及生命的水平，越往东走，辐射量则越低。居民于数日内撤离。甲状腺吸入的短寿命放射性同位素和伽马辐射剂量非常高，儿童尤其如此。随后，甲状腺癌和其他甲状腺疾病的高发病率皆与高辐射暴露有关。

8. 1954 年返回乌蒂里克环礁和 1957 年返回朗格拉普环礁的居民所遭受的辐射量，比随后 20 年自然放射源(自然背景)所致全球平均背景辐射量高出数倍。1971 年至 1978 年临时重新安置到比基尼环礁的居民，每年遭受的全身辐射量接近于自然背景辐射量。原子能机构咨询小组于 1997 年建议，从当时放射性状况看，假定所有粮食都在当地生产，则不宜让居民长期定居在比基尼环礁。不过，咨询小组也表示可采取补救行动，使长期定居该环礁成为可能。看来已没有必要为比基尼环礁的放射性程度和有关评估提供进一步佐证。

9. 马绍尔群岛常驻联合国代表在 2011 年 2 月 11 日和 7 月 26 日给秘书长的信中提到本报告的范围和深度问题，请求在原子辐射的科学影响之外阐述一系列其他事项，包括马绍尔群岛核武器试验的政治历史，辐射对公众健康的影响，试验、暴露及其后活动和补救选择所涉及的社会、文化和发展问题，联合国、包括托管理事会的参与问题和国际社会在处理事后影响方面的作用，以及今后与此类影响有关的挑战和问题。秘书长在 2011 年 8 月 17 日给常驻代表的回信中指出，大会第 65/96 号决议将本报告的范围明确界定为原子辐射的影响，而马绍尔群岛提到的事项，有许多已经超出所限定的原子辐射影响的科学范围。秘书长还表示，联合国已经为响应大会今后下达的任何指示作好准备。

⁴ 国际原子能机构，“比基尼环礁放射性状况：重新安置前景”，放射性评估报告丛书(STI/PUB/1054)(维也纳，1998 年)。

10. 大会不妨考虑，是否适合作出更多国际努力，将手头有关马绍尔群岛原子辐射影响的所有相关资料合并成为一份最终报告，说明对人类历史上这一令人遗憾事件的科学研究结果。如果大会希望这样做，那么，联合国原子辐射影响问题科学委员会将是担负这一责任的适当国际机构。

11. 需要指出的是，秘书长已于 2011 年 9 月 22 日召开核安全与核保安高级别会议，期望在最高一级为国际社会在日本福岛核事故后促进核安全的持续和拟议努力提供政治支持和推动力。为便于科学委员会全面评估福岛事故引致的暴露水平和辐射风险，秘书长已请大会确保该委员会拥有完成这项任务所需的一切资源。

12. 秘书长希望再次重申大会第 64/35 号决议的目标，即尽一切努力终止核试验以避免给人的生命和健康以及环境带来毁灭性和有害的后果，并将终止核试验作为实现无核武器世界目标的关键途径之一。

附件一

联合国原子辐射影响问题科学委员会有关马绍尔群岛原子辐射影响的报告

《大会正式记录，第十三届会议，补编第 17 号》(A/3838) (1958 年)，第五章第 25 段、第七章第 18 段和附件一 (A/AC.82/G/R.54 和 R.125)

《大会正式记录，第十七届会议，补编第 16 号》(A/5216) (1962 年)，第三章第 8 段和附件 D 第 43、44、204、206、314、526 和 530 段

《大会正式记录，第二十四届会议，补编第 13 号》(A/7613) (1969 年)，附件 C 第 249 段

《电离辐射：水平和效应》第一和第二卷 (联合国出版物，出售品编号 E.72. IX. 17 和 18) (1972 年)，附件 H 第 98 和 105 段

《电离辐射的来源和效应》(联合国出版物，出售品编号 E.77. IX. 1) (1977 年)，附件 G 第 15、21、77、99、108、144 和 146 段及表 10

《电离辐射：来源和生物效应》(联合国出版物，出售品编号 E.82. IX. 8) (1982 年)，附件 J 第 372 和 407 段

《电离辐射的来源、效应和风险》(联合国出版物，出售品编号 E.88. IX. 7) (1988 年)，第 198 段，附件 F 第 31、43、46、74、206、225、226、228、392 和 440 段及表 20，以及附件 G 第 5、74、91、98 和 151 段

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《电离辐射的来源和效应》(联合国出版物，出售品编号 E.94. IX. 11) (1994 年)，附件 A 第 266 段

《电离辐射的来源和效应》(联合国出版物，出售品编号 E.00. IX. 3 和 4) (2000 年)，附件 C 第 67 和 70 段，附件 H 第 153 段，以及附件 I 表 3

《电离辐射的效应》第一和第二卷 (联合国出版物，出售品编号 E.08. IX. 6) (2008 年) 和 E.09. IX. 5 (2009 年)，附件 A 第 455 和 456 段及表 15 和 17

《电离辐射的来源和效应》(联合国出版物，出售品编号 E.10. IX. 3) (2010 年) 和 E.11. IX. 3 (2011 年)，附件 B 第 256-259、307-309、311、312 和 404 段及表 38 和 38，以及附件 D 之附录 D 第 D89 和 D90 段

附件二

公开文献中的重要参考资料

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